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THE PACIFIC RURAL PRESS

SAN FRANCISCO

JULY 5, 1919

LOS ANGELES

Bumper Fruit Crop at Record Prices.

Written for Pacific Rural Press by John J. Fox.



MINIMUM PRICES on pears, freestone peaches, apricots, figs and prunes are established by the opening prices of the Associations on dried fruits. The amount to be shipped or canned will still depend on the prices the market is willing to offer above this relative basis. And that market is governed by supply and demand for fresh or canned fruits.

For instance, at an average price of 15 cents for dried Muir peaches, it would not pay to sell them green for less than \$55 a ton in lugs. Clings are selling at \$90 up. With dried pears at 18 cents, green Bartletts would command an average of from \$65 to \$70 in lugs—more in Lake county where a special article is turned out and so on. Any prices beyond such averages would tempt more men to ship to the packers or canners.

The absence of heat through spring and early summer has been conducive to improved quality in all fruits, in lessening June drop and in deferring early ripening. Cherries have brought unheard-of prices, as high

Berries—The acreage in berries is about the same as last season, and the yield is fully as good as last year's to date. The bush berries look better than last year, and with as favorable a season the yield in the Sebastopol region may run 10 per cent over the crop of 1918 on the same acreage.

Pears are at least 10 per cent better than last year and they are exceptionally clean and of good quality. Never have pears been so well sprayed and so free from scab.

Peaches—Throughout the State are a banner crop. This crop is estimated to reach 450,000 tons of green fruit. Freestone peaches will also create a record in the dried product. This crop is practically assured.

Apricots—The sum total of this crop is now estimated at 150,000 green tons, or 85 per cent of a normal crop. The quality is excellent, except in the South, where little thinning has been done and the load of fruit is abnormal.

Prunes—The prune crop this year is expected to create a record in



These ten-year-old peach trees in the Hunt Bros. orchards at Linden are carrying an average as 15 cents a pound in unpacked 24-pound lugs has been obtained. The market for them has been very fluctuating though—the low point being 6 cents for soft cherries. This may have been due to a number of ripe ones being sent in, due to shortness of pickers.

Sixty dollars a ton doesn't seem to interest Malaga grape growers in the San Joaquin. They made such a clean-up last year that the future looks extra rosy. It is evident that this price is not based on the value of the dried article, but on an expected demand. The large shipments of this splendid grape last fall will doubtless have extended its patrons in the East. The present outlook is excellent—a 100 per cent crop.

Crop Estimates.

Citrus Fruits—From Butte to San Diego the promise for citrus fruits is excellent. There is a good summer crop of lemons. A heavy June drop is reported from Porterville, but an ample crop remains. The average June drop is not abnormal.

Olives—It is still a little early to give an estimate.

Raisins and Table Grapes—The Associated Raisin Company estimate this year's crop at a possible 200,000 tons of the cured article or 100 per cent of a crop, allowing for the increased acreage in bearing this year—about 10,000 acres.

12-ton crop. This is a very even orchard of vase-shaped trees carrying fruit clear to ground. weight. One hundred and twenty-five thousand tons is spoken of by the Association as being probable. The new acreage accounts for part of the large increase. The June drop has been light and the fruit is in excellent condition.

Apples—All over the State apples are good the trees in A-1 condition and clean. White Astrachans are now being picked and packed. The State crop will amount to about 7,500,000 boxes.

Almonds—The Almond crop is very uneven—perhaps 75 per cent of normal. The quality, however, is excellent everywhere. Twelve million pounds is the expected yield for this year for the State.

Walnuts—The Walnut Growers' Association estimate that the State will produce 25,000 tons of walnuts this year—a full crop.

Labor Scare and High Priced.

Every fruit district is making what arrangements it can either individually or collectively for labor during the fruit harvests. The large growers are providing accommodations and every inducement to attract pickers for the short period they are needed and the canneries are doing the same. Grape men will be from 7,000 to 8,000 hands shy except for importation in the raisin district and some of the table-grape growers are arranging for the women who served in the Women's Land Army last year.

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EDITORIAL.

PERMANENCY OF PEACE.

IT IS becoming very trite to say, in contemporary editorial preachments, that permanent peace must rest upon good will; still, not having previously delivered our pen of the sentiment, we must do it now—for fear of losing our place in the peace-pageant. We presume it is true; it is certainly old enough to be true. Good will was a congenital endowment of the human race, for the Creator, himself the supreme embodiment of good-will, made man in his own image, and pronounced his creation very good. It is, of course, difficult with our finite minds to see how this creative judgment was fully justified, for there was in the first Edenic generation—

"Murder most foul, as in the best it is;
But this most foul, strange and unnatural."

But it has also been always claimed that it was the potentiality of good will and the freedom to choose to develop it which made man godlike—not that he was made good against his will.

We are citing these familiar things because, so far as we can see, they constitute the only hope for permanency in the peace which was made last week. We do not know how much good will has ever been immediately manifested among those who made peace after a great war. It is possibly only to be expected that after this greatest of all wars there should be least of all good will at the end of it. Here are two declarations—one for the victors and the other for the vanquished, which seem to fairly represent the resources of good will on both sides at this moment:

"The treaty of peace has been signed. If it is ratified and acted upon in full and sincere execution of its terms, it will furnish the starter for a new order of affairs in the world. It is a severe treaty in the duties and penalties it imposes upon Germany, but it is severe only because the great wrongs done by Germany are to be righted and repaired; it imposes nothing that Germany cannot do; and she can regain her rightful standing in the world by the prompt and honorable fulfillment of its terms."—President Wilson's proclamation of peace, June 28.

"We are signing without mental reservation. What we are signing will be carried out. The German people will use every means to meet the terms. Germany will make every effort to prove herself worthy to enter the league of nations."—Declaration of Foreign Minister Mueller—German signatory.

There is no gladness of speech in these declarations. There was no gladness either of tongue or of hand on the occasion of signing of the peace-treaty to which they refer. The event was planned and pursued without opportunity for fraternization. It was simply the obsequies of Mars—with Mercury and Bacchus locked up in the guard-house. Will the peace be permanent? That depends upon the potentiality of good will in the hearts of men and of nations. It may grow and recreate the world. If such be the glorious consummation, coming generations may rejoice. Consciousness of having done what it conceived to be its duty to the world must compensate and comfort this generation for its sufferings and sacrifices.

THE OUTING SEASON.

With war's aftermath mown close to the clods by the peace treaty and with John Barleycorn interned by war-time prohibition until demobilization shall set him free for a short run before his final execution in January next, there seems nothing for the idle urbanite to do but to spin out upon the highways and seek diversion in the open country—with his boot-leg tanks well filled, for there will be no uplift in the things which the wayside service stations will set up. It was a great pleasure to many to return to the old California custom of going to the country before July 1, and the resorts on seashore, foothill and high mountain are better filled this year than since war-distractions began. The throngs of motorists who are going from one to another of them over the concrete highways will get some exhilaration from the thought that California will build forty million dollars' worth more of them—as was strongly voted at the special election on July 1. This additional inducement to tourist indulgences in California will round out our population, by compensation for the withdrawal of winter-residents, and demonstrate California's all-the-year desirability, to a development-advantage which it may be hard to overestimate. Those who are watching such things tell us that 600 overland-by-motor parties came to California in June, and that 200 California motors carried our own outing citizens on interstate runs. It is not too far-fetched to claim that the contact with so much fresh air will be a decided benefit to our classes of gilded Americans. Our population will surely have a tougher upper crust than in the old days, when gambling and gaming, in resort ball-rooms and casinos, were the fashionable summer recreations. It is also interesting to note that the overland railways are also beginning to function again in the popular interest, and that people are taking again to them as recreation adjuncts—much as they dislike government rates, regulations and reduced accommodations. Limited trains are running in two sections on all overland lines. The following statement from traffic observers is interesting:

Never in the history of the State has this business been so heavy, except during the 1915 summer of the Exposition. The railroads believe the number of tourists this summer will run over 50,000. During the first twenty-five days of June 16,820 tourists were brought here from Eastern cities and Canada, and during the closing days of the month the number was 1,000 daily.

This is very fortunate, both for California and her guests. We have plenty of everything which is really joyful and wholesome, and for those who think they must have something else there is the assurance that Mexico is not far away; also the possibility that there may be foreign light-ships anchored over three miles out and no prohibition against the ancient way of bringing booze in skins—providing they are your own.

EUROPE NOT YET READY.

The summer floating population of the country has but little chance to make a long trip this year, except in the direction of California or Canada, because tropic-crossing is not a popular summer recreation and because Europe is practically closed for the season of 1919. It is true that the Belgians issued a formal invitation to tourists and other western countries of the continent of Europe might like some reparation in the form of an American invasion, but for all that, Americans cannot go in any quantity this year. The State Department at Washington announces that tourist travel to France will not be permitted before next year, in this way:

Business men will be permitted to send agents to any European country following the signing of the peace treaty, but restrictions as to the return trip will continue in force because of the needs of space for soldiers and civilian War Department employees. Measures to prevent undue travel to Great Britain also will be continued as transportation and economic conditions in Great Britain still are far from normal.

These facts are in a way fortunate. Americans would probably rebel against being kept at home arbitrarily, but while purposeful business travel will fill ships returning after bringing westward cargoes of our soldiers, there should be no merely sight-seeing travel allowed. Besides, it seems silly to appeal to American farmers to produce their utmost because Europe is hungry and then send shiploads of American tourists to go abroad to eat

up shiploads of relief-supplies at a fearful profit to European hotel-keepers. Let American tourists swing around the circles in this country, and spare themselves the sensations of seeing Europe in physical desolation and social tumult. Let them rest and grow fat upon the food-supplies which our producers have secured at unusual cost and effort. It will help crop-producers to recover their unusual outlays for labor, implements and supplies because American transportation, purveying and catering will be kept busy. The patriotic American should see very clearly that it is not alone a question of "seeing America first," but of paying Americans first.

MAINTENANCE OF PRICES.

Those who look at American affairs from the financial angle seem to agree that prices of commodities are likely to remain high for several years, if not permanently, and therefore people should not postpone investment in building, in merchandizing, in manufacturing and in general enterprise for fear that "prices will drop on them" before they can get a turn-over. We presume the view is mostly right, because, of course, if every one postpones doing things nothing will be done, and then we should have a slump and no mistake about it. Therefore, it is proper to exhort everyone who is doing useful things to keep busy and get more busy, and the assurance of price-maintenance is the best possible basis for such exhortation. The Oakland Bank of Savings puts the current view of financiers in these words in its June statement:

A new price level has definitely arrived in the United States and it looks as though it had come to stay. While there is a downward tendency, it will probably be years before there is any material change in the present high prices. One by one the wheels of industry are beginning to move in rhythm with the growing belief that the present prices are so substantially supported by sound economic bastions that further waiting is hopeless.

This is probably a reference to the old, fundamental and orthodox argument that the doubled supply of currency and credit dollars will maintain prices until each of them is brought back to the gold dollar basis, its purchasing power doubled and prices halved to match. We are not sure that this has ever happened, and it may not be the fault of the argument, but the working of the argument may have been interfered with by the many new facts and conditions of life which have intruded while it was trying to come true. For this or other reasons it does not appear that prices have ever fully receded to a former level, and the degraded dollar has never been fully to blame for the rise of prices nor the ennobled dollar praised for their partial recession.

The relation of the maintenance of prices, which we presume these learned economists and financiers are largely right about, is that probably most of the things which the farmer has to buy will decline in price slowly and in small degree, while the prices of the things which the farmer has to sell may fall about his ears any minute. And the reason for this is not the fortune or misfortune of the dollar so much as it is organization, which will not let the dollar act as the economists expect it to. "Cost plus profit" is the price of the merchant and manufacturer. Cost of living plus profit is the price of labor. The farmer pays both these costs and profits. Proper organization and insistence would enable the farmer to say: "My price is all costs plus my profit." Lack of organization forces him to say: "What will you give?"

Permanent peace is deeply involved in this proposition—for permanent peace must rest upon good will, and good will is a product of a square deal among men. This is what agriculture has always contended for in a careless, sentimental way. Now that the world is being reconstructed, there should be organization to secure it.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending July 1, 1919.

Stations—	Rainfall		Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest Lowest
Eureka .....	.00	.00	.00	62 50
Red Bluff .....	.00	.00	.00	100 60
Sacramento .....	.00	.00	.00	96 52
San Francisco .....	.00	.00	.00	83 48
San Luis Obispo .....	.00	.00	.00	80 44
Los Angeles .....	.00	.00	.00	82 56
San Diego .....	.00	.00	.00	72 62
Reno, Nevada .....	.00	.00	.00	90 46
Winnemucca .....	.00	.00	.00	94 44
Tonopah .....	.00	.00	.00	88 56

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Navel on Trifoliata.

To the Editor: About 8 years ago I planted 6 acres of navel orange trees and, probably through lack of sufficient water they have not shown sufficient growth, although they have a healthy foliage. They now average about 4½ feet high. I have learned recently that they were budded on trifoliata stock, which was experimented with about that time but has since been found unsatisfactory and its use discontinued. Should the trees be uprooted or will they ever make a decent sized tree with proper care?—Subscriber, Lemon Cove.

The trees must now be about ten years from the seed, and such a tree about 4½ feet high impresses us as very nearly worthless for it will be very difficult to break out any decently free growth from such case-hardened stems and laterals as they must have. It is true that trifoliata roots have been largely discontinued except for dwarf varieties, like tangerines, etc., but they cannot be charged with such radical dwarfing as you describe. On land uniformly moist they do support a good-sized standard-variety tree and for some time the claim against them of dwarfing was strenuously disputed—though now generally conceded. In your case it seems more likely that your dwarfs are not chargeable to the roots so much as to trying to grow oranges by dry-farming, and it is possible that if you had tried it on anything less hardy than trifoliata you would not have any orange trees at all by this time. Unless you have secured adequate irrigation you had better retire from citrus growing and if you now have water our notion is that you would arrive at profitability sooner by replanting with trees on standard roots than is possible by undertaking to force the trees you now have to do anything. And that conclusion is not based so much on the trifoliata as it is upon the general fact that the trees have been so hopelessly dwarfed by hardship. Their root-system is probably as pitiful as their top-growth—so you practically have the whole thing to make over.

Fertilizers for Particular Crops.

To the Editor: What are the best fertilizers for raspberries, blackberries, loganberries, gooseberries, currants, cherries and strawberries? Also for peas, beans, corn, cabbage and potatoes? When should they be applied, and how? I have used land plaster (gypsum) without particular results. What do you know about sulphur as a fertilizer for the crops mentioned above?—G. M., Portland, Oregon.

The whole question of what particular fertilizers particular crops require and what particular service particular fertilizing substances render to plants, is up in the air. The scientific basis of prescription is unsettled and investigators have taken to aeroplanes, which will strike the ocean with Hawker or land in an Irish bog with Alcock, or alight like a bird in Hyde Park, no one can now tell. It seems likely that all the plants you name must be given the same things in ample supply, with soil in proper culture and moisture adequate. It is possible that we shall have to plump down the whole menu, just as they do at a railway eating station, and let each hungry organism grab what it likes. The reason why you do not get results from gypsum (which has only lime and sulphur) perhaps lies in the fact that you are laying out milk-toast for organisms which have an appetite for ham and eggs. We do not know much about sulphur—except that recent experiments have shown that it is a very necessary and sometimes a very profitable thing to the plant grower, while not long ago the scientists held it to be negligible. We are aiming to get our readers abreast of this very intricate and constantly changing science of fertilization by presenting to them the series on "Fertilizers and Fertilization," by Dr. C. B. Lipman, in our current issues. These articles may not appear in every issue, but they will be consecutively numbered so readers may know the sequence and not miss any. The result will not be the use of less fertilization but perhaps more and with better results and less disappointment than hitherto.

Treatment of a Garden Cherry Tree.

To the Editor: I have a cherry tree in my yard, about 8 or 9 years old, which is discharging a substance which forms a gum, mostly on the trunk of the tree and branches that are right off the trunk.

I have been informed that if the tree does not receive some kind of a treatment that it will die, and wish you would inform me what is to be done. Do they prune cherry trees? I have talked with several people who say no.—Amateur, San Francisco.

Gumming of cherry trees on the trunk's main branches and in the crotches of the two, is generally due to natural bark defects and does not necessarily indicate disease nor lack of thrift in the tree. Such gum is softened and can be easily removed during winter rains, or may be wet with your garden hose until it can be removed easily. It is not good for the tree to have the bark covered by extensions of the gum-flow, but the tree is not likely to be killed by it.

Cherry trees should be pruned when young so as to prevent close forking, for such sharp-angled crotches are apt to gum, while branches which start out at a wide angle, or more horizontally, join the barks of trunk and branch better and do not gum. Pruning of cherry trees after attaining bearing age consists chiefly in removing weak or interfering branches and not in cutting back. As a garden tree the cherry takes a natural and satisfactory form with very little pruning after it has been induced to head low by cutting back at planting.

Non-Opening Rosebuds.

To the Editor: I send a twig, with leaves and a bud, from a rose bush which was brought from Auburn, California, a few years ago. It buds profusely every year, but not one bud has opened out well, nor even half-opened, any year since we have had it. I do not find any insects in the bush. Do you think the bush needs fertilizing or re-planting?—L. C., Nevada.

The growth is slim and the leaves thin, but free from pest and disease. The bud tissue is normal but rather scant and weak. It is possible that there is lack of sap-pressure and if so, it may be due to soil unsuited to the rose. The non-opening of buds is, however, characteristic of some varieties, even under the most favorable growing conditions, and seems to be due to aerial conditions of temperature and humidity which do not favor full development of the flower even though the bush be vigorous. If you wish to try an experiment, knock both heads out of a barrel (or both ends out of a large box) and enclose the bush, covering the top closely with white cloth. Water inside frequently and create a moist atmosphere and see if you can force the opening of the buds. If you do not care to experiment, replace the bush with a cutting or a rooted bush of some kind which does bloom well under your conditions. Some rose bushes are like some men—they never seem to be worth the trouble of raising them.

Anthracoze of Currant.

To the Editor: The leaves of my cherry currants look rusty and drop off. They look as if suffering for want of water, but the soil, a sandy loam, is in good moist shape. The fruit buds to a great extent fall off and what fruit there is left is imperfect. What is the matter and what remedy could I apply?—J. T., Santa Rosa.

It is an anthracnose—apparently caused by the fungus *Pseudopeziza ribis*. If this is the proper identification of the organism it is an old causative of disease with currants at the East and in Europe. It is not the same fungus affecting berries in your region which was discussed and prescribed for in our issue of April 5th by H. J. Schnabel of Sebastopol, but similar treatment will prevail against it. Falling leaves should be raked up and burned. Dormant spraying with Bordeaux or lime-sulphur just before the buds start ought to largely reduce the trouble, but it may be that a summer spraying may be required. This must be determined by experience.

Abnormal Potatoes.

To the Editor: What is the cause of potato vines growing very tall with dark green leaves and blossoming almost all summer and very heavy vines. They had lots of large potatoes but they were all joined together and my vines look as though they are going to be the same this year.—Reader, Coulterville.

There is probably some lack of adaptation of the variety you are trying to grow to your growing conditions, or you may be using too much manure. See if your neighbors have varieties which behave better or get enough of several varieties from the seed-potato dealers for next year's planting, and try them out. Do not use seed-spuds from plants which behave as you describe.

WHAT ARE YOU DOING?

We have a number of men who are doing excellent work in our circulation department, looking after our renewals and securing new subscribers. They enjoy the work and are making good money.

We can use a few more men, and if you are not satisfied with your present work and feel that you can earn more money, perhaps we have just what you are looking for. Anyway, it won't do any harm to investigate.

So if you have an automobile and are free to travel; if you are not afraid of hard work, and believe that you can successfully present our paper to the people, write us about yourself and we will give you full particulars.

Cut Their Heads Off!

To the Editor: I have apple, plum and cherry trees. Most of the apple and cherry trees bear well, but a few apple trees do not bear at all, or even have blossoms, although fifteen years old. The growth of new wood is thrifty each year, and the trees have a healthy appearance. Other trees within sixty feet have a large set of apples this year, so I will have to prop up the limbs. The soil appears the same throughout the orchard. These trees have had the same cultivation and were planted at the same time as the other apple trees. What is the matter? Why don't they blossom and bear fruit? They look too good to root out. What shall I do with them?—G. M., Portland, Oregon.

You may have secured a few trees of a variety which is sterile under your conditions, but it is more likely that they slipped the bud or the root-graft in the nursery, and you have therefore a bunch of seedlings which may never bear or be worth anything if they did. Have them top-grafted next winter with scions from your own trees which are most productive and profitable.

Strawberry Expectations.

To the Editor: What returns could one reasonably expect from an acre of strawberries? I know that it will vary a great deal with the care, climate, season, variety, etc. But what I want to know is, what would be a fair average? Would \$300 an acre be too much to expect? I have an acre of soil, fine brown loam, about 18 inches deep; below that a pretty hard clay subsoil with a little sand through it. There is plenty of water from an artesian well for irrigation. It looks to me like a pretty good place for strawberries if they would pay enough.—H. K., Ventura county.

The figure you name is certainly a reasonable expectation and you might do much better. Your soil and water conditions are excellent. Other matters to figure on are the availability and cost of picking-labor, the markets you will supply, and what it will cost to deliver to them.

Red-Humps Have Aeroplanes.

To the Editor: The red-humped caterpillars are bothering my plum trees. Can I keep the adults from getting up into the trees to lay eggs if I put a band around the trunks of the trees? The early caterpillars have gone into the pupal stage now and are down in the ground. Can I keep the adults down so there will be no more eggs to hatch out?—E. M. A., Exeter.

You cannot interfere with this pest by bands on the trees. The full-grown caterpillars drop to the ground as you state. They will stick around the ground surface until next May or June, when they will transform into moths, which have good wings and have no trouble rising to the leaves for egg laying. Banding to keep down moths which transform in the ground is only useful with species of which the perfect female moth is wingless—as in the case of the canker-worm moth.

Interior Valley Walnuts.

To the Editor: Are the climatic conditions of the Tulare foothills suitable for walnuts? Our temperatures reach to 105 and 108 degrees.—Subscriber, Lemon Cove.

The French varieties on the California black walnut root are doing well under such temperatures as you indicate, but there is little hope of satisfactory results unless you have good depth of soil and a sufficient moisture supply. The trees may stand hard conditions in many places where they would yield no profit.

Red-Headed Linnets and Berries.

To the Editor: Can you tell me of an easy way to destroy the red-headed linnet? It is very expensive to shoot them at the present prices of ammunition. These birds are of no use, and we just cannot grow a berry crop, as they do away with all the fruit.—W. H. G., Loyalton.

We know of no satisfactory protection except covering with mosquito netting, and that is impracticable with a commercial crop. This has been an unsolved problem for decades. If some one is going to get the answer, will he kindly hurry up!

Plan for Farms Without Prepayments.

(Written for Pacific Rural Press by Hon. Harry Polsley, Assemblyman Fifth District.)

The object of all the land settlement laws is to provide homes for returning soldiers, and to help needy persons to get homes for themselves. It will be evident that the acts, as interpreted by those who have the execution of them in charge, will not help one per cent of the returning soldiers. The requirement that any one, to take advantage of the provisions of the act, must have something like fifteen hundred dollars will shut out all of those who are supposed to be benefited. The one who can become a settler must be one who is doing well, is out of debt, and has more than one thousand dollars in the bank. Dr. Mead tries to explain, in your issue of May 31, that there is not that requirement. But from his own statement in the example he gives, he requires a payment of 15 per cent of the purchase price. It does not change this fact for him to itemize the account, as so much on the land, something else for improvements, etc. The improvements can not be separated from the land.

The person who can meet the requirements of the Durham plan can buy anywhere. Dr. Mead mentions that the State will plow and cultivate the land with tractors, and in other ways save the settler some expense. But different subdivisions in this State have been for years doing this for their settlers. They have also provided expert advice and, further, and better than the State is doing, have provided grade cows, to be paid for from part of the cream checks as they come in. The only advantage to the settler, as I have stated before, is that there may be something gained in the price, and that, by taxing the rest of the people, longer time and lower rates of interest may be given to the one fortunate enough to be accepted as a purchaser.

Those who have been writing and advocating the land settlement laws seem to me to show a lamentable ignorance of modern American methods of handling land. They have traveled the continent, Australia, England and America, but like most travelers have only seen the surface. They have not gone into the fundamental principles of the land business. English ways have appealed to them, as, for instance, in the Durham plan there is the provision for the Farm Laborers' Allotments. This is a little thing, but we have no class distinction like this in America, and I am not anxious to see it come. Sell a man an acre if he wants to buy, but do not class him as a farm laborer.

Are Advanced Payments Necessary?

But is it necessary, or is it customary, to require the settler to make a large per cent payment in advance? The United States Government, in its Pre-emption and Homestead laws, did not require an advance payment. Yet this was the largest land settlement plan ever undertaken. It is said that the land was unimproved, but for improved land the difference should be that there would be larger payments required. Under that plan, however, millions were able to obtain homes. But it is not the payment of a large deposit that makes for the settler's success, as is intimated in thousands of cases where large advance payment have not prevented the settler from making a failure.

In the private schemes the 10 per cent advance payment, and often much more than that, goes to the selling agent, so that as between the owner of the land and the buyer there is practically no payment received. And this takes no account of the advertising charges. The fact of the case is a great per cent of all land sales are on option, usually with no payment down, or only a nominal amount. Possession is given or not according to the contract. For instance, a promoter will contract with the owner of a suitable tract for subdivision; he will plot and improve the tract, and advertise and put it on the market. He will charge the settler a certain per cent cash which he will retain to cover his expenses. The next pay-

ment, which may not come for a year, will go to the owner of the land. The owner on his part agrees to accept the buyers' contract as collateral, and when the payments are completed gives the buyer a deed.

It will be seen that as between the owner of the land and the settler, the owner does not receive payment for some time after the settler is on the land, and usually after he has an opportunity to make at least a part of it from the produce of the land. It will be seen from this that the State, as owner of a tract of land, will not have advertising bills to pay, and will not have to pay the promoter's commission; and can afford like the private owner, to sell without the advance payment, and wait for some months to give the settler time to work some of his payment from the soil.

It will be understood that any land that it is proposed to place a settler upon, will, if the proper-sized tract and the right kind of soil and climate, to the industrious farmer, produce not only enough to keep his family, but also enough more to pay for the land, if given a reasonable time. And no land should be permitted to be sold to a settler unless it has been determined beforehand that it will do so.

Why a New Scheme Was Proposed.

Realizing that the State Land Settlement Bill would not be of any benefit to the returning soldiers, the writer, who has had some experience in handling real estate, after consulting with some of the most successful dealers in the State, men who have been placing people on land for years, outlined a bill amending the Land Settlement Law. We had the advice of a number of prominent attorneys as to the legal questions involved, some even giving weeks of valuable time; but their motives were patriotic. Assembly Bill 596 was the result, but it failed in the closing hours of the Senate. It amended the law so that the State could buy an option, the same as the realty dealer, and sell on contract. This made it applicable to any part of the State and would have permitted the owner of the land to carry the burden of the debt instead of the State.

But it is said that unless the settler has a money interest in the land he may not stick. And around this statement range all the arguments against giving the returning soldier, or the poor man, a chance. I have shown that in practice the owner of the land is willing to wait, and usually does wait, some time. It is also known that a large advance payment does not always hold the settler. So we finally get down to the selection of the person, his character, ability, experience, family, health, etc. All this can be easily gone into, and should be done even if he had enough money to buy outright.

It is not proposed to give a man a deed outright, but to give him a show and a chance to put his labor and that of his family against the investment of the State or the landowner. Owners will rent land for a share of the crop and wait until after harvest before they get their money. Now if this was a sale of the land, the part called rent would go to the owner, as a payment on the purchase. Under this plan the first payment is only deferred for a part of the season.

There are many deserving men of good character, men of their word, who, for some reason or other, often not their fault, have been unable to get a start, who if given a chance will make good. The chance of getting a home of their own is for many people the greatest ambition that they have, and it would be the greatest incentive that could be provided to get them to stick. The man with money, who can buy elsewhere, may give up easily. It will be said that irresponsible people will be taking advantage of a proposal of this kind. Yet, under this contract plan, there is a way to give them a tryout, and if they do not

make good, there is not much loss, the land is still there plus any work that may have been done by the settler. But should we fail to provide for our soldier boys because there may be some among them who may not come up to our expectations, especially when there is no chance for loss in giving them a trial; and should many willing, competent men, often with families able to help, be turned down because there are some who sometimes may fail? Many writers and professional men appear to be out of sympathy with the heart of the common people. The difference between us may be stated in this way: the Land Settlement Board must have money. While I would capitalize the settler's character, experience and ability to work, in my plan the first payment would be deferred for a few months and probably would not be so large. But in one way the settler on the Durham plan, and in the one proposed, would be on the same footing. They would both be without money, since under the Land Settlement plan the State would probably have taken all the settler's money in the first payment.

The Fourteen Counties Plan.

The outline of the Fourteen Counties Plan is this: Suppose that a man, for instance, with a family of boys, who is a farmer by experience, comes and states that he wants a home, can show good references, is willing to work, will even live in a tent until he can make enough to build a cabin. Why not put him to work; if necessary, sell or rent him some stock, let him work the tract that will eventually become his own. Take a share of the proceeds of his labor and ap-

ply it on his purchase price; give him time; if his disposition is to make good, and every year his interest in the home will become greater until finally it is paid for. Usually one member of the family will get work outside while the remainder of the family stay on the land. We have a contented settler who otherwise would never have been able to get a home of his own. There may be something altruistic about this, but it is plain, practical business just the same.

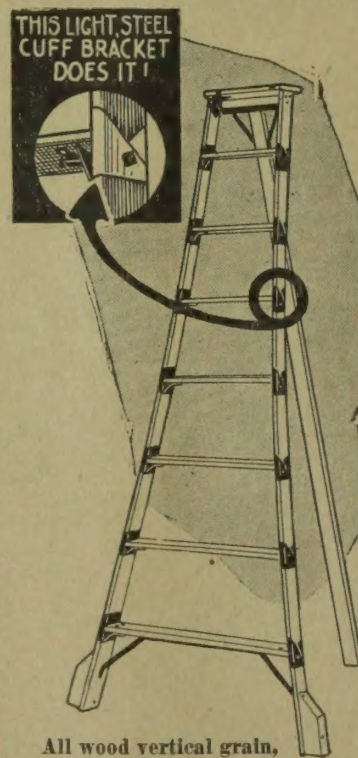
Red Bluff, June 18.

SUMMER PRUNING YOUNG PRUNES.

To the Editor: I wish your advice on prune trees that are now in their fifth year's growth. They have their scaffolding of six limbs, but this year we pruned lightly. They are strong, vigorous trees on deep soil, and if it is desirable, I wish them summer-pruned, but I want the fruit if it is possible to get it during these unheard-of prices—Mrs. D. F., Santa Rosa.

Assuming that they are French prunes and not Sugars, they should not be topped any more and need no summer-pruning except to remove undesirable suckers. If you have some low-growing suckers that you wish to convert into fruiting wood, they should be nipped back now. Otherwise only crossing or other undesirable growth need be removed. Let them come into bearing.

Arsenate of lime may be used in place of the more expensive arsenate of lead, but should not be used on plants with delicate foliage, such as the stone fruits.



All wood vertical grain, plenty of spread.

Are you a Cave Man?

—of course not—then why use the Cave Man's tools? Do you know that until the

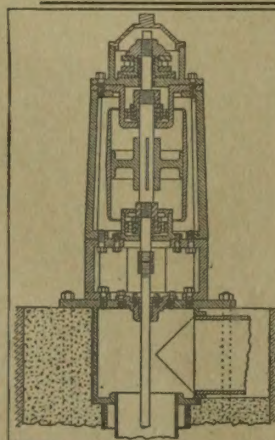
SECURITY KANT-WOBBLE LADDER

was patented there had been practically no real improvements over the ladder the cave-man used in the stone age.

Security Ladders are built with a patented steel cuff-bracket machine-wrapped around stile at each step-end, making possible the slim, lithe construction that combines strength with lightness, and forever does away with the wobble.

Will ship on approval, freight prepaid, if your dealer is not among the 65 listed in Pacific Rural Press of May 24th, page 798.

J. B. PATTERSON, Mfr.
72 Franklin St., Oakland, Cal.



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When goods are sold through agents or middlemen you can rest assured that the agent's commission and dealer's profit are added to the price received by the manufacturer, and as "the consumer foots the bill," he pays all these profits and commissions.

After twenty-one years experience with agents we have decided that in the future we will sell direct to the consumer at wholesale prices giving the buyer all these profits and commissions.

Therefore, if you want to save money, BUY AT WHOLESALE and at the same time get the

Best Pump On Earth

Write for catalog N. and price list of the P.K.WOOD DEEP WELL PROPELLER PUMP

WOOD PUMP CO. 935 N. Main St., Los Angeles, Cal.

Community Irrigation Pumping Succeeds.

(Written for Pacific Rural Press by E. E. Hodges.)



Booster Station No. 3 pumps from three wells and from the sump which drains a unique infiltration gallery located where Deer Creek leaves the Sierra foothills.

If you could have raised eight sacks of wheat this year on well summer-fallowed land under the Terra Bella Irrigation District, how much more would you have to raise to make a profit by use of the irrigation which has recently been proved a success there? A lot of folks didn't figure it out as we do, or else they couldn't get the capital or help; for too small a percentage took advantage of the opportunity.

A unique irrigation system it is, having been designed to irrigate 12,000 acres around Terra Bella by means of community pumps, reservoirs, protected steel pipes, and meters. Most of the figures used in this article are taken from various articles published by the Terra Bella News, whose editor, Earle R. Clemens, was one of the chief boosters for the district, and who has been its secretary from the beginning. Estimates were made and the work done under direction of Chief Engineer Stephen E. Kieffer, who has done work of a similar nature at various places in the West.

The district was organized under the Wright Irrigation Act by an election August 7, 1915, in which there was not an opposing vote. The first water was delivered late in 1917, but owing chiefly to war conditions and the rolling character of the land, only 2,211½ acres were served last season besides the municipal and domestic water supplies. People seemed to think that it would not pay to irrigate anything except fruit trees and gardens. Those grain growers who put in their year's labor and use of the land for half a crop or less, may well do some figuring and call for water next season.

Cost of Water Reasonable.

Plenty of water is available, and the more acreage benefited by it, the less will be the cost per acre. Viewed with respect to the cost of water in districts with gravity flow, it was more expensive at Terra Bella, thought it was less expensive than individual pumps. The operating cost, paid by users only, was \$7.30½ per acre foot of water in the 1918 season, but there were several reasons for this which will not operate next season, and certain other economies may be put into effect. The whole district was assessed about \$4.00 an acre to meet interest on \$760,000 outstanding bonds. The four dollars per acre had to be paid anyway, and if the use of an acre foot of water per acre would increase the wheat crop two sacks per acre, the extra expenditure would show a handsome profit the first year. This, of course, does not consider the cost of leveling or contouring for irrigation, which would add its cost to the value of the land, increasing the charge against the crop only by the amount of the annual interest on the cost of leveling.

For fruit, there is no question as to profitability of irrigation at the costs figured; and increased planting is expected to increase use of water so

Boost Water to Higher Levels.

Five pumping stations deliver water to as many zones at elevations varying from 462 to 811 feet above sea level. The main pumping station takes water from the valley wells via 26,720 feet of collecting pipe, varying from ten to thirty inches in diameter. It delivers water to about 1,700 acres and also pumps up to Booster No. 1 from which about 9,000 acres may be irrigated. Booster No. 1 also pumps up to stations four and five. Station four delivers to two different zones including 800 acres of the highest land in the district. Station five has two pumps operated by motors of 80 h.p. and delivering at full capacity 1450 gallons per minute, or 161 miner's inches. Station three is located at the infiltration gallery. It delivers 250 miner's inches when operating full capacity and is the only one operated

during winter time. It is at the 541 foot level, while the town of Terra Bella is about 462 feet, so there is plenty of pressure for domestic use in winter.

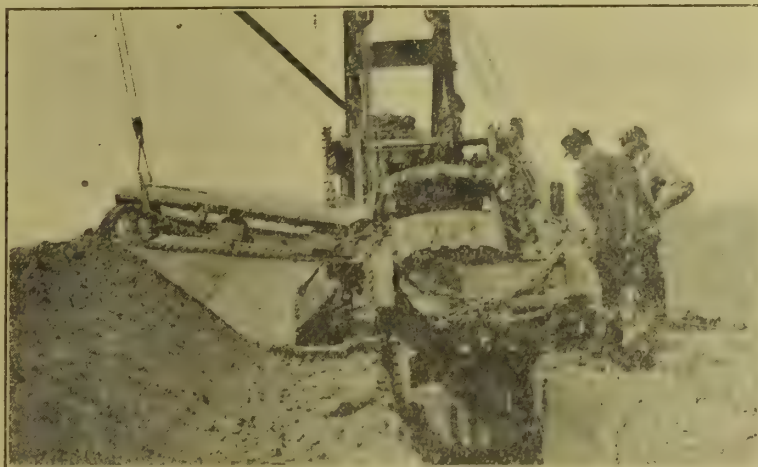
Water All Piped and Metered.

The water used last season was distributed through over 300,000 feet or about 58 miles of protected steel pipe, being delivered to the property lines of each of 149 water users and measured there by recording meters. Only once were the leaks in all of this pipe more than one man could take care of. Most of the pipe and well casing were furnished by the Western Pipe & Steel Company, and the Lacy Mfg. Co.

Wells, Pumps and Motors.

The dozen valley wells are 521 to 1090 feet deep, and the smallest casing used in any of them is eight inches in diameter. All of the sixteen pumps used on the wells and at the boosting stations are of the Byron Jackson make, and have given entirely satisfactory service. They are of the deep well turbine type in the valley and of the centrifugal type in the booster stations. Each of them is run by a Fairbanks-Morse electric motor. Electricity cost over \$20,000 in 1918. Additional wells and pipe lines are now being put in to care for the increased demand already materialized and expected.

Fifteen thousand feet of new steel pipe six to nine inches in diameter have already been laid this season, and two more wells were put down last winter. These and the other wells would furnish more water than their pump equipment is designed to throw. The new ones will give 150 miner's inches. Contracts have been let for two more wells; and the capacity of the infiltration gallery will be doubled this season according to Mr. Kieffer.



Digging ditches for the 58 miles of pipe through which water was delivered to property lines of all users.

as to reduce the overhead expense per acre foot. Here also there is no question as to the advisability of leveling or contouring for irrigation.

Water Already Developed.

The district started the spring irrigation in 1918 with ten wells in the valley, each testing 100 to 177 miner's inches, and three wells and an infiltration gallery higher up on Deer Creek. This gallery is interesting. Where Deer Creek opens out into the valley 3630 feet of coarse open-jointed cement pipes have been laid in the sands six to twelve feet below the creek bottom, and all leading to a sump whence the water is pumped. These are calculated to have a capacity of 250 miner's inches when the water level is about them. The three wells nearby are calculated to yield an additional 100 inches.



Testing one of the ten valley wells which average 115 miner's inches, or 1035 gallons per minute. (Courtesy Terra Bella News.)



PELTON

PELTON BELTED PUMPS

Ready for immediate shipment, right now when you need water. Drive them with a gasoline engine, tractor or electric motor. Later, when the pumping season is over, you can connect the same pump direct to an electric motor and have the most efficient and economical pumping unit possible.

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THE PELTON WATER WHEEL COMPANY,
1990 Harrison Street, San Francisco, California.

Natural Control of Mealy-Bugs

(Written for Pacific Rural Press by John J. Fox.)

"The little fleas which do so tease
Have smaller fleas to bite 'em;
The smaller fleas have lesser fleas
And so—ad infinitum!"

This school-boy jingle, which is evidently so old, nevertheless contains an element of truth. For the tiny insects that do such incalculable harm to our fruit trees, vines and plants, have troubles of their own that we wot little of. It is the entomologist's duty to find out those troubles and breed them. How far this is being done and what it means to the horticultural and agricultural industries is not yet sufficiently known and appreciated, even so far as it has already gone.

The State Insectary at Sacramento, extensive as it is, was not large enough to deal with the demands made upon it by the citrus men of the South.

In response to their appeals for assistance in control of the mealy-bug a branch of the State Insectary was established at Alhambra in Los Angeles county, in the fall of 1916, in charge of H. M. Armitage, and another at Santa Paula in Ventura county, under County Horticultural Commissioner A. A. Brock. In the latter place the Limoneira Company also have their own private insectary for rearing predatory insects in defense of their own orchards. This insectary is in charge of a trained entomologist, whose duty it is to watch for insect pests and control them in these orchards. All three of these insectaries were established by H. S. Smith, Secretary of the State Insectary. When a private enterprise goes to this expense it is pretty positive proof that the business grower is very much alive to the value of the thing and this we propose to illustrate.

The Citrus Mealy-bug.

Every citrus man knows what this pest does to his trees and fruit; how all parts of the tree suffer; how the insects cluster on the fruit and destroy its value, even when they do not cause it to drop prematurely; how the honey-dew secreted by them covers the leaves, which later become black with sooty fungus as do sound lemons. Now, of all the various natural enemies it has among the ladybird beetles, the *Cryptolæmus montrouzieri* has been chosen as the best to date, and this is being bred in the insectaries for distribution among the growers. Ninety-five infected orchards were supplied last year.

A Notable Example.

We went into the A. Culp orchard at Santa Paula of ten acres, which had been badly infested with mealy bug. This was the first orchard worked on and cleaned up by H. S. Smith. The trees had been black with sooty fungus on the exudations of the insect, and a good spraying had been given of kerosene emulsion at a cost of 25 cents a tree. Fumigation was resorted to but the trees became again badly infested, and gas does not seem to be effective with this insect. Then in October 1, 1917, 5 larvae of the *Cryptolæmus* were liberated in the orchard as a starter. In the following year in February, April, May and June, a number of them were liberated in this orchard twice a week. In all 6,900 beetles were liberated at an estimated cost of 1 cent a beetle. By July the beetles were in the ascendancy and the orchard was declared cleared of mealy-bug by September 1 at a cost of \$69. A double fumigation, the only other suggested method of destruction would have cost \$500 or more. Spraying would have cost about \$200; would be necessary every year, and would be incomplete.

Fecundity of the *Cryptolæmus*.

Beetles were taken from this orchard to furnish to other men. For instance, 50,000 of the *Cryptolæmus* were taken from this one orchard in August without an appreciable diminution of their numbers, as they multiply so rapidly. Growers are often afraid to have them collected and taken out of their orchards, but Mr. Brock says there is no fear, as the collector's efforts are as nothing in reducing their numbers. A small fan-shaped sheet framed on a stout wire

was invented by Mr. Armitage to collect the insects. Its smaller end is attached to the screw top of a mason jar. The sheet is held under a branch, which is smartly tapped when the insects which fall on the sheet are shaken down into the mason jar. The top is so arranged that they cannot crawl out again—the fly-trap principle. Sixty-five thousand were taken in three hours with these sheets where it took two days to gather 25,000 by former methods.

The Intelligence of Ants.

We noticed a little bag of some sticky looking substance tacked on the bottom of each lemon tree, which Mr. Brock explained was ant-poison. If the poison were strong enough to poison the ants then and there, they would soon "catch on" and leave it alone. But it is sufficiently slow acting so that they can carry it to the queen and the nurseries.

It seems that the ants quickly discovered that the *cryptolæmus* is destroying the mealy-bug, which the ant likes to preserve on account of its secretions of honey-dew. Therefore they try to drive the *Cryptolæmus* away and have to be poisoned so as not to interfere with his work.

A Quick Job.

We were taken by Mr. Brock to the L. E. Mills lemon orchard near Santa Paula, some of whose trees were badly infested with mealy-bug. A double-shot fumigation was first tried on 13 trees, but Mr. Mills found that the fruit was damaged to some extent by this double shot, so he turned the orchard over to Mr. Brock to clean up. The first *Cryptolæmus* were liberated in the orchard September 18—5,000 of them which had been collected in Santa Barbara. On October 26 he was collecting bugs out again from this orchard for liberation elsewhere, and the orchard was declared cleared of mealy-bug at the end of 60 days after the first liberation. The cost to owner was \$68. Fumigation would have cost about \$500. The trees here were large, well kept and of good color. A heavy dressing of manure was put out as a top dressing. The E. W. Williams grove is now being cleaned up near by.

Artificial Aid to Rapid Increase.

In the Culp and Mills orchards, where such good results have been obtained artificial pupating places were provided for the *Cryptolæmus*—burlap bands, etc. This is to prevent their going to the ground or under dead rubbish where a greater loss would take place. This is one important factor and another is the control of ants as described. The chief thing is to have enough of the *Cryptolæmus* bred so that it can have an equal start with the mealy-bug in any plantation, or much injury to fruit, defoliation and damage to tree vitality may result before the pest is finally overcome by this beneficial parasite.

The distribution has to take place through collectors as the *Cryptolæmus* is not a good prospector for new pastures or new fields to conquer. The future work of officers, therefore, will be probably to make collections from infested orchards, of *Cryptolæmus*, and distribute them where wanted. For the work here can be carried out on a wholesale scale, impossible to obtain in any insectary where mealy-bugs are bred on sprouted potato tops to feed their parasites—an endless

job, but it has to be done. The breeding of mealy-bugs on potato sprouts was the outcome of research by H. S. Smith at the State Insectary.

The Table Grape Men.

As table grape men can no longer ship any grape where mealy-bug is present, they are now making demands for *Cryptolæmus* to supplement their spraying and it has been suggested that still another branch of the Insectary be established in the South San Joaquin.

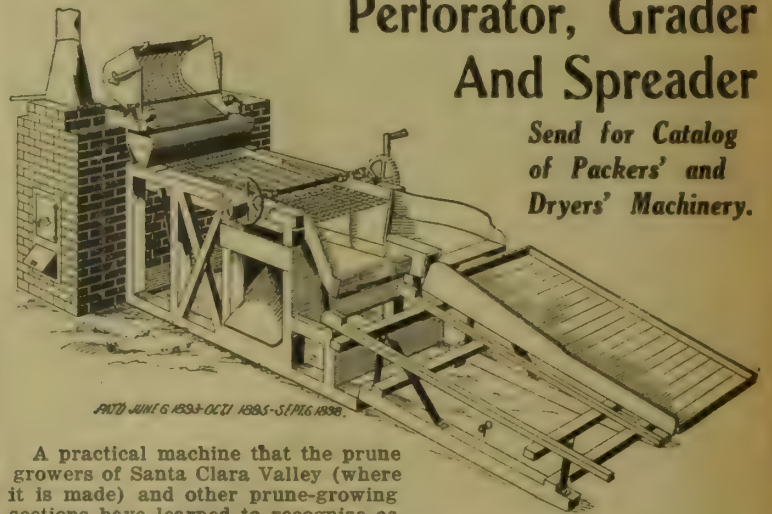
In the two or three orchards we visited, this useful little insect, by

careful manipulation, seems to have made as clean a job of the mealy-bug as the *Vedalia* (or *novius*) *cardinalis* does of the cottony cushion scale. They were said to have been introduced and naturalized in California at about the same period. The *vedalia* was exploited at once. It is now time for the *Cryptolæmus* to hold office, for he comes well recommended.

The Patterson Land Company lost \$100,000 from grasshopper damage last year and was willing to spend \$20,000 this year for control.

Anderson Combination Dipper Perforator, Grader And Spreader

Send for Catalog of Packers' and Dryers' Machinery.



A practical machine that the prune growers of Santa Clara Valley (where it is made) and other prune-growing sections have learned to recognize as the standard machine of its kind. It embodies every possible advantage—and does the work perfectly in every way. Durable and substantial in construction.

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We can furnish this Combination Dipper, Perforator, and Spreader in any size desired—for either hand or power use. Write—and tell us your requirements.

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SURFACE IRRIGATION PIPE

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Prunes Slow in Development.

Prunes seem to be sizing up, making size more slowly than last year and some men think they are not going to make the grades expected earlier. The temperate temperatures of this season may have something to do with retarding the development of this fruit, for the trees themselves are in fine condition and have made a good spring growth of wood. The Oregon and Washington crop is estimated at about 30,000,000 pounds. The frost they had last month dumped off more fruit than they expected and the cold rains have not helped development.

The California Co-operative Canneries Have leased the California Italian Products Cannery at Tulare and will use the plant up to the time of the tomato season for the manufacture of apricot butter and canning peaches. They have purchased the pool of the Tulare County Peach Growers' Association—a total of 80,000 tons at \$92.50 per ton. Three thousand tons will be canned at Tulare, the balance going to the San Jose cannery. The Co-operative Canneries Company is contemplating the erection of its own cannery at Tulare to be ready for next year's crop. The plans call for a \$250,000 plant.

Efficiency at Receiving Station.

The new packing house at New-castle center of the California Fruit Exchange is so arranged that seven trucks can unload fruit at a time. They then drive right around the building (to allow those behind to follow), and load up with shook and supplies from that department. All State and Federal regulations on standardization inspection and transportation are posted in a conspicuous place, together, with samples of all packages required. Every district member has his own pigeon-hole in the office where he can keep in daily touch with his affairs and get his daily bulletin without having to ask or wait for them.

Large Purchasers of Property.

The Virginia Food Products Company of Oakland has added to its large purchases of winery and vineyard properties by the recent acquisition of 640 acres comprising the old F. T. Eisen vineyard, six miles east of Fresno. The price paid is said to be \$375,000. This company recently bought the La Paloma winery for the purpose of converting it into a plant for the manufacture of grape beverages and other products. It is said that they hold options from the California Wine Association on many of the largest wineries. Their purchase of the Mission vineyard of 1,000 acres near Cucamonga in San Bernardino county, and securing an option on a large winery near Lodi are other instances of the activity of this firm, which is said to be backed by a group of big Eastern business men.

Labor for Grape Harvest.

In common with other sections, Fresno, center of the great raisin industry, is busy providing for the importation of labor for the raisin harvest next September and October. "The labor problem this year will be the most serious in our history," according to W. F. Setchel, President of the Valley Fruit Growers' Association who is investigating possibilities of providing for the needed help. Between 7000 and 8000 outside hands will be needed for the raisin grapes alone in addition to 10,000 to 11,000 local pickers and they will have to be brought in on the understanding that they will be needed for only about two months. In addition to the harvesting hands, the wine grape, peach men and cannery men will need quite a few hands, and employers are getting busy none too soon. The prune men are also on the lookout for pickers and engaging families in advance, and are preparing tents and other accommodations as inducements.

A Mechanical Cracker.

G. W. Pierce, President of the Almond Growers' Association said at

the Deciduous Fruit Men's Meeting recently: "One serious problem that affects almond growers is the inadequate protection afforded our industry—3 cents tariff on unshelled and 4 cents on shelled almonds. There is not enough difference here. We have no mechanical cracker that can shell the Jordan without injuring the meat, while this shelling is done by hand in the cheap European labor market. The hard-shelled Jordan is the meat used by confectioners and imported shelled. We are working ceaselessly to develop new markets to take care of our new large acreage of almonds, yet we have an enormous importation to compete with. We cannot hold our nuts—they must be sold in time for the holiday trade. Later a lower price has to

be accepted. The difference in cost of shelling abroad and in California should be considered in the tariff."

HORTICULTURAL LESSONS IN THE FIELD.

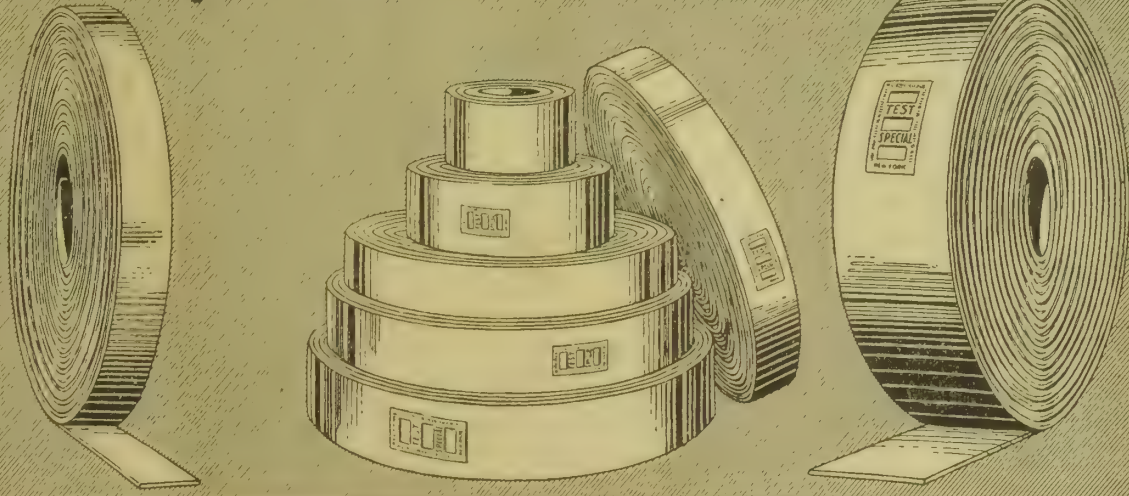
(Written for Pacific Rural Press.)

James Mills, the well-known orchardist of Colusa and Glenn counties, attended a demonstration of pruning at the Davis Experimental Farm. He was accompanied by D. B. Macoun of Maxwell, and brought two of his head tree-pruners with him to gather some pointers from Prof. Tufts. Mr. Mills in commenting what could be learned from these field demonstrations, said, in effect: "I consider that our fruit growers' conventions should be held largely in the field. It is in the field and with some informal discussion of what is before our eyes that we learn things. Soil conditions by management, tree conditions, and the results of spraying and pruning. How much

better all these things can be demonstrated than described. I would hold a prune growers' convention for the prune men, a grape growers' convention for the grape men, an orange growers' convention for the orange men, and so on. It is in the field that the scientist and the producer should meet." This is right in line with the useful program carried out in the Santa Clara Valley for last week in January, between the University of California and the Horticultural Commissioner C. R. Cody—as "meaty" a program as could be desired. Also similar field conventions are taking place among the citrus growers in the South and fig and grapemen in the central and northern sections. One always finds successful growers present where there is a possibility of learning anything about their business.

Cherries have been marketed in quantity by parcels post at Weaver-ville (Trinity county), most of them going to the Redding market.

Test Special THE BEST Rubber Belt MADE



A Belt for Every Purpose

Belts are made in various weights and sizes. They differ as to number of plies, thickness, manner in which woven, etc. In order to perform its duty a Belt must be chosen according to the work it is to do. If selected with this object in view it will render the maximum service and power. You cannot expect one horse to pull a two-horse load. Neither can you justly expect a 6-inch 4-ply Belt to do the work of an 8-inch 4-ply Belt.

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Deciduous Fruit Experiment Stations

(Written for Pacific Rural Press.)

The initial meeting of the Deciduous Fruit Growers with the university men, called at the instance of W. L. Woodard of Campbell, to discuss the establishment of deciduous fruit experimental stations and methods of procedure, took place at San Jose on Thursday, June 26.

Important Meeting.

After a dinner at the Montgomery Hotel, the meeting was called to order. The opening address by H. C. Dunlap, of the Prune and Apricot Growers' Association, outlined the work that had preceded the \$100,000 appropriation made by the legislature and signed by the Governor. He said this was to be the first real experiment work along commercial lines to be established. Those primarily working for the station were the Farmers' Union, the San Jose Chamber of Commerce, the Prune and Apricot Growers' Association, members of the Grange, growers, legislators and the University of California. W. L. Woodard, chairman of the committee was looked upon as the father of the movement and he had worked steadily and faithfully throughout.

"These experiments," said Mr. Dunlap, "depend for their success on the co-operation of orchardists and the scientists who will take charge of the work." To this end he suggested that a committee of orchardists be formed for each substation to co-operate with the university men in the problems their districts present. He suggested that the small sum at their disposal to begin with would not go far to deal with all the work in sight. Therefore the most practical step would be for the professors to make a survey of the state to begin with, see what has already been accomplished by individual effort and what are the most pressing problems in each district. Then make use of what material growers already have gathered and arrange for their aid in continuing to observe and record, whereby the scientists' work might be enriched by constant field vigilance on the part of owners. More people will be benefited and the value of the appropriation be increased by close co-operation.

Other Growers' Suggestions.

G. W. Pearce, President of the Almond Growers' Association, said that the general interest in horticulture had set the wheels going and would keep them moving in this new work. Much in the way of cultural work in all its branches is expected. He said also, "We want new varieties of almonds suitable for shelling. We want a larger percentage of meat and better shapes—a good shelling almond. There is a California soft-shelled Jordan they are now trying out. The development of this will be the first thing asked by the almond men. Almond pruning will also be another of their problems. Mr. Pearce mentioned several instances of almond growers of high standing who have gone on the rocks because of deficient orchard methods.

H. E. Clark of Saratoga—a member of the original committee—said that the chief problem in his district had to do with soils—their improvement by cover crops, drainage, cultivation and other contributing methods of conservation and betterment. Pruning came next—the building up of new orchards and the keeping of old ones in good shape.

Other growers made suggestions along the same lines, and then the chairman called upon Dr. J. C. Whitten of the University of California for a suggested outline of policy.

The Work to Be Done.

Dr. Whitten, Professor of Pomology, who will be in actual charge of the work, said that he came there to get suggestions from the growers and had not been disappointed. A general state survey was most practical. For the problems begin with the growers. In discussing the same problem with different growers one may obtain half a dozen different viewpoints from as many growers on the same subject. Their sum total is sure to present a

pretty good line and gives something definite to work on and furnishes a base of operations. Naturally only the most pressing problems can be dealt with at the start with the means provided. The university experiments have given them a sure basis to start from. General principles in pruning, cross-fertilization and other orchard work is definitely known.

These principles must be adjusted and adapted to suit the idiosyncracies of different localities, including when and how to spray for plant diseases and insect pests. In field demonstrations, unsolved problems will be picked up and recorded in the field. Fruit packing demonstrations are important.

Root Stocks and Bud Selection.

Experiments in the selection of root stocks on which to bud must be developed—stocks that will prove resistant to underground troubles, such as oak root fungus, etc. Pear blight was instanced as having been fairly successfully overcome so far as the root is concerned. And bud selection for best types and varieties will be a very important part of the field work. Storage and transportation of fruit in better condition for consumption and to extend the period of consumption has already been experimented on and

many problems solved in their cold storage plant at Davis. These investigations will be extended and carried out on a commercial scale.

Cover crops adapted to varying localities and conditions will be tested in successive practice, together with soil moisture studies. In fruit drying and curing there is a wide variation in methods by different men. The university should equip a small dryer such as would be used by small men and discover the best methods, trying all. A state survey will determine the primal importance of these problems.

Dr. W. L. Howard spoke of the preliminary experiment work that had been going on at the University Farm for the past four or five years which will be of value to the new field stations. The university proposes to work close to the fruit growers, and he is confident that a good accounting will be made such as to warrant a substantial furtherance of the movement. Some of our oldest unsolved problems are among our greatest ones. Fall and winter operations will mark the beginning of operations as no money is available from the new appropriation till September.

Mr. Woodard, the chairman, who was congratulated on the successful fruition of his efforts, said that he handed over the responsibilities to the university with pleasure and relief, in the full confidence of useful results following the united efforts of the growers and the men of science.

Prunes Precocious in Tulare County

(Written for Pacific Rural Press.)

There is a 100-acre block of young prune trees just out of Visalia on the Hanford Road that is something of an eye-opener for people coming from the prune sections, because of the luxuriousness of wood-growth and for the large crop of prunes on three-year-old trees. This orchard belongs to R. E. Hyde of Visalia. There are 60 acres of two-year-old and 40 acres of three-year-olds. The latter are bowing down with their weight of fruit and will have to be tied up—trees six inches through at the butt. They are headed very low, as all deciduous trees should be, particularly in the interior, and are well built on the best known lines. They have never been irrigated till this year—haven't needed it on this deep silty loam, but Mr. Hyde thought that in the face of a third season of very light rainfall and a large crop of wood and foliage, it would be wiser to start the season with a good moisture supply. So he has given the ground a good sousing, and when we saw it the third week of May it was worked down like an onion bed in splendid shape.

Pruning a Problem.

We asked Mr. Hyde how he was going to handle these young, heavily-cropped trees this year. They were already coming over like weeping-willows with weight of fruit. He said, "Of course I am going to tie them up right away, but the ends will still hang over. I am open to suggestions." As we said last year of the Farmersville section, prune growers here seem to have a pruning problem to solve themselves on these young trees that seem to think nothing of making a bunch of ten-foot whips in one year at this age. Probably checking by pinching back quite sharply during the growing season the first two seasons might help some and throw more laterals and not thin too hard till the fourth year, even if some of the inside growth is choked out. Then when the tree comes to bearing heavily it can be lightened up and relieved of superfluous wood more rapidly. Mr. Hyde had wondered whether he should not relieve the trees of a portion of their crop to save their shape a little, but decided that the present prices warranted his leaving it on and pruning the trees back into shape if necessary afterwards. Twenty tons of prunes from 40 acres of three-year-olds would look pretty good.

The Older Orchards and Soil.

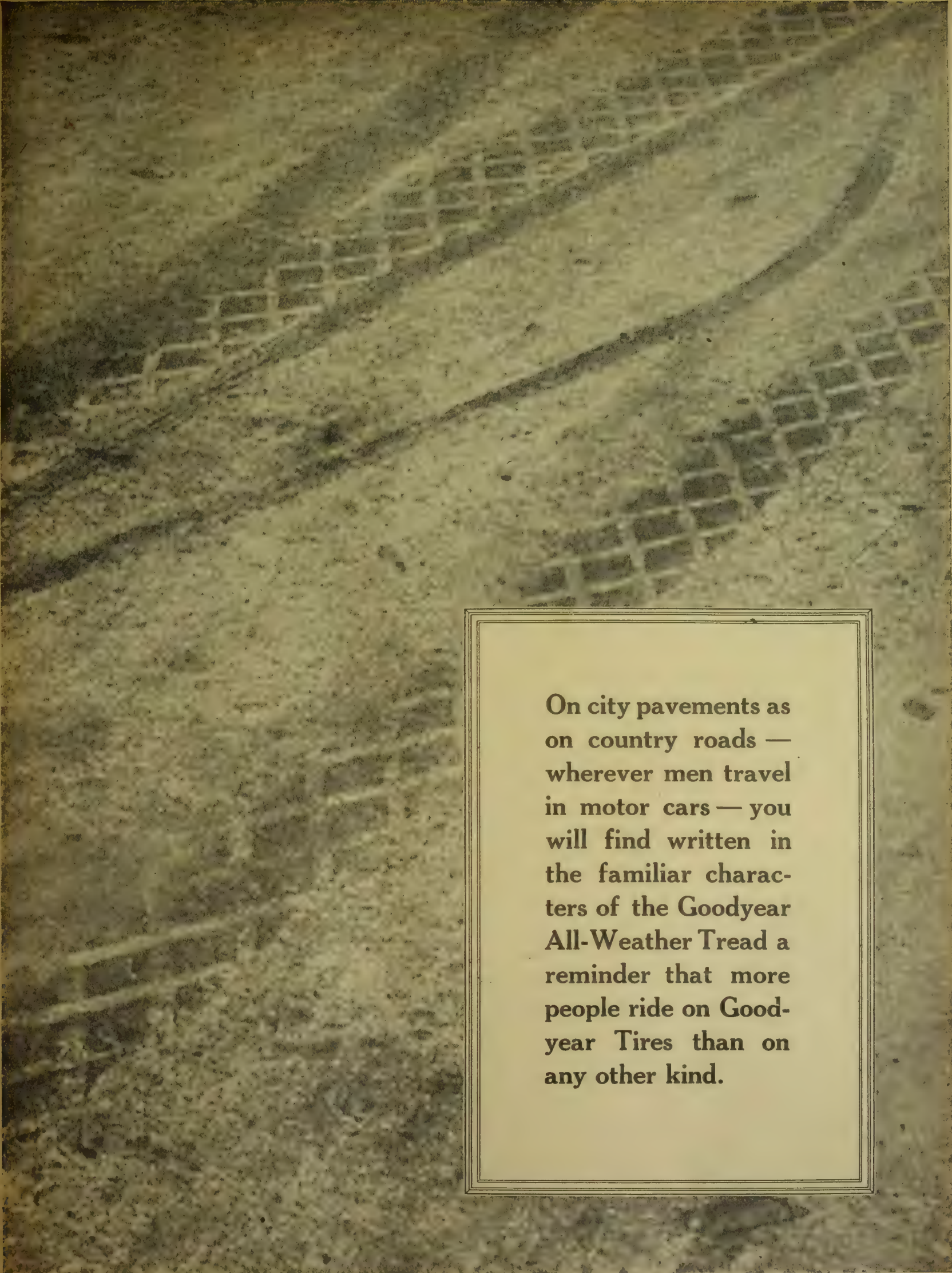
The silty loam soil and Hanford loam is from eight to fifteen feet above the clay—very strong and retentive

of moisture. A Cleveland tractor aids in the maintenance of a fine mulch. Like so many growers, Mr. Hyde finds the old-fashioned wooden clod-masher a fine implement to wind up with to follow his cultivating tools—double disk. It really is hard to beat, behind either spring tooth or disk on this class of soil—provided the clods have not got so hard as to need the pulverizer to break them down.

Of the 80 acres of bearing orchard here, 40 acres are 18-year-old French and 40 acres seven-year-old Robe de Sargent in one block. In the north these prunes generally prove pretty shy bearers unless there are enough French or Sugars to cross-pollinate. Yet last year 20 acres of these young Robes produced 37 1/2 tons of dried prunes. This year it is estimated that the same 20 acres will produce 45 tons—about \$10,000 worth.

Mr. Hyde contemplates planting out another 100 acres of prunes next year on similar soil and which he now has in grain. This will provide enough outlet for the activities of one live man when the whole is in full bearing. For orchards need close scrutiny and attention throughout the year to gain the best results. Just as a stockman rides through his flocks and herds, instantly spotting an animal that is off color, so must an orchardist watch his trees for any ailment throughout the year and endeavor to discover its cause and remedy. It is by the work of such painstaking men that our science of horticulture is enriched from year to year. We remember seeing Wm. Henderson (now dead) riding slowly up one row of his 90-acre pear orchard and down the next on his pony, watching the work of his pruners, scanning the twigs for insects and noting each tree as he passed with the practiced eye of the skilled orchardist. Just as stock thrive under the eye of the owner, so do trees thrive. Every appearance of unthrift is magnified in the owner's vision till he is bound to investigate the cause. It may be crown gall, lack of moisture, gophers, oak root fungus, poor drainage, or what not, but it is going to be investigated and the cause at least discovered.

The University of Arizona announces a field course in range livestock production from August 4 to September 6. The first week will be spent at the university and the remaining four weeks in studying the methods employed on some of the best ranches in Arizona. This certainly is practical instruction.



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GOODYEAR
AKRON

Crop of Clings Worth \$1,000 per Acre

(Written for Pacific Rural Press by Jno. J. Fox.)

We want you to see what a ten-year-old peach orchard looks like that carries a crop worth about \$1,000 per acre this year. (See first page). This is the orchard mentioned in our issue of May 31, where "Scientific Control of Crown Gall" has been carried out. It is as even as it looks in the illustration. This orchard belongs to Hunt Bros., canners, and is situated at Linden in San Joaquin county.

Perfecting the Quality of the Fruit.

F. A. Dixon, the general manager of the company, explained that water properly applied is the secret of producing perfect canning quality in peaches. He says that a good irrigation should be applied to the trees just before picking. "Water late for quality." The Tuscan are irrigated about 20 days before picking, and Phillips about the same. He says that pink cheeks in the Phillips at picking time denotes quality. This is perfected, as stated, with water. If the color is lacking, then you know there is lack of quality. The whole of this place is irrigated from a well or over the levee. The well is 530 feet deep, but the lift is only 40 feet and a 50 H. P. motor delivers 2,500 gallons of water a minute.

Grading for Irrigation.

Mr. Dixon emphasized the importance of grading the ground for irrigation, not only for the saving of time and even distribution of water, but on account of the labor expense. We saw one portion of the orchard that was graded 100 per cent perfect, and a small portion that showed some inequalities of surface. They had been in a hurry to plant it at the time and let it go. It could have been graded for \$10,000 before planting, yet the extra expenses in irrigating had amounted to this sum in two years. Mr. Dixon's intention is to uproot a portion of this young orchard so as to grade it and then replant. The graded ground is laid off in one acre checks. Given the same area, one man can

look after the same amount of ground (graded) in irrigating, as takes 12 men on that which is ungraded.

Importance of Bud-Selection.

Mr. Dixon spoke of the great importance to be attached to bud-selection to preserve types, and looks forward to the day of State Experiment Stations and recognized sources of budwood where all nurserymen shall be served. He said there are half a dozen different types of Tuscan Clings in the orchard and that the use of untried bud variations leads to deterioration—mentioning in this respect the orange cling in Tulare county—probably due to bud variation and the taking of sticks from unproven trees; also the midsummer group. He has a very promising seedling which he has named the Paloro—a cling that equals the Phillips at its best, or any other cling, and which he now has out in orchard form.

Pruning and Thinning.

The pruning cuts in this orchard are most painstaking; consequently there is a minimum of wood rot. Careful thinning of the crop insures freedom from undersized peaches.

The perfecting of this lucrative crop has been brought about by: (1) Being planted on excellent peach soil; (2) good early training of the trees—a low head, vase system and long fruit wood; (3) care of all cuts wherever made and seasonable and thorough spraying; (4) thorough irrigation and subsequent care; (5) careful thinning of the fruit; (6) cover croppings. The highest fruit can be picked from the sixth step of a ladder.

There are doubtless hundreds of peach orchards in the State that can duplicate the returns shown here. But it must be remembered, that this year creates a record for fruit prices never before approached and which may never recur. To buy property or plant trees on the strength of these figures is out of the question.

Horticultural News Notes

A new peach has been developed in Success Valley near Watsonville that is said to ripen in late October.

J. P. Downs of Pleasant Valley (Butte county) has this year sold \$175 worth of strawberries from one eighth of an acre.

The first delivery of dried apricots in Fresno county was made June 25 by B. Boranian, who delivered two tons to Rosenberg and Co.

The apple crops in England and France are said to be short, owing to continued dry weather, and we shall again have fair fields for marketing.

A car of future dried peaches was sold at 16½ cents for choice, 17 cents for extra choice, and 17½ for fancy in New York, and two cars were sold at the growers' export prices.

Speculators in the San Joaquin Valley are said to be paying \$75 a ton for Malaga grapes, which last year sold for \$40. Emperors bring \$125 a ton compared with \$50 last year.

After the grasshopper campaign was under control in San Luis Obispo county 980 dead hoppers were counted on one square foot of ground where they had collected under some trash.

The orange crop in the Porterville section promises to be 25 per cent larger than that of last season, in the opinion of W. L. Crow, a local packer. The Valencias are set heavier than the Navels.

Some canning plants report that their entire pack for this season has already been sold—an indication of the strong demand for California fruits. They are now getting busy on apricots.

Ten cents a pound for Royal Annes, Bings and Lambert cherries is this year's price at Eugene (Oregon). Last year 6 cents was paid for Royal Annes in this district and less for Bings and Lamberts.

Modesto has been shipping carload

lots of apricots to Eastern markets—a new departure, for she has generally shipped to the canneries or dryers. The high prices on fresh fruit have been alluring.

"Future bleached Thompson seedless raisins (October-November shipments) were reported to have been sold at 20 cents; Coast and soda dipped at 17 cents, according to the New York Chamber of Commerce Journal."

Alameda county's currant crop was heavy and realized good prices this year. Prices ranged from \$12 to \$13 and drawers have sold around \$1. They are said to have met a ready sale even at these prices.

University lecturers will find fertile soil for their seed of wisdom in addressing the boys and girls in the various fruit harvest camps this season. They will do it if earnestly requested to the interest and profit of the young workers.

Forty-eight dollars and sixty-nine cents for 12 crates of apricots was the net price paid the grower—L. Anis at Lodi, on June 24. The fruit was shipped through the Earl Fruit Company. This is over 20 cents a pound f. o. b.!

Layne and Bowler Corporation of Los Angeles, manufacturers of turbine deep-well pumps, have opened a branch office in Modesto. This local station will handle the installation and service on the pumping plants in this district.

Kings County Peach Growers, who had their fruit contracted for a term of years at \$22.50 per ton, have had the price doubled gratuitously by the canners, making \$45 a ton in all. Terra Bella growers contracted their Phillips Clings at \$65 f. o. b.

It is hoped that hay and grain men will make an effort to save all the burr clover seed they can this year. It will be needed and be worth cleaning. There was a distinct shortage of

burr clover seed last year for men who wanted to sow it for cover crops.

Two hundred and seventy acres of vineyard (the Pusey ranch) east of Fresno has been sold to the Goorabian Bros. for 200,000. The vineyard consists of Malaga, Muscat, Zinfandel, Emperor and Thompson Seedless grapes and is in one of the best vineyard sections.

Walnut trees in the vicinity of Oxnard have been attacked by the fruit tree leaf-roller, never previously found on the walnut and generally confined to apple trees. This report comes from E. O. Essig, the well-known entomologist now stationed in Ventura county.

The final settlement of the peach association with members amounted to over \$900,000. The prices growers obtained last year were from 10½ to 11½ cents a pound. The opening price for this year's crop will be named soon according to J. F. Niswander of the California Peach Growers' Association.

Tulare orange growers received the largest aggregate sum for the 1918-19 crop net, ever recorded in spite of the comparatively short crop; the Porterville section is said to have totalled over \$2,000,000. The three exchanges in the county will probably total \$5,000,000 in payments to growers.

C. J. Kuhn of San Jose has been dusting his pears with the new Goleta Kaolin and Black Leaf Mixture for mites and slugs. These dusting experiments on deciduous fruits will be watched with much interest by growers. No live slugs were to be seen on Mr. Kuhn's young trees after the dusting.

Loganberries, blackberries and raspberries are now in the market in large quantities. The Japanese strawberry growers who were penalized earlier in the season for short weight in baskets by the Sacramento Horticultural Commissioner, have profited by the lesson, and no more crates have been confiscated.

The arrival in Fresno of 25 or 30 fruit jobbers from the East six weeks ahead of their usual time is an unheard-of thing, according to C. E. Campbell of the Stewart Fruit Company, and indicates the great demand there is already for our green fruit. Peaches will be the first big shipments East—probably about July 20.

Shipments of cantaloupes from Imperial Valley are decreasing as the season advances. The remarkable success of growers in this section is due to standardization and strict inspection. The buyer in the East now knows just what he is going to get before he sees it. Which makes a quick and stable market with a minimum of loss.

The Mountain View district (Santa Clara county) is going to have a boys' camp for fruit harvest, according to Editor P. Milton Smith of the Mountain View Register, who with Mr. Holman of the First National Bank assured the Berkeley Y. M. C. A. that the schoolhouse would be available for camping if no better arrangements shall have been made.

WOULD KEEP SILENT.

Cassidy (after the 17th parade): An' how did Oi look to ye on the horse, Dinny?

O'Brien: Ye're a friend iv mine. Mike, so ye kin thrust me niver t' tell a livin' soul.—Boston Transcript.

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Imperial Valley will probably ship four times the amount of grape fruit this year that she usually ships. The American fruit crop is expected to exceed \$1,000,000,000 in value this year.

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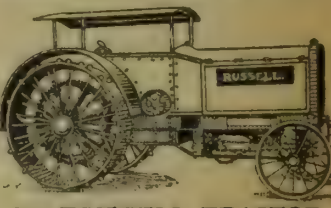
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ASK FOR ILLUSTRATED FOLDER No 25

Farm Owners' and Operators' Nat'l Assn.

(Written for Pacific Rural Press.)

A new packing shed for fruit and grapes is being built at Waterloo, ten miles east of Stockton, in hope that a freight rate may be gained less discriminatory than the one now in effect. There has been considerable fruit development in this section, but a freight rate of 70 cents per ton has been charged for the haul to Stockton. The local unit of the Farm Owners' and Operators' National Association recently held a meeting at which the shed and a better freight rate were promised.

Dependable Crop Estimates.

By reason of the careful classification of the acreage signed in membership, the Farm Owners' and Operators' National Association will be in a position by next season to make accurate crop estimates in the different counties. The separation of orchard, vineyard, grazing and general agricultural lands makes easy a postal card inquiry on the kind and quantity of crops. There is no reason why within ten days, at the proper season, there should not be a close approximation made of every class of crops. This fits well to the purpose of the association to ultimately have its own statistician and provide the members with reports on crop conditions, to be followed by explanations of market conditions and prospects.

Association Progress.

A review of the work of the association the last 60 days shows that in more than a dozen counties, from Santa Cruz and Sutter to Kings, well-known farmers are now moving for organization and work. Into every neighborhood the plans and principles of the Farm Owners' and Operators' National Association are being brought to the attention of the men who own and till the soil. Much of this friendly and understanding spirit has been created by meetings and personal interviews; but the work has an even broader scope in the fact that tens of thousands of pieces of explanatory literature have been sent through the mails to be read by the farmers at odd times. There is not a day but that the work is being advanced in some quarter, and not a day but that gratifying results are apparent.

Free Fruit Labor Bureau.

The acute labor shortage which looms before fruit growers has led the Santa Clara unit of the Farm Owners' and Operators' National Association to make its major work for the time being along the line of supplying workers needed. Miss Mary P. Richter, who did similar work in the valley last season, again has immediate charge, with offices in the Chamber of Commerce at San Jose. The service is free to all. A card index is kept showing what kind of work each applicant wants; and when farmers apply for help, the right parties are quickly brought together to do their own bargaining as to wages and conditions. Many of the floating workers who were placed last year by this office under auspices of the Y. M. C. A. are returning for similar placement this year, if they are the sort that made good. The other sort does not generally come back to the labor office.

But the floating population is not enough. High school boys and girls again have the opportunity to enroll in a systematic manner for fruit work. The Labor Bureau sent about 3,000 cards to the San Jose high school for students to fill out as they wish. These cards show the address, age, sex, and names of all applicants, indicate how long they wish to work, what kind of work they want, what sort of transportation they have, what sort of camping facilities can be provided, etc. These were returned before school closed, June 27, and filed alphabetically by sexes and in age classes. Last year, whenever a group of workers were called for, if the working conditions at the ranch were doubtful, an investigator found out before sending the boys or girls.

If not doubtful, he took them out and made the survey on arrival. Reports after the season was over were generally favorable from both sides. Employers came early to the Bureau this spring and the high school authorities, students, the Y. W. C. A. and Y. M. C. A. early began pushing on the lines. It seems better to give this work to our local American youth than to a floating or foreign population, if the work is done about as well, for it is developing them in citizenship at the same time, while the floating population has proved a menace to property.

Hints to Fruit Workers.

A circular addressed to applicants for work in Santa Clara Valley orchards and signed by the Farm Owners' and Operators' National Association, gives the following pointers: Growers usually will not employ workers without seeing them first. People wishing work should apply at the free labor bureau in the Chamber of Commerce rooms, San Jose. The apricot season begins early in July and the prune season follows closely with sometimes a short interval between. Picking apricots is paid for by the hour and is usually done by men and boys. Women and girls do most of the cutting, sorting, or packing as piece work. Some ranchers provide permanent buildings in which to house help, some provide tents, many, near enough to town, arrange transportation back and forth. Workers with autos and camp outfits will have an advantage. Those who have no camp outfits can lodge in San Jose. If they have small children, these can be cared for in a day nursery in town. There will be work in harvesting apricots, prunes, peaches, pears, apples, grapes, tomatoes, etc.

TWO IMPORTANT MEETINGS.

Two meetings in the county campaign for increased membership in the Farm Owners' and Operators' National Association were held during the last week. At Linden there was a good attendance Wednesday evening, despite the fact that harvest is under way in that section. J. M. Bigger, vice-chairman of the association, with Dave Young, John Tone, Herbert Smythe and William Thomas, directors, were present and made addresses.

Mr. Bigger explained the situation in reference to the Association's efforts to secure official recognition by the Federal grain corporation of a wheat grader for the San Joaquin unit. As a result of interviews, Mr. Bigger said that it would be difficult to secure an official standing for the grader, but the service might be installed for the convenience and satisfaction of members. The meeting endorsed, unanimously, the proposal that a grader be installed. The results of the meeting were satisfactory in the acreage signed.

Saturday evening at Atlanta, which is a great grain-grawing section, a number of prominent farmers met to consider organization. Some took this, their first opportunity, to inquire into the Association plans. The results were very satisfactory, and an invitation was given the Association officials to return at the close of harvest and put the district in strong on membership.

A shortage of labor having developed in the orchards around Bellota and Linden, appeal was made last week to J. M. Bigger, of the Association, to see what could be done in securing the help of young people from the High School. Mr. Bigger at once took up the matter with the principal of the High School, and it is expected that the emergency will be met by prompt action. A system of registration is proposed and if necessary cars will be put on to take the young people to and from the orchards.

A remarkable situation has developed in the Escalon section, the extreme south side of the South San Joaquin Irrigation district. Armenians have entered the section and purchased a number of wine grape vine-

yards, paying strong prices. They have not disclosed their plans, but it is believed that they have one for drying grapes for use after the dry law becomes effective. The Escalon section is believed to have been selected for the experiment on account of its dryness and certain elements in the grapes. While there are many fine vineyards in the section, it has never been in any way distinctively a wine-growing country, and the movement has come as a surprise in many quarters.

The San Joaquin Unit has entered on its system of classifying all acreage as to vineyards, orchards or general agricultural lands. The card system adopted is to be used in making crop estimates and reports. The name of the farm owner, his postoffice and phone number, his acreage and crop prospects can be secured from every part of the country within 48 hours. A basis is being laid also for statistical information of more general character. As soon as the system is perfected it will be recommended for use in the other counties, to the end

that the State office may make independent and dependable reports.

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Standard Well-Boring Outfit

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It will do the best job of leveling in field, orchard or vineyard. Will scrape up hard ground without plowing. It has been proven out by over 2 years of successful use in Tulare County. A number in use in the vicinity of Dinuba at the present time.

MADE IN SIZES SUITABLE FOR ALL SMALL AND MEDIUM-SIZED TRACTORS.

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Descriptive literature upon request.

Reliable agents wanted.



GOLDEN GATE WEED CUTTER

Kills the Weeds and Cultivates the Soil. Greatest weed killer on the market. Cuts them off clean, under the surface, close down to the roots. Besides, it breaks up the ground so thoroughly that one user says he saved \$200 in a single season because after cutting the weeds he did not have to plow. Cuts seven feet or less. Weighs but 230 pounds. Cut adjustable to any depth. Constructed of steel throughout. No other implement like it.

WRITE FOR CIRCULAR which illustrates and describes the Sigurd Weed Cutter and contains letters from many users.

C. G. SIGURD, Manufacturer
Capital Ave. and McKee Road, San Jose, Cal

Suggestive Agricultural Mention

(Written for Pacific Rural Press.)

Effects of Barley Exports.

A little light is shed on the reason for the stagnation of barley last season by reports of the U. S. Department of Commerce. During the ten months ending April, for 1917, 1918, and 1919, our exports were respectively 13,494,408, 22,476,016, and 9,586,531 bushels. Last year when the U. S. barley crop was 746,000 bushels greater than the previous year, our exports were 12,889,485 bushels less. The picking up of exports during May and June from California will probably continue until the mid-western crop comes in about September. Meanwhile 600 tons were sold the other day on the Los Angeles market for December delivery on a basis which would just about cover present prices plus storage, insurance, etc. The buyers, of course, believed that there will be no lowering of prices between now and Christmas.

Relative Importance of Foreign Beans.

Beans imported into the United States during the ten months ending April, 1917, totaled 2,489,656 bushels as reported by the U. S. Department of Commerce. For the ten months ending April, 1918, 3,097,251 bushels were imported. During the corresponding period ending April, 1919, 3,187,493 bushels were imported. Our biggest importations have been in our years of biggest crops, but practically no more were brought in the last period than during the same period the year previous. Of the beans imported during the ten months ending April, 1918, 693,495 bushels were exported. Of those imported during the corresponding period ending April, 1919, 1,300,051 bushels were exported. This would indicate that 1,887,442 bushels of foreign beans were either used or stored in the United States during that period. Six states in the United States last season produced 17,733,000 bushels of beans.

Small Lots of Wheat to Government.

Wheat growers who have less than carload lots and cannot sell direct to the Government at the Government price may still have that privilege in Stanislaus County, where the Farm Bureau is forming a wheat pool whereby small growers may ship in car lots.

Farm Courses for Disabled Men.

Seventy-eight "rehabilitation men," who have given their own bodies for their country, were registered in two special short courses, beginning June 9, at University Farm. Thirty-two more were received pending approval of application for training. The object of these courses and others covering most lines of farming is to enable men of ranch experience to acquire such technical knowledge in some field of agriculture as will enable them to overcome their disabilities. Three courses began June 20, one will begin July 21, one July 28, and two August 11. They last three to eight weeks each.

Alfalfa Dodder Controlled.

"I really no longer look upon dodder as a menace to alfalfa, and I will tell you why," said Farm Adviser O. W. Jarvis of Sacramento County recently. "I had been trying it out with cultivation in Nevada, and to make a definite test I deliberately sowed 40 acres to alfalfa in Nevada, the seed of which was about one-third dodder. It was immediately dubbed 'Jarvis' folly' and 'the dodder patch.' I sowed in the fall, got a good stand and irrigated in the spring as soon as it showed. As soon as it was high enough I ran the mower over it and let it lie, letting the surface get dry. Then I raked and burned the stuff and used a spike-tooth harrow over the whole and a spring-tooth cultivator carefully over the worst spots. Then I irrigated. A little dodder showed up again and I repeated the treatment. After that my alfalfa field was clean."

Wheat Rotated with Rice.

Watergrass is no longer a menace on certain kinds of rice land, as proved by General Manager H. G.

Beekler of the Dodge Land Company this season. It has been a common belief that no crop would rotate with rice. This has led to the practice of pasturing rice land for a season or two after it has become too much infested with watergrass to grow rice. About 2,000 acres of the Dodge properties were in this condition last year and no rice was attempted on this area in 1918. But at the suggestion of G. R. McLeod of the Sperry Flour Company, and also as the result of previous experiments by the Dodge Company, they tore up the land during last summer about six inches deep with a heavy Killefer cultivator pulled by a tractor. When early rains came, it was floated down, harrowed, and sowed. They have 1700 acres of Baart wheat with a crop estimated over twelve sacks per acre. The wheat makes nearly as much net profit as rice would on the same land if it had not been too weedy, and the dry culture kills the weeds.

Made His Own Bean Market.

To the Editor: Some readers of Pacific Rural Press might be interested in the method I used in marketing my beans. I had a small patch of teparies last year, and after watching the local market drop to ¼ cents per pound, I decided to use my crop to pave my roadway, and mend breaks in my ditches. By taking a trip into one of the bay towns and spending considerable time in explaining the best known and most satisfactory recipe for cooking this bean, I was able to see some tried in the local high school cafeteria. The advertising "took," and I was eventually able to place 26,000 pounds in this town. The grocers handling it retailed it at about 3 pounds for 25 cents, and my price was at about twice the San Francisco market quotation, and I have considerably more business in sight there.—Geo. L. Horine, Winton.

Grasshopper Poison Broadcasted. Grasshoppers have been reported in large numbers in some parts of Tulare and Kings counties. Poisoned bran was distributed by wholesale, ranchers using broadcast grain seeders for the purpose, and in this way covering a large acreage very evenly and quickly. One rancher said his hogs ate the poisoned hoppers with no apparent injury.

POISONING MOLES.

To the Editor: Surely you can poison a mole! For years my wife asked, "Why don't you poison the moles?" I said, "It can't be did, because they eat only worms." "But," says she, "they eat my corn and peas." "Oh, no," I replied, "they just destroy the roots, looking for worms. I have read books, and I am posted." So things went until one day my wife brought home a can of mole poison from the drug store. It was sealed airtight, and was canned peas, soft and poisoned. They killed the moles, but what was not used soon molded and spoiled. The next year the drug stores had none for sale, so I made my own, as follows:

Soak dried peas two days in water, then when soft sprinkle with poison. I used arsenic and "Rough on Rats," and then I put the peas in their runs, and also put some in the seed when I planted corn or peas, and I never have any more bother with moles. Whether they eat it or it acts as a charm like a rabbit's hind foot, I don't know, but it works.—H. T. B., Orland.

[They eat it all right. Some years ago the Oregon experiment station demonstrated that moles would eat peas, though they passed on other vegetables offered them.—Editor.]

AGRICULTURAL BILLS SIGNED BY GOVERNOR.

The following bills of agricultural interest were signed by the Governor. Their contents may be learned by reference to the sketches in our issue of May 17. The others which passed the Legislature were either vetoed or pocket-vetoed. Senate bills: 34, King,

estrays; 93, Feedstuff inspection; 319, Deciduous experiments, \$100,000; 364, Apple standardization; 513, Fruit and vegetable standardization; 709, Seed Potato Certification. Assembly bills: 38, Riverside University Farm; 168, Irrigation district electricity; 172,

net containers with proviso relating to raised-bottom berry baskets; 212, dairy; 215 and 413, Los Angeles Liberty Fair and Exposition; 645, walnut codling moth control; 1005, the hay bill; 1112 State Department of Agriculture.

POWER-SIMPLICITY ECONOMY

WATERLOO BOY

Original Kerosene Tractor

Dependable Power

that does not fail when your farm work has been delayed and you must take advantage of favorable weather and ground conditions.

Reserve Power

that's available in emergencies—for variable soil conditions or upgrade work.

Simple Power

which the experienced hired man can utilize to full day capacity, at any draw-bar or belt job on the farm.

Economical Power

that insures low operating cost—works all day under full load on 18 gallons or less of cheap kerosene.

Built to Standard Quality

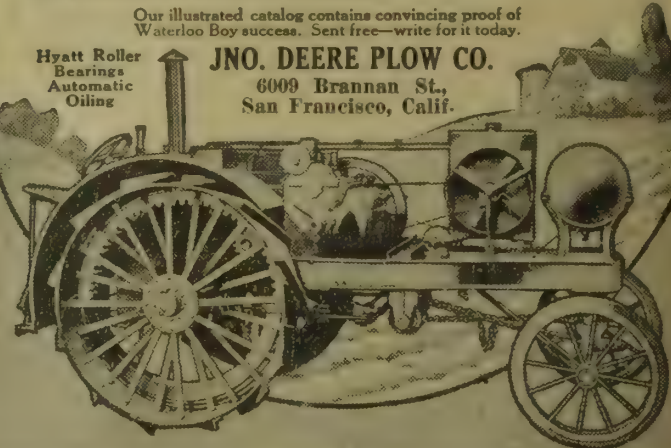
Waterloo Boy fully sustains the quality-fame attained by Waterloo Boy power machines in 25 years' manufacturing success. Backed by a plain guarantee from a responsible manufacturer. Two-speed motor supplies ample reserve power for three 14 in. bottoms, and belt power for all farm needs, including threshing. All working parts of the Waterloo Boy are easily accessible.

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PUT NEW LIFE into your played-out land. Make a good profit on your biggest "by-product"—your straw stack. It has a fertilizing value of \$8 a ton, is invaluable for adding humus to the soil, and affords splendid protection for winter grains. For best results it must be well shredded and spread evenly. To make sure you do it right the first time, use the

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This new one-man straw spreader attachment makes your Nisco a perfect spreader for straw, lime and all kinds of manure. The Nisco can be bought with or without attachment, or the attachment can be put on your old machine. The Nisco is the ORIGINAL wide-spreading spreader, always reliable, simple and durable, built for hard usage.

Loads and pulls without undue strain on man or team. Has solid bottom with chain conveyor. Drives with heavy sprocket—no gears. Have your Nisco dealer show you this machine which causes hundreds to write the kind of letters shown below. If you don't know him, write us for his name and free book on soil fertility.

NEW IDEA SPREADER CO.
Spreader Specialists Coldwater, Ohio

"My new NISCO was demonstrated today in presence of my neighbors. Was surprised to see how perfectly it handles both straw and manure. Did not think I wanted the straw attachment, but after seeing it work, would not have a spreader without it. Two horses pull the spreader dandy—no weight on necks. Must say the NISCO is all you claim for it."
I. W. DANTICE, Colo.
(Address on request)



"I have one of your spreaders and use the straw spreader attachment on it. By actual experience, I have raised more and better wheat on heavy clay soil where I had applied wheat straw or clover chaff after the wheat was sown in the fall, than where I used fertilizer right by it; and invariably we were successful with clover on straw covered plots."
A. A. COFFMAN, Ohio
(Address on request)

NEW IRRIGATION METER.

(Written for Pacific Rural Press.)

Due to the friction between water users and ditch tenders or the irrigation companies who employ them, on account of disputes as to quantity of water delivered, many irrigation systems are installing meters as fast as practicable. A new meter, characterized by low cost, small size, and simplicity of installation is now on the market. It is about the size of an automobile speedometer with a recording counter similar to one used on a bicycle. The same instrument is used to measure the water running over any sized weir, adjustments for different sized weirs being made in the gearing of the counter. This fact is made possible by the fact that it is



There are only eight parts in the Lyman Irrigation Meter, and it weighs less than six pounds. About the size of a speedometer, it is very easily installed by the water user without special tools, and records in acre feet the quantity of water passing over any weir.

operated by the pressure head. Its intake is inserted through the weir board six or more inches from the side of the weir opening and two inches under the crest of the weir. A screen and protecting drum keep out trash, and the speed with which water runs through it prevents deposit of any silt. With a maximum head of one foot, the meter begins recording at 0.15 of a foot. With its intake set for a maximum head of two feet it begins recording at three inches depth of water over the weir. Gearing has been calculated by its inventor, Ray J. Lyman of Berkeley, for Cipoletti and rectangular weirs and for orifices of various types. Mr. Lyman has had seven years' experience as irrigation engineer on several Government Reclamation projects.

THE OPEN-MIND IN AMATEUR FARMING.

This is just to let you know that I like your paper more and more the longer I get it. I don't always agree fully with your editorials, but I read them and all the reading matter from "cover to cover." All the helpful things I read in it make the few editorials with which I do not agree shrink into insignificance.

"A Rural Vision of Soil Science," by Albert F. Etter, in your May 17 number, surely was read with interest. It was written in language that most people could understand, including amateur farmers. We have used some lime in our garden, but I don't think it gives any results nearly like plenty of stable manure. And with only one cow, you can imagine we do some hoarding, so that no manure is wasted.

Good Use for Leaves.

We have some of the trees here that Mr. Etter mentions—manzanita, madrone and live oak. We use the dry leaves for bedding, as we can't raise our own straw here—much less buy it.

Goat Manure.

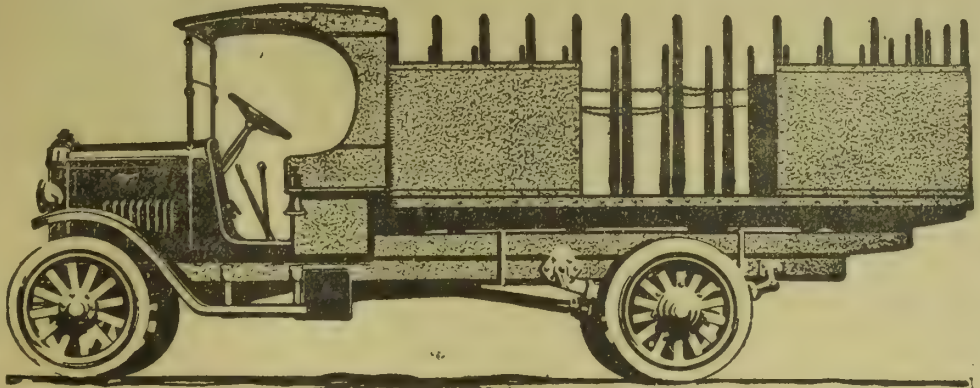
We have a neighbor who has goats. The rest of us have a prejudice against goats for several reasons, the chief one is that they can do plenty of damage if not well fenced in. We believed that the ground they went over much would be "spoiled" for growing anything. Now Mr. Etter must know much more about it than we do, and we will have to change our idea that goat manure is injurious to the soil and we owe our neighbor an apology on that score.

Nature or Sharks.

No doubt there is much to be gained from studying Nature. But when I find my garden soil getting as "hard as

a rock" and plenty of other things coming up to take the enthusiasm, for farming out of one's heart or mind, I'm more likely to think of the ways of real estate sharks than the "ways of Nature." But just the same I'm glad there are plenty of folks who make a success at farming, and so we disgruntled amateurs don't count. We can read the Pacific Rural Press and after awhile we will be more efficient in handling our problems.

I hope Mr. Etter will write some more letters to the Pacific Rural Press so that we may learn some more things about making "land as poor as a pile of sand as rich as a garden." We surely need that knowledge.

**QUICK AND ECONOMICAL TRANSPORTATION**

FARMERS appreciate the value of the electric lighting equipment, a feature of all Nash trucks. Night work, so often necessary on the farm, is thus made practical. The electric starter, another important feature, not only saves the driver's time, but cuts down fuel expenses as well.

The internal gear drive axle of Nash trucks transmits power with a minimum of loss from motor to driving wheels. This is one reason owners give for their satisfactory performance.

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NASH TRUCKS

One-Ton Chassis, \$1875

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Ranging in Price from
\$190. to \$2175.
All Repair Parts Carried.



The Future of the 1919 Wheat Crop

(Written for Pacific Rural Press.)

GROWERS CAN INSIST ON FAIR PRICES FOR WHEAT.

The United States Grain Corporation will enter into contracts with wheat buyers. One clause of the contract designed to furnish a method by which the producer may satisfy himself that he is receiving fair treatment in grade, dockage and price, is produced herewith:

"The Miller (or Dealer) in buying wheat from the producer, shall purchase on the proper grade and dockage under the Federal standards, and shall pay therefor not less than the guaranteed price based on such proper grade and dockage, at the terminal most advantageously reached, less freight, and less reasonable handling margin. The Miller (or Dealer) shall keep a record showing all purchases from the producer, name of the seller, date, quantity, grade and dockage fixed and price paid and reasons for fixing grade under No. 1, including test weight; and on all parcels of wheat on which there is a dispute as to grade and dockage or price between the Miller (or Dealer) and the producer at the time of delivery, a notation thereof, shall be made upon the records of the Miller (or Dealer), and a sample shall be drawn by the producer and the Miller (or Dealer) and forwarded in a proper container to the Vice-President of the Grain Corporation, in the Zone in which the purchase is made, for his use in the determination of the dispute. The determination of the Vice-President shall be final and conclusive unless an appeal from such determination be filed within ten days with the United States Wheat Director by either the producer or Miller (or Dealer). In case of appeal the decision of the United States Wheat Director shall be final and conclusive. The Miller (or Dealer) shall keep a copy of this section prominently displayed at his place of business."

It is hoped that buyer and seller will harmonize any differences by mutual agreement, but in cases where this is not possible, the following directions for making use of the provisions of this clause in the contract should be followed:

A sample of the wheat under dispute should be forwarded to the Grain Corporation, 343 Sansome Street, San Francisco, with card enclosed giving the following details: Date; name and address of buyer; name and address of seller; bushels under dispute; grade and dockage fixed by buyer; grade and dockage claimed by seller. Such samples should contain at least three pounds, so that a proper test-weight can be ascertained, and in the case of all samples in which excess moisture is a factor, at least part of the sample must be forwarded in an airtight container.

The Grain Corporation office will promptly, on receipt, advise both buyer and seller of their opinion as to the proper grade and dockage, and in the case of sample wheat on which there is a dispute also as to the proper price, the Grain Corporation will express an opinion as to the relative value of such sample wheat as compared with the guaranteed basis standard No. 1 price.

Such sample will then be held for submission to the Wheat Director, in case of appeal within ten days, as provided in this clause of the contract.

The agency to handle the 1919 wheat crop will be known as the "United States Grain Corporation." With the Presidential Proclamation of Peace the Food Administration automatically passes out of existence, and on July 1st the Food Administration Grain Corporation will change its name and continue to operate under the direction of the United States Wheat Director, Julius H. Barnes, with a capital of \$500,000,000, all subscribed by the United States Government.

W. A. Starr will be Second Vice-President, managing Zone 12, comprising California, Nevada, Arizona, and the Hawaiian Islands.

"That the government guarantee of the wheat price was undoubtedly a wise act is now realized," said Mr. Starr on his return from the New York conference recently.

"Farmers have responded by producing by far the largest wheat crop in the history of the country. Without the assurance of an adequate food supply which this surplus gives, it is difficult to imagine the condition of chaos and starvation that would confront Europe, with the reflecting evils in our own country. As a matter of fact, this big wheat crop of America is the salvation of civilization today.

"As evidence of the magnitude of the operations of the Grain Corporation under the leadership of Julius H. Barnes, in supplying the Allies and relieving the distress of the liberated countries of Europe, the total turnover for the past 18 months ending July 1st, will exceed seven billion dollars.

"The food which has measurably stabilized European society and government and kept the red flag out of Finland, the Baltic States, Poland, Czecho-Slovakia, Jugo-Slavia, Austria and Roumania, and saved the remnants of Armenia, was largely purchased and landed at the ports in Europe, by the Grain Corporation, making it possible to act quickly and comprehensively and with the least possible disturbance to home necessities. The West Carnifax, the first food ship to arrive at a German port, after the Armistice was signed, and carrying a cargo of flour, was shipped by the

Grain Corporation from San Francisco, and was used for the first relief of the starving people of Czecho-Slovakia, to reach whom it was shipped through German territory.

California Exported Flour.

"California, with a deficient wheat crop, and not raising enough wheat for home consumption, did nevertheless last year export through the Grain Corporation, to Europe, nearly two million barrels of flour, or almost ten per cent of the flour exports from the United States. This was made possible by the importation of large quantities of Australian wheat, accomplished by the splendid efforts of R. A. Lewin, of the Grain Corporation, who succeeded in obtaining vessels to move the wheat from Australia under very trying conditions.

No Wheat Imports This Year.

"This year there will be no imports of either wheat or flour, and the California wheat crop promises to be almost three times as large as last year, furnishing a plentiful supply for the flour mills, up to the limit of their capacity, and they will only be restricted in their operation by the ability of the Grain Corporation to sell flour for export.

U. S. Wheat and Flour Sales Policy.

"The Grain Corporation will sell all wheat for export and all flour for export to Europe, buying the flour from the mills on a competitive basis.

"The obligation of the Grain Corporation the coming year calls for protection for the producer in seeing that he gets a fair reflection of the government guaranteed price, and on the other hand, the protection of the consumer, allowing fair play for the grain and milling industries, and proper handling of the exports of the surplus. To ship this surplus out of the ports of the United States is going to tax their capacity to the utmost. Only the most efficient handling can prevent serious congestion. The Zone Vice-Presidents will therefore have full control over all seaboard warehouses and elevators, and through the co-operation of the Railroad Administration will direct the flow of all grain

to terminal markets and seaboard under a permit system.

"In case the crop is marketed both home and abroad on the basis of the government price, there will be no government control of flour mills', flour jobbers', or bakers' profits. With a plentiful supply of wheat and flour at all times, it is safe to count on competition to regulate profits and give the consumer a square deal, as all of these industries operate under unusually competitive conditions.

"However, in case of a resale of wheat or flour below the government price, made necessary by lower export value of wheat, or arbitrary reduction to the domestic consumer in price of the flour, machinery is provided by regulation of these industries and control of profit margins to make the reflection of the reduced price to the consumer absolute and immediate. It is understood that export wheat values and domestic flour prices are to be kept at the same level of value at all times.

"Judging from the comments appearing from time to time, the public does not seem to realize that the control of wheat has held the price down to the consumer, and at the same time, by stabilizing the price received by the producer, has eliminated speculation and paid him full value for the wheat."

Wheat Not Likely to Be Lower.

When asked if he thought the government would be resellers at prices well below the government price the coming year, on account of the big crop, resulting in large loss to the government, Mr. Starr replied: "As the situation looks today, I do not see why the crop cannot be practically marketed at the government price. Mr. Barnes has made an exhaustive analysis of the situation, and while it can change by the varying condition of crops between now and their maturity, it looks as if Europe would need over four hundred million bushels of wheat out of our coming harvest to get through next year, besides what will be available from other exporting countries. Last year's exports of flour and wheat were about three hundred million bushels.

"In view of the fact that most European countries have guaranteed their producers considerably more than our minimum price, it is conceivable that we might ask them more than our government price basis, since the United States will dominate as an exporter, holding the main supply, but as this would be national profiteering in a sense, it would of course not be thought of. Matters of finance will also largely control the market in which many European countries can buy. If our present outlook for the wheat crop is realized, we should have around six hundred million bushels of surplus, and after giving Europe what they will require, we will have left a comfortable carryover against the harvest of the following year. Assuming that Europe will need this supply, the only reason left for a lower resale price would be an arbitrary reduction to the consumer in the United States.

"I greatly doubt if this would accomplish the object aimed at, namely, to reduce the cost of other foodstuffs. For several reasons, wheat has an independent value as food, especially in Europe. Suggesting lower prices for wheat next year would tend to discourage the planting of another large wheat crop. Can we afford to take chances on small crops in the light of past experience?

"As farmers are now confronted with heavy costs in producing crops, it would seem unwise for the government to do anything arbitrary, tending to discourage the farmers' efforts in production. With the end of the coming year of control, we all confidently believe and hope that the grain markets and grain production can be returned to the natural operation of the law of supply and demand, which under normal conditions is the safest kind of regulation."

An unaccountably good demand for Bean tractors is reported through May and June of this year as against a dead season at the same time last year.

HORTICULTURAL JOTTINGS.

The American Consul at Vladivostok is of the opinion that an opportunity exists for American seedsmen to establish a profitable trade in Siberia where a scarcity of vegetable seeds exists. Japanese seedsmen are receiving large orders. Denmark and the Netherlands formerly supplied this market.

The British government has contracted for virtually the entire export production of butter of Argentina until the end of 1919 at a price of \$0.328 a pound.

The California Fruit Growers' Exchange handles about 55,000 carloads of citrus fruit and by-products a year for its members.

The Prune and Apricot Growers' Association has handled a business involving \$20,000,000 in the past two seasons.

The Raisin Growers of California may have a \$25,000,000 crop this year if all goes well. In 1914 it was worth about \$7,000,000. Yet the Associated Raisin Growers are finding a market for every pound, and are keeping the market "on the bite" at that. No wonder our co-operative associations are "all to the mustard." Watch them grow.

"Unstandardized," the apple crop was erstwhile sent to town; The fruit looked this way on the top
O O O O O O O O O O O O
And this way lower down:
O O O O O O O O O O O O

The demand for farm labor is slightly better than normal, while reports indicate that the supply in this state is 93 per cent of normal as compared with 80 per cent a year ago.

California wines again have a clear market in England in competition with other countries; the restriction having been again removed after three weeks.

THE TROUBLESOME LINNET.

To the Editor: Linnets are very bad here. They are eating apricots as fast as they begin to color. Can you recommend anything on a wholesale scale in a large orchard that will destroy them or drive them away?

Trays that have been stored all winter under cover show mold. What is best thing to do with them before starting to use again?—I. O. R., Morgan Hill.

We cannot suggest any method of destroying linnets in a wholesale way. We have known cherry men employ boys or Japs with .22 rifles, using fine shot shells for the week or two between commencement of ripening and harvesting. It keeps them moving and seems to pay, especially at present prices. Poisoning wholesale does not seem to be practicable or desirable.

Moldy trays should be scrubbed and dried at once. One pound of lye to 15 gallons of water—hot, if possible. Spraying alone on badly molded trays is inadequate.

APPLES IN NEW ZEALAND.

J. A. Campbell, Assistant Director of Horticulture, Wellington, New Zealand, is now visiting us to learn our methods of standardization, packing and packages and marketing of fruit—particularly apples and pears. Besides the Riverside convention he has spent some time at the canneries, the marketing associations of fresh and dried fruits, the packing houses, and horticultural institutions. He says that the larger South American apple trade, in abeyance during the war, will, he hopes, be recovered, now that trade routes have been reopened. Two items of interest which he mentioned in connection were: (1) That 98 per cent of the apples in New Zealand were worked on Northern Spy root as a protection against woolly aphis; and (2) that a species of mealy-bug occasionally infects the apple (fruit) and develops after the fruit is packed.

Mr. Campbell was impressed with the packs of fruit he saw in the packing houses, the convenience of the packages and their method of safe-loading in the refrigerator cars—also the method of icing and air circulation arranged for in transit. He said that the general impression gained in New Zealand was that we harvested our ice in the winter. The \$650,000 icing plant at Roseville was a revelation.

Agricultural Notes

The Kansas winter wheat crop is estimated at 229,217,000 bushels.

Lima bean growers, representing about 12,000 acres around Sawtelle, Los Angeles county met last Saturday to ask Congress for a tariff on Asiatic beans.

An effort is now under way to form an irrigation district in the Inyo-Kern district, by getting water from Mono lake. The climate and soil there are said to be ideal for alfalfa.

The California Tomato Growers' Association has begun to make further cash payments due growers for last season's crop. This will make 75 per cent of the money due for last season.

In a fire of unknown origin, which burned over pasture and grain covering an area of Fresno county, nearly six square miles in the Orange Cove district, property valued at over \$10,000 was destroyed.

Indian corn market prospects are fine. U. S. acreage is the least in ten years and the high hog prices are creating about the strongest demand. Old stocks will be practically gone when the new crop comes on.

"The schools must make democracy

safe for democracy." is a note printed on letter heads used by State Superintendent of Public Instruction Will C. Wood. Eternal vigilance is necessary to maintain such a standard.

In 1910 the total wheat crop of Alberta province of Canada was less than one million acres. This year the estimated area under wheat is 4,293,000 acres on which the average crop is claimed to be about 20 bushels per acre.

A note is going the rounds of the press that millers know the price of wheat will be no greater next week than it is today. This is wrong. Nobody knows that; and if demand justifies it, there is no upper limitation on prices.

The Terra Bella Canning Company has contracted to pack the crop from 150 acres of tomatoes at Lindsay, the crop being estimated at 1,500 tons. The Terra Bella Cannery will begin the tomato pack the last of August.

Grain growers will be allowed but 4½ cents per bushel for bags this year, instead of 9 cents, the amount fixed by the government last year as the allowance to the shippers for the cost of bags, says R. A. Lewin, zonal agent of the food administration grain corporation. The reason for the cut

is the present proportionally low cost of bags.

The decision of the United States Supreme Court in the Lake Hemet water case having determined the points at issue in the various suits brought in connection with the practices of the Crocker Huffman Land and Water Company, the Railroad Commission has ordered a dismissal of the several actions relating to Crocker-Huffman pending before the commis-

sion. The Goodyear Tire and Rubber Company of Akron, Ohio, are to establish a tire factory and cotton mills on the Pacific Coast. The plans include the manufacture of all tires and rubber goods sold on the Pacific Coast, as well as those exported to the Orient. The factories will use the entire output of Egyptian cotton of the Imperial Valley and Salt River Valley of Arizona.

TO PROTEST AGAINST ASSESSMENT.

Bearing fruit trees have heretofore been assessed at 50 cents each for taxation purposes in Santa Clara County. At the last assessment this valuation was raised to \$1.00 each.

When the County Board of Supervisors sit as a Board of Equalization this July, they will be met by a committee of leading farmers, appointed by the Farm Owners and Operators' Association, who will protest more powerfully than farmers would be able without an organization such as this. The committee consists of E. L. Fellows, R. P. Van Orden, R. V. Garrod, A. N. Lantz and J. J. McDonald.

CALIFORNIA LAND SHOW OCT. 4 TO 19.

The California Industries and Land Show is to be held October 4 to 19 in the Exposition Auditorium, San Francisco, under auspices of the Home Industries League. The Land Show Committee includes F. L. Washburn of the Western Meat Co., F. D. Fagan of the General Electric Co., R. R. Rogers of the Rogers Chemical Co., and Edward H. Brown, general manager. The premium list includes all products of the State from agriculture to toys. Two-thirds of the space allotted to manufacturers has already been sold according to Mr. Brown. Band and orchestral concerts, free moving pictures, special county celebrations, lectures on horticulture, agriculture, and livestock will be events of the show.

WATER AND FEED

The question of water and feed is the farmer's greatest worry. Stock must have both. A hot day in summer without water; or a scarcity of feed for a few days in winter can easily wreck your dairy profits for the entire year.

Dairy cows will not give milk unless properly fed. The surest way to feed is from a silo. By putting your green crops into ensilage you have a feed that is more nourishing, goes farther, and is an insurance against shortage during the winter. It is the one logical way to feed a dairy and is the secret of dairy success.

The Pacific is built to meet every requirement, give maximum service and yet be sold at a reasonable price. It is strong, serviceable, convenient, and will last a lifetime.

Pacific Silos are built of well-seasoned 2-inch Redwood staves with strong fir door frames. Heavy steel hoops with cold upset threads and malleable iron lugs. Other Pacific features are self-supporting cover; hinged ventilators; hingless doors and iron-tongue splicing. Foundation plans are furnished with every silo.

Investigate the Pacific. It's a perpetual money maker and safe investment.

HOW ABOUT THAT WATER TANK?

Let the Pacific Tank take care of your needs. Put in a system and have water all the time and where you need it. Water for your stock, dairy, kitchen, bath and lawn. A life-saver in case of fire.

PACIFIC TANKS

are built of heavy Redwood and bound with large steel hoops. Strong and everlasting. Fitted with patent non-shrinking system. Cannot shrink, leak, or burst. Always tight.

Write us about our non-shrinking system. Find out why it is that a Pacific never leaks. Write today.

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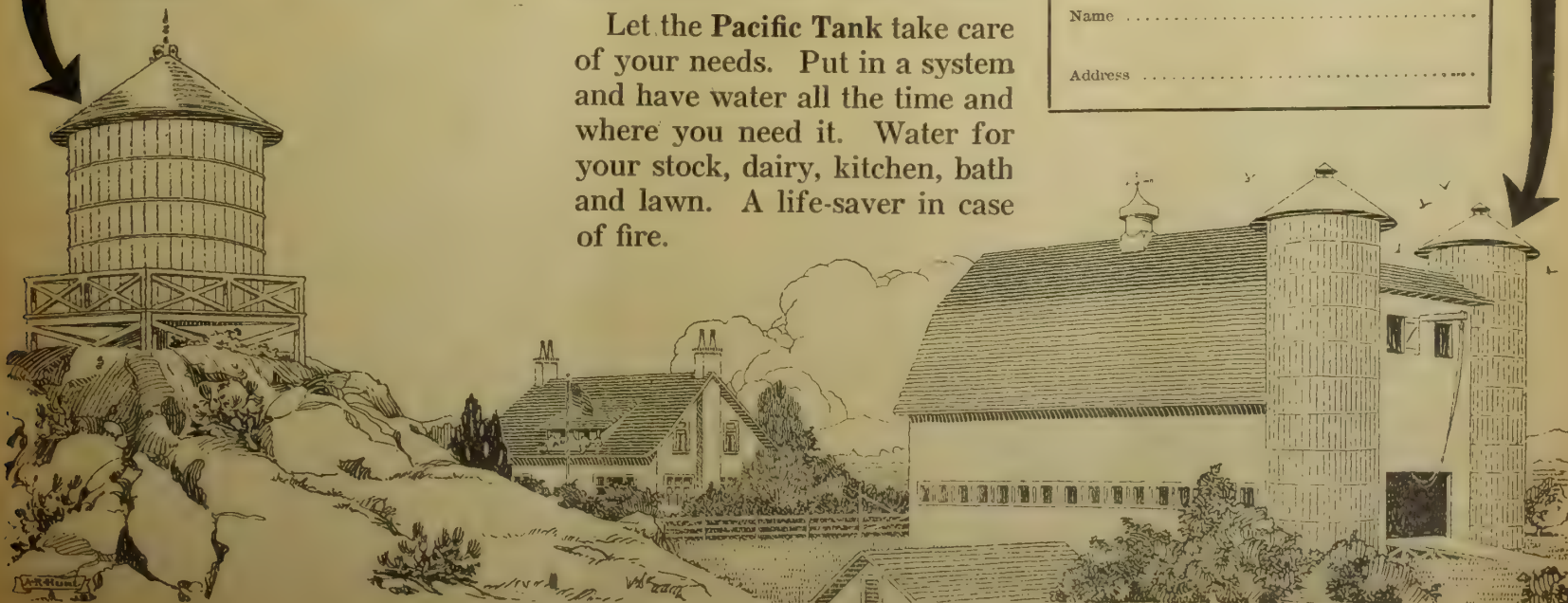
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Send me descriptive matter and complete information regarding Pacific silos and water tanks.

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Power Machinery and Explosives

(Written for Pacific Rural Press.)

DRY FALL PLOWING MAKES GRAIN.

Tom Dale, who is farming in the Alpine section out of Mountain View, has a "ripping crop" of barley and wheat this year where he had a good crop last year, both being grown without irrigation. He always plows early in the fall and plants grain before the rains, according to H. G. Knapp of San Jose. Having a tractor that should be kept busy after his own work is done, he plowed later for a neighbor, turning under a volunteer crop that would have made more grain than will be taken from the same field this season, because it was sown too late. Nine seasons out of ten a good annual grain crop will be obtained in these hills by early plowing, says Mr. Knapp, although in some of the lowlands the same practice might drown out the crop not over once in five years. Where dry plowing does not have other drawbacks, it certainly pays to use a little more power; if necessary, and have it done while the footing is good and while seeding may be done on time.

SHOCK ABSORBER BUSINESS BRISK.

About 2,000 sets of Hassler shock absorbers per month are being sold for Ford cars in California, according to President Frank C. Kip of the Distributors Corporation, which handles this business for California, Nevada, Oregon, Washington and Idaho. This concern has been organized only since February, the previous agency having been less aggressive. Of the 283 Ford dealers in California, eighty per cent are now selling Hassler shock absorbers, and most of them are under contract to take a certain number per month. Of the 532 dealers in the territory mentioned, nearly 400 are signed up in this way. An ample stock is now on hand, which was not the case when the writer ordered a set for his own car recently. We can say emphatically that we had rather have the shock absorber than the money they cost.

GAS LOW—STUCK ON HILL.

On a hot day in the hills of Contra Costa county our gasoline became so low and a hill became so steep that the carburetor went dry. We could have continued up hill if we had been prepared, as suggested in the Mo-hawk Messenger, published by the Mo-mawk Rubber Co. Get an extra cap for the gasoline tank, drill a hole through it big enough to thread so an ordinary inner-tube valve can be screwed in. When you get stuck, as we were, put this cap on and pump a little air pressure into the tank. It will force gasoline to the carburetor and boost you up the hill. Avoid too much pressure, because your tank might blow up.

ADJUSTABLE IRRIGATION DAMS.

Instead of the ordinary tappoons used for checking water in irrigation ditches, L. Langstroth of the Triangle Ranch at Empire has recently installed four adjustable Calco irrigation dams. The adjustable feature makes possible the use of these dams in ditches of varying widths without damaging ditch banks and without carrying a depth from 8 1/2 to 32 inches, and in wide range of tapoon sizes. Each dam consists of two blades of rust-resisting heavily galvanized iron with a central supporting angle iron which renders construction rigid and facilities placing the dam in ditches or canals. Five sizes are available, varying in width from 21 to 69 inches, in weight from five to 43 pounds.

MORE COWS PER TRUCKLOAD.

There is plenty of room on the ordinary motor truck for five head of cattle instead of the two or three commonly hauled per trip by turning

them loose in a box body. To carry five or even more per trip, make stanchions along the sides and let the cows' heads project out over the road; alternate animals facing opposite directions. The fixed side of each stanchion projects downward through a strap iron fixed on the side of the body. All stanchions must be well braced crosswise of the truck to avoid dumping the whole load if all the cows should be overbalanced in that direction on a sharp curve or sloping road.

CASE THRESHING MACHINE MERGER.

A merger of the Grand Detour Plow, Company of Dixon, Illinois, in the J. I. Case Threshing Machine Company of Racine, Wisconsin, has been announced by the latter concern, all arrangements having been completed to take effect as of July 1st.

The J. I. Case Threshing Machine Company has handled Grand Detour plows for several years past, and the line has proven so entirely satisfactory that it has seemed the part of wisdom to merge the two concerns. The Threshing Machine Company will continue the operation of the plant at Dixon, leaving it under practically the same management as before.

AUTO TRAILER FIRE DEPARTMENT.

The entire fire department for the town of Dunnigan, Yolo county, and the country roundabout is a two-wheeled auto trailer kept in the local livery stable ready to hitch to any auto that comes along. The body of the trailer is about 4x6 feet and 18 inches deep. It is partitioned to hold five ten-gallon cans for water and for chemical re-charges to be used in the ten chemical fire extinguishers, each of which is kept in its own compartment. Between the cans and the extinguishers is space in which are kept three iron rakes, half a dozen shovels, and a bunch of old sacks.

SMALLER DISK PLOWS FOR DRY SOIL.

A 24-inch disk plow works much better in dry plowing than a 26 or 28 inch disk, said H. G. Knapp, the power-lift tractor disk-plow man of San Jose, as he laid a rule across the edges of disks of the various sizes. "See, when a 24-inch disk is an inch deep in the soil it is cutting dirt on an edge about eight inches long. A 28-inch disk going an inch deep is cutting with an edge a foot long. I made a special two-disk plow for heavy bean land in Los Angeles County just before the tractor demonstration there last fall. It was 28 inches in diameter and it wouldn't do anything in that hard dry soil. It weighed just a ton, including the load. I put 24-inch disks on and they plowed the soil fine."

ENGINE FOR GARDEN IRRIGATION.

All night long the dependable little 3 h. p. Z engine popped its steady music at the pump belonging to Geo. H. Uhl of Coalinga. It was belted to an Eclipse well gear, which worked a lever arm and kept the plunger pump throwing a good stream into a couple of metal tanks. At pleasure, Mr. Uhl was enabled to irrigate about an acre of alfalfa, a small commercial patch of rhubarb, and the garden and fruit trees.

DEMOLISHED A BRICK WALL.

An old brick wall built many years ago, about ten feet high, four feet thick and twenty feet long, was entirely demolished by placing a row of horizontal holes two feet from the ground, three feet apart and three feet deep. In each hole was loaded one-half cartridge of ammonia dynamite 30%, 1 1/4 inches by 8 inches, and six holes fired at one time by means of a blasting machine.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Frenos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners' time, labor and money.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

A GREAT ROAD MACHINE

Every road district should own one of these machines for constructing roads. They will cut down the high places and make fills quicker and cheaper than by any other known method.

YOU SHOULD

send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

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A WADE does 10 mens work Saws 25 cords a day!

A money-maker and hard work saver for land clearers and wood-cutting contractors. One man can move it from cut to cut. Simple and reliable. Hundreds in use all over the U. S. When not in use for wood cutting, the 4 H. P. motor will run mills, feed mills, feed cutters, pumps, etc.

"My Wade Saw is cutting wood for less than 3 cents a cord."—F. J. Williams, Burns, Ore.

"I have sawed through five-foot solid oak logs at the rate of one foot a minute."—N. P. Myers, Laton, Calif.

America must burn more wood for fuel. One Wade will do 10 men's work at one-tenth the cost. Write for free Book, "How Dan Ross cuts 40 cords a day," full details and special price.



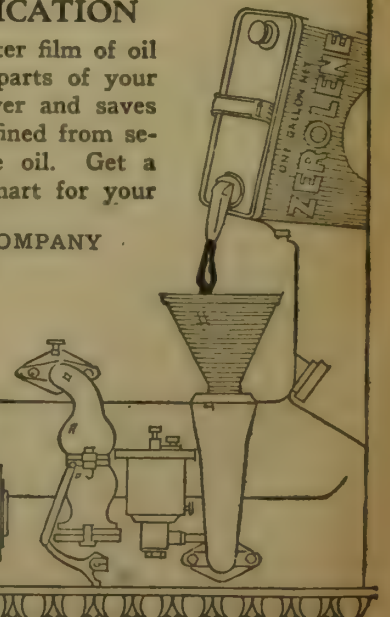
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CORRECT LUBRICATION

Zerolene gives a better film of oil between the working parts of your car. It conserves power and saves wear. Scientifically refined from selected California crude oil. Get a Correct Lubrication Chart for your car.

STANDARD OIL COMPANY
(California)



SIMPLE TRACTOR RECORDS.

"There is a great demand for facts as to tractor performances, both from owners and prospective owners," writes Harlow P. Roberts of the Emerson-Brantingham Implement Co., Agricultural Extension Department. "Experience has proved that the more days a tractor is used during the year the more profitable it is. Check up on your machine and see that it does its full duty."

How to check up on your machine is the question asked by many tractor users who are progressive enough to want to know their tractor costs. Mr. Roberts recommends use of a daily-weekly report blank, such as he is glad to furnish from his office in Rockford, Ill. This blank is on a pocket-sized card and a few minutes with a pencil each day will show how valuable the tractor is, whether it was worth as much this week as last, and how much it is costing. The writer can testify from experience the joy there is in having records such as this and the confidence he has in speaking accurately of the performance of his machine. The record also will sometimes indicate something wrong but undiscovered in the machine, as shown by excessive fuel or oil consumption. It will show with certainty how much basis there is for any impression that the tractor is costing too much for upkeep, and will tell tales on the careless or lazy operator. It is worth more in cash than many times the amount of time required to keep the record up to date. Copies of the cards may also be had from the Pacific Rural Press by enclosing postage for them.

STATE FAIR TRACTORS AND TRUCKS.

The biggest exhibit of tractors and tractor implements at the State Fair that has ever been staged has every likelihood to be put on this year, August 30 to September 6. Two rectangular tents, affording more space than was allotted to this feature last year, have been placed by Secretary Chas. Paine of the State Fair at the disposal of the California Tractor and Implement Association. The Association has voted to exhibit as a body. Practically every tractor and every farm implement suitable for use with a tractor will be on exhibit in comfortable tents. To avoid noise, dust and confusion, no machines will be run under their own power, but many of them will be run by electric motors.

Close by the tractor and implement exhibit, which will be located at the same part of the grounds as last year, will be the tent for motor trucks, of which more models than last year are expected. Restaurants this season will be placed close to the tractor and truck exhibit, and a catalog of all machines and their location in the mammoth tents is likely to be printed for convenience of visitors. Automobiles will probably be put in one of the buildings instead of the tent as heretofore.

SOUTHERN TRACTOR DEMONSTRATION.

The regular monthly meeting of the Tractor and Implement Dealers' Association of Southern California was held June 27 in Los Angeles. It has been decided that a monster tractor demonstration will be held in September, the dates to be announced later. It is expected that this demonstration will far eclipse anything yet attempted by the Southern California Association. The farming public will be notified as to dates and so forth in later issues of Pacific Rural Press.

POWER SPRAY GUNS.

Spray guns last season enabled two men to do the work that requires four men with ordinary rods and nozzles, and the two men spray many more trees in the same time, doing the work with equal thoroughness and with no more waste of spray if they observe carefully what they are doing. Even one spray gun on 3/4-inch hose will handle the full capacity of the biggest Bean triplex power sprayers, according to an official of that company. This sprayer has three 2 1/2 x 2 1/2 pump



Tractor Use, Profit, and Safety

TRUE progress is always slow. The change to mechanical power for farm work has been twelve years in the making, but today there are few American farmers who have not given serious thought to the question of tractorizing their farms.

For the benefit of those who may not yet be convinced that the tractor is a useful, profitable farm power machine, we present again a few of the opinions of farmers who are using the International Kerosene Tractor. Some of these are about essential features, and some mention only conveniences, but taking them altogether, almost any farmer will feel, after reading them, that the International 8-16 is a tractor worth considering.

"My international supplies a power flexible enough to handle the large amount of seedbed, harvest and other work without delay."

"It can be used for continuous work if emergency demands it."

"It produces power at much lower cost than horses, and it can be used for both drawbar and belt work."

"I like the steady way it works. Without seeming to hurry, it gets through a surprising amount of hard work."

"It does a lot of good work at a cost so low I could hardly believe it. You did a wonderful thing

for Eastern farmers when you made this tractor to run on kerosene."

"It is not bothered by flies, nor by bumble bees. It works steadily on the hottest days."

"Requires very little care. When the day's work is done, I run the tractor tail first into an inexpensive shed. In the morning, I fill the fuel tank and the oiler, look into the radiator, and am ready for another day's work."

These opinions are typical. They prove at least that the International 8-16 is a useful, profitable tractor. Now consider just one other thought for a minute.

This tractor is the outgrowth of twelve years of active tractor experience by a company that has sold all kinds of farm machines for many years. The beginning of this business goes back to 1831—almost 88 years ago. Does it not seem reasonable that with this experience we should offer you a tractor that you could use with profit, especially when we expect to come back some day and sell you more of the machines listed in this advertisement?

If you are now convinced that the International 8-16 is a useful, profitable tractor on some farms, and that you don't have to be an expert to buy one safely, write us to find out what this tractor will do for you, on your farm. A post card will bring you full information.

The Full Line of International Harvester Quality Machines

Grain Harvesting Machines

Binders Push Binders
Headers Rice Binders
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Reapers Shockers
Threshers

Tillage Implements

Disk Harrows Cultivators
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Planting & Seeding Machines

Corn Planters Corn Drills
Grain Drills
Broadcast Seeders
Alfalfa & Grass Seed Drills
Fertilizer & Lime Sowers

Haying Machines

Mowers Tedders
Side Delivery Rakes
Loaders (All Types)
Rakes

Combination Side Rakes and Tedders

Sweep Rakes Stackers
Combination Sweep Rakes and Stackers
Baling Presses
Bunchers

Belt Machines

Ensilage Cutters
Huskers and Shredders
Corn Shellers Threshers
Hay Presses
Stone Burr Mills

Belt Machines—Cont.

Cream Separators
Feed Grinders

Power Machines

Kerosene Engines
Gasoline Engines
Kerosene Tractors
Motor Trucks
Motor Cultivators

Corn Machines

Planters Drills
Cultivators
Motor Cultivators
Binders Pickers
Ensilage Cutters
Shellers
Huskers and Shredders

Dairy Equipment

Cream Separators
(Hand)

Cream Separators
(Belted)

Kerosene Engines
Gasoline Engines
Motor Trucks

Other Farm Equipment

Manure Spreaders
Straw Spreading Attach.
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Farm Trucks
Stalk Cutters
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Tractor Hitches
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2866 Empire Building, Pittsburgh, Pa.

cylinders, operated by a four-horse-power engine to force 9 1/2 gallons per minute of spray mixture through the gun at 250 pounds per square inch pressure. Of course, if a man goes to sleep on the job he wastes a lot of spray, so it is much better to use two lines of hose and two guns and two lively men.

PUMPS--ENGINES--PUMPS



Pyramid Pumps.

Centrifugal Pumps.

Hercules Gas Engines—1 1/2 to 12 H. P.

WE CARRY A STOCK OF PUMPS FOR EVERY SERVICE AND USE.

For Irrigation—Power, Belt, Electricity, Air, Vacuum, Ship, Spray, Wine, Oil, Mines, Steam, Water Works, Wind Mills, Road Sprinkling, Rams, Hand, Deep and Shallow Well Pumps, Gould's Celebrated Triplex Pumps. W. & L. Pneumatic Water Supply Systems, Pipe, Pipe Fittings, Brass Goods, Tanks, Gasoline Engines. Catalogs mailed free.

WOODIN & LITTLE, PUMP HOUSE, 33 FREMONT STREET, SAN FRANCISCO, CAL.

Best Ways of Banishing Bloat

(Written for Pacific Rural Press by E. H. Whitten.)

Many cows are lost every year from bloating. The trouble may be largely prevented by observing certain precautions, but in spite of everything some cases will occur. Therefore, every dairyman should acquaint himself with the symptoms of the disorder, understand the factors that cause it, and know how to treat a bloated animal.

When a cow is in normal condition the walls of the paunch have a constant motion, known as peristalsis, which is necessary for rumination (chewing the cud), for digestion, and for the progression of feed from one compartment of the stomach to another, and from the stomach to the intestines. There is always more or less gas formed in the paunch by the action of bacteria on the coarse parts of the food. Under ordinary conditions the cow belches the gas, and so bloating is prevented. But when large quantities of easily fermented green feed are taken into the paunch, there is a shock from the sudden change of food which tends to stop peristalsis. It causes a temporary paralysis of the paunch; there is an excessive fermentation of the feed; belching is prevented; the cow is unable to throw off the unusually large amount of gas, and bloat results.

Symptoms of Bloat.

The paunch of a cow, which is the storehouse for roughage, has a capacity of 45 gallons or more, and occupies a large part of the left side of the abdomen or flank. When the paunch becomes distended with gas it bulges outward and upward. Generally it rises above the level of the backbone, and when tapped with the knuckles it sounds hollow. Ordinarily, when it is distended only with feed, it does not rise higher than the backbone, and has a feeling like dough when pressed with the fingers.

When the paunch is greatly distended with gas it presses upon the diaphragm and interferes with the action of the lungs, thus causing distress in breathing. The cow is threatened with suffocation, and she breathes fast and hard, or perhaps gasps for air, throwing out her tongue and showing a darkened color of the mucous membranes, which normally are light pink. The cow stops eating and chewing her cud, appears anxious and haggard, her eyes are red, and saliva flows from her mouth. For a while she will stand, but after a time if she is not relieved she will go down, lie upon her right side, and quickly die.

Methods of Treatment.

If a cow is found bloated in an alfalfa field where there are checks, and the trouble is slight, drive her up to a levee and make her stand with her front feet on it and her head well up. For that matter, any place where she can stand with her front feet higher than her hind feet will answer. This will relieve the pressure on her lungs. After a time she will begin to belch, and will keep it up until the gas has escaped. A handful or two of baking soda put in her mouth will help matters along.

If the case has gone too far when discovered, and this method fails to bring up the gas, tie a stick, like a piece of pitchfork handle, well back in her mouth and fasten the ends with cords over her head, so that chewing or champing of the jaws will be started and the belching of gas will be encouraged. Better yet, use a piece of thick rope instead of a stick, smearing it with pine tar or axle grease. The chewing on the rope stimulates the secretion of saliva, and when the cow swallows the gas escapes up the gullet from the stomach.

Sometimes salt, pepper, or ammonia is used instead of soda—whatever is at hand, and whatever will tend to gag the cow and make her work her tongue. It frequently does good to dash cold water against the sides and body of the cow, and particularly over the loins; also to rub and knead the distended part.

Several other methods of treatment are used, either alone or in connection with a stick or rope gag. Those

that have given good results are: a tablespoon of formalin in a quart of water; two ounces of turpentine in a quart of warm milk, or a pint of raw linseed oil; one ounce of aromatic spirits of ammonia in a quart of water; one-half ounce of chloride of lime in a pint of tepid water; two ounces of hyposulphite of soda in a quart of water; an ounce of creolin in a quart of water. These doses are for adult animals; use correspondingly less for young ones. Administer as drenches, and repeat half-doses at intervals of one hour. Use a long-necked bottle, like a beer bottle, and be careful not to choke the animal.

It has been found that moving cows around and compelling them to exercise relieves them somewhat. Some dairymen run a rubber hose down the throat and into the paunch, and the gas is liberated through it.

Using the Trocar.

In an extreme case, where the cow is so far gone as to stagger and is almost ready to fall, it will be necessary to tap her with a trocar so as to allow the gas to escape. This instrument is made in two pieces, the trocar fitting inside the canula like a sword in a scabbard. The two, in position, are plunged through the skin into the paunch at the most distended point of the upper left flank, which will be about half-way between the last rib and the hip bone; the trocar is withdrawn, and the gas comes out through the canula.

Before using this instrument it should be disinfected or boiled for fifteen minutes. If there is time, paint the spot with iodine, and then, with a smart blow of the palm of the hand, drive the instrument inward, downward and forward its entire length. The gas will continue to escape through the canula for some time, and generally it is well to keep the canula in place by means of a cord passed around the body and tied to it. Any of the solutions previously mentioned can be injected through the canula directly into the paunch to stop fermentation and the further formation of gas.

In case of emergency, a knife and another sort of tube like a large quill, a spout to a coffee-pot, the top to an oil can, or a pea-shooter can be used. After you are sure that all gas has escaped, remove the instrument and disinfect the wound thoroughly. The chief reason so many object to the trocar is that they have seen bad results follow its use. The wounded part of the stomach wall became attached to the hide and the wound did not close properly, or the wound became infected and a diseased condition set in.

If a remedy is used which does not contain raw linseed oil, it is well to give a physic after the bloating subsides. Use a pound of epsom salts and one-half ounce of ginger in a quart or two of water and give as a drench to clear out the material which has been the source of the trouble. Withhold all feed for 12 to 24 hours.

Hints on Prevention.

There is no absolutely certain method of preventing bloat, but generally it can be avoided by careful management. Before turning the cows onto alfalfa or clover they should be given all the cured hay they will eat, or be allowed to fill up on a pasture of mixed grasses. Bloat usually results from cows being turned onto green, new pasture early in the morning, and after a period of being without food.

There is much less danger of bloat if the cows can be left on the alfalfa or clover continuously, as they then take their feed often and in small amounts instead of eating a large amount at one time. If they are driven back to the corral, do not let them drink water for a few hours. Give them free access to salt at all time—or better yet, a mixture of equal parts of slaked lime and salt. A safe way is to let the cows graze only about twenty minutes the first day, and increase the length of the period each day thereafter until the alfalfa or

clover seems to have lost its bloating effect. It is safer, also, not to turn the cows on the pasture until the dew or frost has gone. At first it will be necessary to turn them into the field two or three times a day, but the periods may be gradually lengthened and finally the cows may be allowed to graze at will without apparent inconvenience.

If there are two or more fields of alfalfa, cows not accustomed to it should follow those that have grazed the field down and have left nothing but coarse, woody stems and a small amount of green shoots. After being on such a pasture for awhile they may be graduated to another field with more green alfalfa.

Chronic bloating often is due to the presence of foreign bodies in the stomach or to a diseased condition there. Also it may be due to an obstruction of the gullet by pressure from glands enlarged by tuberculosis, and in every case of this kind the tuberculin test should be applied by a qualified veterinarian.

NOVEL SHEEP-DIPPING METHOD.

R. H. Brotherton of San Francisco, who has a ranch at Los Altos, is starting a very fine flock of registered Hampshires, but at present has not enough animals to justify a dipping vat, so he devised a dipping method which will prove interesting to others who have just a few sheep.

Mr. Brotherton mixed a small quantity of dip in an ordinary round galvanized tub holding about 25 gallons. He then made a little platform about 5 feet square and laid oilcloth on it. Then he got a ewe and tied her feet together—left hind foot to left fore foot and right hind foot to right fore foot—with two pieces of bale rope made into a loop, throwing a half-hitch over each foot. In this way the two sides were not held together. Then he took a large sponge and a bucket of dip and sopped the dip all over the ewe. The purpose of the oilcloth was to keep the waste from running off, and while one side of the ewe was being sopped all the dip which ran down was caught in the wrinkles of the oil cloth and soaked the other side. After one side was completely saturated Mr. Brotherton turned the ewe over and completed the saturation of the other side, including neck, brisket and under body. It takes only about 5 minutes to completely saturate a sheep with dip.

Mr. Brotherton was very much pleased with the results. He repeated the process in 10 days and later on an examination proved that every tick had been killed. Only the mature animals were treated in this way. The young lambs were dipped bodily in the tub.

DAIRY COUNCIL'S ATTRACTIVE PROGRAM.

After several months of quiet organization work the California Dairy Council is ready to show the public what a big thing it has really undertaken, and in connection with the coming annual meeting a program for the public has been arranged.

On Tuesday, July 8, at 2 and 7:30 p. m., general conferences will be held in the Assembly Room of the California Development Board, Ferry Building, San Francisco, and the general public will find it well worth while to attend. Every phase of the dairy industry will receive attention, and prominent men will speak. These include Dean Thos. F. Hunt and Vice-Director H. E. Van Norman of the College of Agriculture; Dr. Wm. C. Hassler, San Francisco Health Officer; Wm. T. Boyce, U. S. Department of Labor; Hon. Frank J. Cummings; Senator E. S. Rigdon; Geo. F. Eberhard and others.

There will be executive sessions at 10 and 2 o'clock on Wednesday, and a permanent board of directors will be elected. This matter is so important, and such a strong program has been arranged, that every member of the Council should lay aside other duties and attend.

A filthy hog trough is a seedbed of disease, and, next to hog cholera, it is the nearest enemy to the swine industry. Get a sanitary trough of some kind and keep it clean.

PORK PRODUCERS' CONTEST—A NEW STUNT.

The breeders of Kings county seem to always be thinking of some new, practical way of keeping that section prominently before the public as a livestock center, and the latest wrinkle is a pork-producers' contest. It will be held October 15 at Hanford, and will be open to all breeds of hogs—purebreds or grades—provided they were raised within the county.

In order to make this novel contest a success and have enough competition so that the prizes will really be earned, at least 5 of the 11 Farm Bureau centers in the county must be represented, and there must be at least 5 contestants from each center. Eight centers have already entered a total of 800 hogs, so the success of the contest is assured.

The details have not yet been worked out, but enough money has been pledged for prizes, and the full program will be given later. There will be classes for fat hogs from carlots down to individuals. A roast pork luncheon will be served to keep up the record of Kings county breeders for hospitality.

UNEEDA GLENN COUNTY HERD OF DUROCS.

(Written for Pacific Rural Press by Thos. F. McConnell.)

If you fancy Duroc-Jersey hogs and are looking for good ones, you will find that H. P. Slocum & Sons have rightly named their herd. At their ranch, 7 miles northwest of Willows, we found suckling pigs, weanlings, open and bred gilts, tried sows and boars of all ages—but all of one quality, and that strictly first-class.

Clayton Slocum, the junior member of the firm, made the right start to become a successful swine breeder by taking a course in one of the eastern agricultural colleges and then became herdsman in some of the great herds of his favorite breed in the Middle West. He finally launched out, with his father as senior partner, in the breeding, showing, buying and selling of Durocs here in California.

There is not a single animal for sale or used for breeding in this herd that is not a true representative of the breed. Model Col., two years old, is one of the best. Uneeda Model Queen farrowed 11 pigs this spring and looks just about right. A 4-year-old sow, sired by Crimson Wonder Again, is a great brood sow. Experimental Defender, sired by Defender, is a 5-year-old boar from the McKee herd of Kentucky that was brought out here to use in this herd. He stands fine on his feet and has great quality. Uneeda Wonder, a great boar that has been fitted for show three times and used in the herd each year, shows wonderful quality and constitution. Then there are five September boars by Uneeda Kings Col. that are as even as peas in a pod. They are the big, strong, growthy kind that Duroc breeders are looking for at present.

This firm furnished 90 per cent of the foundation stock for the settlers at the Durham State Land Settlement, which speaks for itself as to the quality of hogs bred and sold by the Slocums.

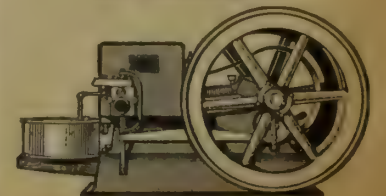
WITTE Engines

2 to 30 H. P.

Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

A. H. SIMPSON CO.

129 FREMONT ST.
SAN FRANCISCO, CAL.



Record-Breaking at Palo Alto

(Written for Pacific Rural Press.)

Some one has said that the way to succeed is to start with the best obtainable and then strive constantly to improve it. That seems to have been the policy at Palo Alto Stock Farm. When official testing began, the president, M. H. Tichenor, decided to give the cows the best opportunity in the world by getting the best man obtainable to feed and milk them. So back in Wisconsin he found a man who had achieved phenomenal success and had given world's records to several cows. He was hired, and did most creditable work with the Palo Alto herd.

But one day when they were about to start on test a cow who gave promise of being a world beater, this herdsman came to Mr. Tichenor and said that he thought a young chap named James Armo had better milk the cow, as he could get more milk out of a cow than any other man on the place, not even excepting the expert herdsman. Mr. Tichenor could not believe the statement at first, but the records in black and white showed that he led the herdsman by from 4 to 6 pounds at a milking.

So this young chap was given the important task of milking the most promising cows on test, and he deserves a big share of the credit for the many excellent records that have been made. That Mr. Tichenor realizes this is proved by the fact that he has worked Mr. Armo upward from a position paying \$20 per month and board to superintendent of dairy cattle at ——. Well, we don't know what he gets now, but we do know that he is mighty well

SAN LUIS OBISPO LIVESTOCK SHOW.

High-class livestock of all kinds, from goats to draft horses, completely filled the barns and pens at the San Luis Obispo Livestock Show, June 27, largely due to the untiring efforts of the "sure nuff" livewire secretary, Warren C. Day, and to Prof. R. W. Ryder of the State Polytechnic School.

The Pecho Ranch and Stock Company, owned by A. B. Spooner & Sons, had the largest showing of registered Holsteins, although H. M. Warden was a close second. Both herds were good ones and had individuals that would show well in any company. Many high-grade dairy cattle also were shown.

S. J. Lowe had a large exhibit of Shorthorns of excellent type and largely of Scotch breeding. Geo. H. Andrews had a Jersey bull and a heifer and Warren C. Day a heifer that everyone admired. Sinsheimer Bros., E. H. Meinecke and J. W. McLean also showed good ones.

Pecho Ranch and Stock Company and S. J. Low had large exhibits of Poland-Chinas; F. L. Sandercock and Sinsheimer Bros. were there with Durocs; White Triangle Ranch showed Durocs, and a Clydesdale stallion that was a corker.

Members of the Boys' Pig Club of the Polytechnic School had their pigs on exhibition and made a very good showing.

In addition to the livestock there was an exhibit of tractors, trucks and machinery that would have been a credit to a much larger show.

ALFALFA GROWERS' OAKLAND OFFICE.

Owing to great growth of business of the Alfalfa Growers of California, Inc., in this part of the State; they have opened an office in Oakland complete in every detail to handle accounts as promptly as they would be handled at the head office in Los Angeles. It is located at 325 13th street, close to the Association's deep-water and spur-track warehouse. F. A. Frazier will be in personal charge and W. A. Stoddard will continue in charge of sales.

Gas tractor short course, University Farm, September 16 to 25. Absorb it.

satisfied, for only a few weeks ago the farm was visited by an eastern millionaire who owns one of the finest herds of Holsteins in America, and after watching Mr. Armo's work he told him that no matter how much he was getting he would pay him twice as much to go back east and work for him. What Mr. Armo said in reply would not look well in print, but we don't believe he omitted any cuss words in the English language, and he certainly convinced the visitor that he was getting more out of his job than the mere money in his pay envelope.

Two good lessons here for farmers employing help. One is that it pays to keep an eye open for ability; the other is that it pays to treat a man right after you find out that you have a diamond in the rough. Don't let someone else get him away from you. Make him so well satisfied with his pay, his living conditions and the consideration you show him, that he can no more be induced to change his position than a leopard can be made to change its spots.

BERKSHIRES INVADE MONTEREY COUNTY.

The bucking bronchos proved no better drawing card than did the beautiful Berkshires at the Rodeo at Salinas last Saturday, when the Western Berkshire Congress held another promotion sale. There was a large attendance, and although the Salinas section has not been noted as a hog-raising community, the people seemed to be out after good blood; they found it, and they bid liberally.

The Berkshire breeders have experienced such a heavy demand for bred gilts that they are about sold out, and over 75 per cent of the animals offered at this sale were spring pigs, yet the average on 31 head was \$40.55. This was considered satisfactory by the consignors, as it meant the starting of several new herds and the placing of better blood in herds already established.

The sponsors of these promotion sales deserve great credit for the excellent work they are doing. They not only consign stock which would bring 50 per cent better prices at regular sales, but pay their own expenses to the sales that they may help educate the people of the different communities to the advantages of

purebred hogs in general, and Berkshires in particular.

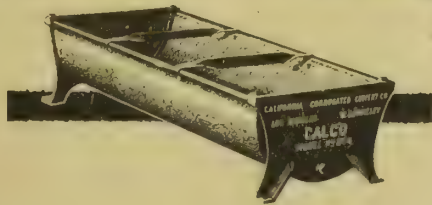
Col. Ord L. Leachman, who cries these sales, keeps interest at fever heat, and deserves a good share of the credit for their success.

SAN FRANCISCO TO GIVE LIVESTOCK SHOW.

President W. T. Sesnon states that the \$50,000 guarantee fund for the San Francisco Livestock Show has been raised; also a splendid location in the city has been secured. Prof. G. H. True is expected home this week from Honolulu, to assume at once the management of the show and will issue classification and premium lists shortly. San Francisco will put on a big show the first week in November and the breeders of purebred stock of the Coast expect to put their best stock in competition at that event.

The good feeder knows that feeding of a young animal scantily produces that which it is all but impossible to overcome by liberal feeding later on. The digestive and assimilating organs accustom themselves to conditions, and will not readily respond to new or changed proportions.

For your Hogs Calco Troughs



CALCO HOG TROUGHS are strong, sanitary and durable. They help you to raise healthy hogs. Calco Troughs are built of Armeo (guaranteed) Galvanized Iron and Cast Iron.

There are no seams or crevices in Calco Troughs to catch disease germs. Substantial cross-bars and rolled edges give exceptional protection against pressure to trough sides from feeding animals. All rough edges are eliminated. Calco Troughs are easily cleaned, easy to anchor down—ideal for water or feed for your hogs.

Note These Sizes and Prices

Stock	Diameter	Depth	Length	Weight	Price
720	10 1/4 in.	5 5-16 in.	24 in.	16 lb.	\$2.95
721	10 1/4 in.	5 5-16 in.	30 in.	19 lb.	3.30
722	10 1/4 in.	5 5-16 in.	40 in.	22 lb.	3.70
723	10 1/4 in.	5 5-16 in.	60 in.	27 lb.	4.50
724	10 1/4 in.	5 5-16 in.	120 in.	45 lb.	6.95
715	14 in.	7 3-16 in.	24 in.	25 lb.	4.55
716	14 in.	7 3-16 in.	30 in.	29 lb.	5.00
717	14 in.	7 3-16 in.	40 in.	32 lb.	5.60
718	14 in.	7 3-16 in.	60 in.	39 lb.	6.55
719	14 in.	7 3-16 in.	120 in.	61 lb.	9.60

Modernize your hog raising equipment with Calco Hog Troughs. Send your check or money order, today, for the Calco Trough you need. Be sure to order by stock number.

California Corrugated Culvert Company

LOS ANGELES
417 Leroy Street



BERKELEY
406 Parker Street

Rubbing Elbows with Other Breeders

(Written for Pacific Rural Press by Thos. F. McConnell.)

System Brings Success at Gibson's.

A short time ago I saw a full page Burroughs Adding Machine advertisement in a business magazine, and it was devoted entirely to the methods employed at the ranch of J. S. Gibson Company, Williams. Of course the ad played up the Burroughs machine, showing how it enables farmers to watch their relative costs and profits from any crop or class of livestock, but to me it explained the reason for the success of this company. The successful farmer nowadays must be a good business man, and good business methods certainly have brought success to the Gibson Company.

This firm is constantly striving to improve, and on my recent visit to the ranch I was interested in an experiment with Sudan grass for pasture on irrigated ground that if successful will be of great value, as it will afford green pasture during the dry season. This experiment should be watched with interest by many California Dairymen.

The Holsteins certainly looked fine. The herd consists of 180 head of registered animals and the herd sire is Prince Alcartra Korndyke, son of the world record cow, Tilly Alcartra. Nearly all of the cows carry Tilly Alcartra blood. Two daughters of Tilly are on yearly test now. One has produced 31.39 pounds butter and the other 30.50 pounds in 7 days.

Shortage of labor is being experienced here as elsewhere, but milking machines are used and they help to solve the problem. The stock looks fine and everything seems to be progressing in excellent shape.

Glide Has the Goods.

It is a pleasure to visit Hillcrest Stock Farm at Davis, owned by T. S. Glide, and to make the rounds among the Shorthorns. Wm. Robertson, the herdsman, took the blankets off the good ones and he surely has them coming in fine shape.

The senior yearling heifer by Count Amaranth is of the low-down, blocky type, with head set squarely on shoulders, and is hard to beat, although the junior yearling heifer by Village Type, standing next to her, is of the type that some might prefer. They are two that are not forgotten easily. Then the junior 2-year-old heifer, Little Sweetheart, by Golden Goods Junior, makes one think of the pictures drawn by artists when they try to outline perfect Shorthorns, only in this case the reality beats the picture. With an almost perfect front, an excellent head, a correct top line and a broad and thickly covered back, this heifer will be hard to beat.

The senior yearling bull, Hillcrest Amaranth, a red roan, is a growthy fellow that has excellent lines. With a little more flesh he will be in good show shape.

The passing of King Lancaster, the noted senior herd sire, is much to be regretted, although this great bull was 13 years old when he died. He was not only a great sire but the greatest show bull on the coast, as he was the only Shorthorn bull that was made grand champion three times at the

State Fair. To the best of Mr. Glide's knowledge this bull was never outside of the blue in his long show career. Mr. Glide has several heifers and cows in calf to King Lancaster. May their offspring be like him.

Witherow's Classy Durocs.

H. P. Witherow, who has been breeding Durocs for several years in Shasta county, moved his herd several months ago to the Greenwood Farm at Live Oak, where he certainly is establishing a great herd. He aims to increase the size of the herd as rapidly as possible without sacrificing to mere numbers the high standard already attained.

The foundation stock is composed largely of the 5-year-old sow, Col. B's Queen 4th, and herd descendants. Competitors will have to travel far and pay long prices before they get her equal. The sow is an example of prepotency in breeding, as most of her known descendants carry the much-wished-for conformation and prolificacy. This sow was obtained from the University Farm at Davis and is certainly a valuable animal.

The young 15-months-old herd sire, Johnson's Defender, Jr., is a fit sire for such a herd. He has large bone, plenty of height and stretch, with a very strong back and worlds of quality. Fred Devore visited the herd on his recent trip to the Coast and was loud in his praise of the boar. He said that he was a great individual in every way and that Mr. Witherow had one of a very few herds in California that did not need a new boar. As an individual there is no question as to the merits of this youngster, and his blood lines are strong enough to guarantee his breeding qualities.

Sandercock Swears by Berkshires.

W. F. Sandercock of Sacramento and San Francisco believes that his Natomas land is the best in the world, and he is proceeding to demonstrate that the best Berkshires in the world can be raised on it. To do this he must have individuality, and then breeding, so that the individuality will be transmitted. Therefore, he has at the head of his herd the national grand champion, Baron Duke 201st. While this boar is 6 years old he is strong and vigorous, stands well on his feet, still has a well-arched back and is very active, proving that he is still a great herd header. This fact was clearly demonstrated when we looked at one of his litters out of Princess Leader. The pigs were very uniform, with great length and strong backs, and promise to develop into prize-winners. There is one boar in the lot that looks good enough to win anywhere.

The junior herd sire, Rincon's Rival by Ames Rival 102nd, is perhaps even better than the senior sire; in fact, he has a more stylish head and is fully as good in the back, although it is hard to make a true comparison on account of the difference in their ages.

On the female side of the herd particular mention should be made of Symboleer Belle, a 7-year-old sow that has always given a good account of herself as a mother. She has had as high as 17 pigs in one litter and has never farrowed less than 7. As an individual, Rookwood Belle, by Rival's Champion's Best, is a wonderful specimen, having extreme length and a strong, well-arched back. Three gilts out of Rookwood Belle by Baron Duke surely help Mr. Sandercock to prove his claims regarding the Natomas district as a great swine-raising locality.

Success in swine raising depends largely on close supervision, and while Mr. Sandercock is a very busy man, he spends every week end at the ranch looking over the hogs and noting how each one is coming along.

At the recent annual meeting of the American Jersey Cattle Club an appropriation was made to cover the expenses of the proposed economy test which is the outcome of a challenge by Ed C. Lasater, owner of the Falfurrias Jersey Ranch, Texas, with its 5,000 Jerseys, to the Holstein breeders of Texas to hold a year's test of the two breeds to determine which can produce all dairy products most economically.

BRED DUROC-JERSEY SOWS and GILTS at Public Auction

Wednesday, July 16, 1919

All selected from the herds of the leading breeders of Tulare County. All bred to high-class boars for early fall farrow. The blood of such famous DUROCS as Defender, Critics, Golden Models, Crimson Wonder and Orion Cherry King predominates in the animals offered in this sale.

REMEMBER every animal will be sold to the highest bidder without reserve.

HERE'S YOUR OPPORTUNITY to secure show animals, foundation herds, or better animals for pork production.

THE TULARE DUROC-JERSEY BREEDERS believe they are offering animals of superior merit, individuality and breeding, worthy a place in any herd, and animals that will be a profitable investment for the purchaser.

Write to R. C. Sturgeon, Secretary, Tulare, and secure a copy of the sale catalog. It will give you the breeding of every animal in the sale and assist you in making your selections.

MARK CAREFULLY the day and date—**WEDNESDAY, JULY 16, 1919**, and be our guests while attending the greatest sale of Duroc-Jerseys ever held in California.

Free Lunch at Noon.

Sale Starts promptly at 10 A. M.

GEO. W. BELL, Auctioneer.

ALLEN THOMPSON, Pres.

Tulare County Duroc-Jersey Breeders' Association
TULARE, CALIFORNIA

IT'S A SOURCE OF SATISFACTION

To know where to find the right kind of hogs when you want to buy.

KING JONES OVER

a son of the Great King Jones. Dam by Long King, out of a Big Bob sow. Weighs 600 lbs. at 14 mos. Stretchy, deep-bodied, well hammed and right up on his toes. He heads the best herd of strictly big-type sows in California.

Some extra good fall boars for sale. Cholera immune.

McCARTY & STARKWEATHER

P. O. Box 2250 San Francisco.

Ranch, Paradise Road, Modesto, California



Grand Champion Herd of Hampshires

FOR SALE.

Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts.

Best families.

Finest individuality and clean-cut markings.

Call or write

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal



TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM

W. O. Pearson, Prop. Woodland, Cal.

ROC STEIN RANCH DUROCS

Crimson Monarch, Gold Model and Orion Cherry King breeding. Weaned pigs and bred gilts and one service boar for sale. Write and get our prices before you buy.

W. M. Way & Son

Bt. 1, Box 320, MODESTO, CAL.

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM

P. O. Box 177, Lancaster, Cal.



REGISTERED DUROC-JERSEYS

We have for sale right now, big, heavy-boned, high-up, four-months-old boars. Also some A-1 weanling pigs, either sex. Also some young gilts. Our herd boar has the best blood of the breed and was a prize-winner at the State Fair last year.

Write for prices.

ROUTE 4, BOX 735

THE GARDINER RANCH, SACRAMENTO, CAL.

15 CRACKING GOOD BRED GILTS

For the coming Duroc-Jersey sow sale to be held at Tulare, July 16, next. These gilts are bred to two supremely good grandsons of Orion Cherry King. Watch for them at the sale.

Some corking good weanling boars for private sale.

Write for breeding and prices.

ALLEN THOMPSON,

Tulare, Cal.



Chester White Boars

Here is your opportunity to secure Fall boars ready for service, and sure to put money-making qualities into your herd. Sired by the \$1,000 Highlander and the pick of the season's crop. Prices reasonable.

OAK KNOLL FARM

LAKEPORT, CAL.

SAN FRANCISCO OFFICE, 601 Balboa Bldg.

Ask These Pigs How to Feed



—Courtesy Iowa Experiment Station.

They will tell you, "Put us on alfalfa or other green pasture; give us free access to a self-feeder, and let us eat all we will." Ask why, and here is their story:

BIG PIG—"Look at my litter mate. Gosh, ain't she a little mate? When they separated us she was given a 1 per cent grain ration, and it wasn't enough to keep the squeal down. At almost six months, after 120 days of feeding, she weighed only 136 pounds—hardly enough for profit. She ate an awful lot of alfalfa, but didn't have enough grain to go with it to make her grow fast."

LITTLE PIG—"Gee, my brother's lucky. They put him in another alfalfa field, but instead of giving him a starvation ration of grain they put him on a self-feeder. That's what I call a regular pig Heaven, and it's why my brother weighs 235 pounds to my 136. You wouldn't think that we came from the same litter and that I was just as big as brother at weaning time, would you? Oh, well, I've got one consolation, and that is I'll be here on the farm two or three months after my brother goes to market. But it's pretty tough on my master's pocketbook, ain't it?"

SLOP-PAIL SUGGESTIONS.

The most desirable market weights are from 175 to 225 pounds, and at these weights the greatest profit can be made when grain is high. Good hogs should be ready for market at these weights when six to eight months old.

Expensive pork comes from fattening hogs on grain alone. Tankage is high in price, but necessary for producing low-priced pork when no skim-milk is available.

Alfalfa pasture saves from 15 to 20 per cent of the grain for fattening hogs, but used without grain it is little better than a maintenance ration and will not make profitable pork.

Barley, milo, kafir and other small grains should be ground or rolled. Soaking serves about the same purpose with barley, but is not so good with the sorghum grains.

It doesn't pay to cook feed for hogs. In many cases the feeds are made less valuable. Potatoes and beans, however, are improved by cooking.

Two good feeds mixed together are better than double either one of them singly. Hogs crave variety.

Fresh slops are usually safer than those which have stood for some time, especially in warm weather.

In winter feed alfalfa hay in racks. Don't force the hogs to eat the coarse stems. Feed them to the cattle and sheep. Nothing will then be wasted, and the hogs will thrive much better

on the leaves and fine stems.

Or you can use alfalfa meal instead of the hay. But don't force the hogs to eat too much of it. It is bulky and hard to digest. One-fifth to one-third of the ration is about right.

Three pounds of skim-milk to one of grain, is the rule. Whey is worth about half as much as skim-milk. Buttermilk not diluted is equal to skim-milk. Sour milk gives the same results as sweet skim milk, but it should be fed continually and not alternated with sweet skim-milk.

Salt should be available at all times. Mixing it with charcoal and other minerals in the form of a tonic is a good plan.

Remember, good feeding is the secret of success. No matter what the blood lines or the individuality of the pigs, if a man is a poor feeder he will never make a successful breeder.

Elmer Lamb of Ceres has a gilt purchased from Donald Graham that farrowed 8 pigs which weighed 28 pounds when born and gained one-half pound each per day for the first four days. Donald says this is the way Orion's King Gano pigs grow.

HILLCREST STOCK FARM Shorthorn Cattle Shropshire Sheep Merino Sheep

RAMS AND BULLS FOR SALE

Single or in Carload Lots

T. S. GLIDE, - Davis, Calif.



Imported stock from the best blood lines in America.

KIMBLE RAMBOUILLETS

will make money on any farm. Pure bred, large and smooth, with heavy fleece of fine, long staple white wool. Yearling and older rams. Breeding ewes. Any quantity. Prices attractive.

Chas. A. Kimble, Hanford, Cal.,

Breeder and Importer.

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes, and their descendants. Call on or write.

E. C. SPEAR ESTATE

One mile east of town.

St. Helena, Calif.

SHROPSHIRE RAMS

The kind that produce the large uniform black face lamb so much sought after in the markets.

Call on or write to

C. E. BARNHART,

Suisun, Calif.

Shropshire Rams

Pure blood yearling rams—singles and carload lots. Also pure-blood lamb bucks, ready for service by Sept. 1st. These bucks and rams are from pure-blood ewes (formerly registered) and the best registered rams to be purchased in the United States.

J. R. BLOOM, DIXON.

RHOADES & RHOADES

EXPERT LIVESTOCK AUCTIONEERS

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

BEN A. RHOADES, Auctioneer

1501-3-5 So. Main St.,

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Hampshire Hogs--The Popular Breed



This is a picture of the Hampshires which won grand championship over all breeds of hogs at the International in 1918. They sold for \$2.25 per hundred above the selling price of any other car and killed absolutely clean, showing perfect health.

FREE INFORMATION AND LITERATURE ABOUT THE PROGRESS OF THIS HAMPSHIRE BREED OF HOGS AND THEIR ADAPTABILITY TO CALIFORNIA CONDITIONS.

WALTER FOLK

California Representative,

American Hampshire
Record Association

ROUTE 2,
SANTA BARBARA, CALIF

LAKE VIEW FARM SHROPSHIRE SHEEP

Hardy northern grown. Woolled from nose to toes. Ship on approval.

Our First Offering:

20 RAM LAMBS.

25 EWE LAMBS.

Apply to or Address

Wilson E. Elliott

Box 73,

Loleta, Cal.

ROSEDALE FARMS

Hampshire Sheep

WE OFFER FOR THIS SEASON:

25 Head of Ram Lambs

50 Head of Yearling Ewes

100 Head of Ewe Lambs

One 3-year-old Butterfield Ram.

Apply to or address

D. E. KELLIHER, EUGENE, CAL.

Livestock and Dairy Notes

Livestock breeders all over the state are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

LIVESTOCK SALES DATES.

July 10—Carruthers Farm, Live Oak. Sale of 45 Scotch Shorthorns at Sacramento.
July 16—Tulare County Duroc-Jersey Breeders' Association, Tulare. Second consignment sale of 60 head.
August 2—Butte City Ranch, Butte City. Shorthorn cattle, Berkshire hogs, Shropshire sheep and Shetland ponies.
August 6—Francis T. Underhill, Santa Barbara. 100 head Hampshire hogs.
August 26—Fresno County Poland-China Breeders' Association, Fresno. Consignment sale of bred sows and gilts.
September 17—John M. Bernstein and W. L. Hase & Son, Hanford. Bred sow sale.
October 4—H. I. Marsh and Les McCracken, Modesto. Poland-China bred sows and gilts.
October 7—M. & A. L. Bassett, J. A. Crawshaw and F. D. Ross, Hanford. 75 head of Poland-Chinas.
October 16—H. M. Elberg, Roselawn Stock Farms, Woodland. 45 head of Shorthorns.
October 29—Tulare County Poland-China Breeders' Association, Tulare. First consignment sale.

FALL FAIRS AND SHOWS.

August 30-Sept. 6—California State Fair, Sacramento.
September 16-18—Humboldt County Fair, Ferndale.
September 17-20—Antelope Valley Fair, Lancaster.
September 22-27—Kings County Fair, Hanford.
September 22-27—Glenn County Fair, Orland.
September 30-October 4—Fresno County Fair, Fresno.
October 6-11—Tulare Livestock Show, Tulare.
October 7-11—Southern California Fair, Riverside.
October 13-18—Tulare County Fair, Visalia.
October 18-20—Los Angeles Livestock Show.
November 1-8—San Francisco Livestock Show.

The Dairy.

E. E. Freeman has been awarded \$70 prize money by the Holstein-Friesian Association of America for the production records of cows in his herd.

J. W. Benoit of Modesto has a wonderfully fine lot of heifers sired by his herd bull, Lone Oak Trezol Korndyke, who is a son of a 32-pound cow.

A. M. Bibens of Modesto is bringing out from the east a bull calf whose two nearest dams averaged 39 pounds. He is a grandson of Ormsby Jane Segis Aaggie, the only cow that has twice made a 40-pound record.

T. J. Gist & Sons of Holberk Stock Farm, Tulare, have had two Holstein cows make very good records. Astrologess Bonnie Maid produced 20.60 pounds butter in 7 days, and Morland Contenta Jetz 20.15 pounds as a 3-year-old.

C. L. Weaver of Tulare has lost his senior Milking Shorthorn herd sire Solano Royal, but has an excellent successor in North Star by Bransby's Coming Star. He has 22 very fine matrons and expects to show this fall.

At the first annual guaranty sale of Minnesota Holstein breeders held at Moorland, Minn., June 12, 76 head averaged \$2,890 which beats the best previous record by \$460. The bull Sir Pieterje Ormsby 41st was purchased by Gustav Pabst and E. C. Schroeder for \$65,000. Five head sold for \$10,000 or more and only 22 head sold for less than \$1,000.

Beef Cattle.

At the Shorthorn sale of Bellows Bros., Maryville, Mo., June 19, 73 head averaged \$2,180. The bull Standard Supreme sold for \$15,600.

Conejo Ranch, Newbury Park, have sold off all of their grade beef cattle and have recently received a carload of pure-bred Herefords from the east. The cattle will be shown at the leading fairs this fall.

An interesting meeting of the members of zone 3 of the California Cattlemen's Association was held at Salinas last week and addresses were given by Howard Jack, H. O. Jastro, L. A. Nares, Senator E. S. Rigdon, Arthur Hebborn and J. L. Matthews, president of the Monterey Association. The workings of the hide and brand law were discussed and recommendations were made for changing the in-

spectors. Mr. Jastro emphasized the danger of overstocking ranges.

Swine and Swinememen.

Carstons & Halloway of Madera have a mighty good herd sire in Madera Sampson by Fresno Sampson.

Harry A. Condee of Hesperia, San Bernardino county, is starting a registered Duroc-Jersey herd with very choice stock.

A. J. Elliott of Willows Ranch, Tulare, has recently purchased a half interest in H. C. Shinn's great new boar Orange Boy.

The Western Berkshire Congress will hold a donation sale at the State Fair to raise funds with which to carry on promotion work.

Sturgeon Stock Farm, Tulare, will consign to the Duroc-Jersey bred sow sale at Tulare July 16, 10 topnotch gilts bred to Golden Col., the great son of Critic B.

Geo. L. Horine of Winton continues to sell Durocs like hot cakes. Last week his sales totaled \$360 and he says that the Rural Press brings 90 per cent of his business.

The members of the Lemoore High School Pig Club presented Wm. Bernstein of Hanford with a beautiful gold pencil as a slight recognition of his aid in their recent very successful auction sale of pigs fed by them.

P. E. Mitchell of Atwater has a 9-months-old Poland-China gilt sired by Kings Big Bone Leader and out of a President sow that is the equal of many brought out from the East at long prices—perhaps just a little better.

Conejo Ranch, Newbury Park, have sold 7 sows to W. H. Dupee, Santee, and 10 to A. S. Smith, a ranch owner in the San Joaquin Valley. They will show both Durocs and Hampshires at the leading fairs this fall.

T. J. Gist & Sons of Holberk Stock Farm, Tulare, are establishing a herd of registered Durocs. They have recently purchased two fine sows from H. E. Cornwell and five gilts from J. P. Daggs. They now have ten registered females in all.

Frank B. Anderson, the Berkshire breeder of Sacramento, has engaged Jack Findlay to take charge of his herd. Findlay will be remembered as the former swine herdsman at the University Farm and is one of the best men in his line in the west.

Sherwood Beckman, the live wire secretary of the newly formed San Joaquin County Poland-China Breeders' Association, reports that the breeders of Lodi district will hold a sale in the near future to consist of only the tops of the different herds. The date will be set at the next meeting of the association.

Hampshire breeders of the state are urged to meet at Santa Barbara August 6 at 10 a. m. when it is planned to organize a California Hampshire Breeders' Association. The secretary of the national association, E. C. Stone, will be present at the time, which is the same day that the Underhill Hampshire sale will occur.

E. B. and H. Potier are establishing a big-type Poland-China herd on their 50-acre fruit and walnut ranch at Santa Barbara, known as the Glen Helen Ranch. They purchased their foundation stock from Renwick Ranch and say that before long they expect to have the big hog men of the state turning that way for stock.

Walter C. Ficklin, Poland-China breeder of Fresno, whose ranch is at Madera, has a gilt, Choice Queen, by My Choice and out of Wonder Kings, that is about as good as will be found anywhere. She was purchased at the Bernstein sale. Also at the Bernstein pig sale Mr. Ficklin bought a boar pig that promises to develop into a hummer.

Johnnie Glusing of the Winton Poland-China Farm at Winton has sold two pigs from the litter of 14

out of Big Model Lady, the top sow at the Gatewood sale, one going to Chas. Gatewood, Fresno, and the other to L. G. Megerle, Clements. Mr. Glusing will sell a few more from the litter, but is reserving a boar and a gilt to show at the State Fair.

Hale I. Marsh of Modesto and Les McCracken of Ripon announce a sale of big type Poland-Chinas at Modesto, October 4. The offering will be made of all tried sows and gilts—all bred—and the animals will represent the best blood lines of the breed. The sows and gilts offered by Mr. McCracken will be bred to Kings Big Bone Leader, the State Fair grand champion of 1918.

D. H. Forney, the Poland-China breeder of Fresno, has a new herd sire, Hather's Giant Bob. He weighed 460 pounds at 11 months and is a smooth, upstanding boar of the most fashionable type. There are some excellent fall gilts in Mr. Forney's herd sired by California Jumbo Buster and Oleander Boy. Six of these will be bred to Hather's Giant Bob and consigned to the Fresno County Poland-China Breeders' sale.

R. K. Walker of Winsor Ranch, Bonita, writes that the great sow, Model Defender Lady, whose picture appeared in our swine issue last February, measures 72 inches from between eyes to root of tail, 75 inches in heart girth, 74½ inches in loin, and stands 38½ inches high. She is a little over three years old and has had four litters of pigs with no litter less than eleven. She weighed 800 pounds last November.

Sheep.

John E. Marble of South Pasadena, whose ranch is at Redlands, has recently sold a Dorset ram lamb to the University of Nevada and one to Adams and Nye, Karlo, Nevada.

M. P. Harris of Holtville raised 60 orphan lambs on 3 cows during the past season. Morning and night these lambs were bottle-fed a mixture of calf meal and water and half cow's milk made into a gruel. This was kept up until they were from six to nine weeks of age, and the lambs certainly did well.

A Government report states that before the war the United States had approximately one-tenth of all the sheep in the world, but since then the total number has decreased about one-tenth, which makes the decline in excess of 50,000,000 sheep.

Wilson E. Elliott of Lake View Farm, Loleta, reports that his lambs this year are the finest he ever raised. He recently weighed two and they tipped the beam at 94 and 100 lbs. Mr. Elliott makes a specialty of hardy, northern grown rams "wooled from nose to toes."

Milo D. Campbell, a member of the National Agricultural Advisory Committee, has made public charges that wool growers and the Government have been defrauded of millions of dollars through methods employed in handling the 1918 wool crop. Specific charges against the big wool dealers are that they were to advise the War Industries Board how to do the work, were made Government agents and helped fix the prices which the Government would pay. They then bought from farmers "in the grease" at from 65c to 67c and sold to the Government as "scoured wool" at \$1.30 to \$1.85, but not a single pound of wool was actually scoured, according to Mr. Campbell.

Livestock Miscellaneous.

The Kings County Fair will be held September 22-27 on greatly improved grounds. Twenty acres of additional land have been purchased

Registered Duroc Jersey Boar

"River Bend High Model," No. 180985
 Farrowed February 17, 1915.
 Sired by "High Model," \$3,000 boar, who was six times Grand Champion in the Middle Western States.
 MR. HANS HANSEN, OAKVILLE, CAL.

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.
 M. M. Holdridge, San Jose, Cal.
 R. D. "A," Box 437.
 Two miles out North First Street.

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?

Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

SAN FRANCISCO



SAN RAMON SHROPSHIRE

The flock includes selections from the best blood of England and America. It has won at all the leading Pacific Coast shows.

Won at the Panama Pacific International Exposition 15 firsts, 9 seconds and 6 championships, including grand champion ram.

Won at the Chicago International, first pen of 5 yearling rams, first ram lamb, second aged ram, fourth, fifth and sixth yearling ram. Second get of sire, fourth pen of 3 ewes, fourth flock.

We have a few choice registered and range rams left for this season.

Write or Call and See Them.

BISHOP BROS.

FRANK RUTHERFORD, SAN RAMON, Contra Costa Co., Cal.
 Manager

GRAND CHAMPION RAM P. P. I. E. 1915

and old buildings are being remodelled and new ones built. Hog barns, poultry houses and restaurants are being remodelled and an 80-foot, one-mile race track is being built.

Stockmen will have an opportunity to learn the main principles and practices of feeding all kinds of stock in the Farmers' Short Course to be held at the University Farm, Davis, during September and the late fall months. Such a course will prove of special value to farmers and dairymen now, when with the present high feed prices, more than half of the cost of operating a dairy is charged to the item of feed.

Growing hogs, as well as humans, thrive best amid clean and sanitary surroundings. Yet too many hog lots are extremely filthy. Who has not seen hogs in process of fattening obliged to eat their feed standing in mire almost to their knees?

LIVESTOCK DIRECTORY

Rate in this directory 3c per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion **STAR LEADER**. We are now making a special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

TWO SOWS AND A BOAR—\$100 the trio. Two sow pigs from ten raised sired by Baron Duke 201st, 780-pound, \$1100 Grand National Champion, from Rival B Princess, a prize-winner at San Francisco, Sacramento, Oregon, and Omaha National Swine Show, and a boar sired by the Grand Laurel Champion boar from Symboler Belle, and of Superbus blood lines. A boar from a litter of ten raised, big, long, typey, stretchy pigs. Sandercock Land Co., in charge of Natomas Land Sales, 23 Montgomery Street, San Francisco, Cal.

GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. R. J. Merrill, Morgan Hill, California.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

REGISTERED BERKSHIRES—Write R. D. Hume, Dos Palos, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

PROFITABLE POLAND-CHINAS

We offer at private sale 40 splendid young sows, 10 choice bred gilts and 5 carefully chosen boars. They are representative selections from the herds of leading California breeders, including M. Bassett, W. H. Brown, W. A. Young and Hewitt & Hewitt, and such Eastern breeders as Henry Fesenmeyer and T. F. Walker. They carry the blood of such noted sires as President, J. O. Orange, I. B. A. Wonder and Chieftain. These registered hogs are sold for no fault. We are simply discontinuing this breed, and offer what we bought for the foundation of one of the finest herds in the West. Prices reasonable. Write at once.

AMERICAN HOG COMPANY

922 Crocker Bldg., San Francisco

NOW BOOKING ORDERS for spring pigs, either sex, from my prize winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

MARCH BOAR PIGS—Out of sows selected from the best herds of the corn belt. One line-bred Big Bob pig sired by Bridges' Bob Wonder, Missouri, grand champion, and out of my great sow Bridges' Bobby. Two sired by the noted Boulder Buster and out of the splendid sow Bob's Giantess. These are real tops and guaranteed to please. H. C. Shinn, R. F. D. 1, Tulare.

EL PROFITO—Our great herd boar, will out profit-making qualities into your herd. His offspring have size, stretch, bone, good backs and feet, and easy feeding qualities. To make the right start with big-type Poland Chinas, get one of his boar pigs. Prices right. Correspondence cheerfully answered. Viola L. Renwick, Santa Barbara, California.

SOW BARGAINS—We are offering some exceptionally nice tried sows, bred and open gilts, at attractive prices. They are all sired by the undefeated and world's grand champion Superba and out of big type sows, which cost me \$200 and over. Investigate before buying elsewhere. Rough's Greenfields, Arlington Station, Riverside, California.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

ELDERSLY FARM—We are offering some excellent tops from our fall and spring pigs at attractive prices, sired by one of America's best-bred boars, Big Black Bone Wonder, with grand championship breeding on both sides. He is a real 1000-lb. boar. J. H. Ware, Live Oak, California.

BRED AND OPEN JULY GILTS by King Big Bone Leader for sale. Also September gilts by California Jumbo Buster and a few top young boars. A. Buckland & Son, Route E, Box 126, Fresno.

BIG-BONED POLAND-CHINAS—From Eastern prize-winners. Sold out of boars; a few choice October gilts for sale. D. H. Forney, Route G, Fresno, California.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

HORAN'S POLAND CHINAS—Young stock. Bred and open gilts. Big-Bone Bob and Wonder blood lines. N. K. Horan, Lockeford, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for sale. Giant Buster and President Stock. Prices right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large smooth and big-boned Poland Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. M. Bassett, Hanford, California.

RIGHT TYPE POLAND-CHINAS—Weanling boars. Registered and immunized. W. T. Dice, Hanford, Calif.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old—"A Wonder" bred boar.

POLAND-CHINAS—Young stock for sale. Edward A. Hall, R. 1, Box 39, Watsonville, Calif.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

BIG TYPE POLAND-CHINAS—Young boars for sale. Carstens & Holloway, Madera, Calif.

POLAND CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

LARGE TYPE POLAND-CHINAS. Winton Poland-China Farm, Winton, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Just a few left to offer. One 1917 fall boar and one 1918 fall boar; both cholera immune. Spring farrows are all sold except 10 boar pigs. Will have 10 more sows farrow during May, June and July, and will book orders now from these coming litters, delivery at weaning time. C. B. Cunningham, Mills, Calif.

DANDY REGISTERED CHESTER WHITE weanlings. Reasonable prices. K. Wellman, Los Altos, Cal.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Home of Cherry Volunteer II, Grand Champion Boar at Riverside, Ireland's Orion Defender and Orion's King of Ireland are excellent sires in service. Booking orders for spring delivery. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles, Calif.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

HORINE'S DUROC-JERSEYS—Everything sold out but weaned pigs and a few bred gilts. Geo. L. Horine, Winton, Calif.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

PATHFINDER AND KING'S COL. stock—immune. Weanlings, \$25 each. Bred gilts and service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento, Calif.

START RIGHT—Registered Duroc-Jerseys. Weanlings every month in the year, \$15; 3 for \$40. Satisfaction guaranteed. Red Rock Ranch, Glen Ellen, Cal.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC JERSEYS—Open and bred gilts, August and November boars. Great herd headers. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Dos Palos, Cal.

DUROC JERSEY SWINE FOR SALE—Best blood lines. Bred sows and gilts. Service boars. Jersey Queen Farm, San Jose, Calif.

DUROC JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulham & Sons, Visalia, California.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Unceda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

MY HAMPSHIRE are money makers Stock for sale. Buy now. L. W. Denker, Saugus, California.

Miscellaneous.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

DAIRY CATTLE.

Guernseys.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams: A. J. Welch, proprietor, Redwood City, California.

EDGEWOOD FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgewood Farm, Santee, San Diego county, Calif.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

REGISTERED YEARLING ROB ROY Bull. Farmer's price. Redwoods Ayrshire Farm, La Honda.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckles Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

Jerseys.

THE KEEP ON herd of registered Jerseys has a few extra good males and females to offer at reasonable prices. Satisfaction guaranteed. Dr. H. W. Hand, Orland, Calif.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2½ years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

A PRICE ON EVERY ANIMAL.

Herd free from tuberculosis. All sales subject to sixty days' retest. Sons of Flander Sordene Valdessa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

Town Farms Association. 679 Mills Building San Francisco.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto. Breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEIN CATTLE—E. H. Freeman, Route B, Modesto, California.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, California.

CREAMCUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A. Box 437, San Jose, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spire, Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Young stock for sale from A. R. O. dams. La Driver Stock Farm, Nicolaus, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

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MISCELLANEOUS.

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More Light on the Marketing Problem

(Written for Pacific Rural Press by E. E. Nicolls, San Francisco.)

Mr. Nicolls has long been identified with the U. S. Bureau of Markets, and during the last year has had charge of the livestock department at San Francisco. He writes this article as an interested individual, not a Government official, but his intimate knowledge of first-hand conditions enables him to treat some phases of the subject from a new angle.

The first requisite to a serious consideration of the subject of marketing cattle is accurate data regarding both the actual and potential supply, the grade of animals ready to market, the market price of the various grades, the requirements of the market as to weights and quality, the movements of livestock, the annual consumption of past years and information as to whether the demand is steady or seasonable.

By the actual supply is meant the cattle that are ready for market at the present time or will be in the next few months, and by potential supply those that are being prepared for next year and the year following. The only data available is that issued by the U. S. Bureau of Crop Estimates, which state that on January 1, 1919, there were in California 1,650,000 cattle, other than milk cows, valued at \$79,530,000. These figures were arrived at by taking the census of 1919 as a basis and estimating the percentage of increase or decrease year by year until the close of 1918. This estimate is most unsatisfactory, owing to the difficulty of getting reports from the growers. It is impractical for this Bureau or any other organization to take an annual cattle census. If the cattlemen of the State would interest themselves sufficiently to co-operate closely with the Bureau of Crop Estimates, it would be possible for them to receive, at no expense and very little trouble, information which would be wonderfully accurate and of great value. As it is now, we have simply an estimate of the number of cattle in the State. No one knows even approximately how many are to be marketed this summer, how many will be ready next fall, how many will be in feed lots next winter, or how many will probably be offered in 1920 or 1921. No one knows the proportions of steers, cows and grass cattle that will be marketed. Yet such information is fundamental.

The information available as to market movements is a little more comprehensive. The Bureau of Markets issues a daily report showing the movements of cars of each species of livestock loaded in the United States each day, and the destination to which they are consigned. It gives the daily receipts at the great centralized markets and an estimate of the number that will probably be received on the following day, together with comparison of receipts of the same day a week ago, a month ago and a year ago. This gives the shipper a little idea as to the immediate supply available at each of the markets and enables him to form an opinion as to which will probably be the best market to ship his stock.

The information regarding livestock prices is quite complete and accurate for some parts of the United States. For a number of months it has been possible for California livestock men to receive reports every day without charge, giving definite information as to what the various grades of cattle, sheep and swine were bringing on the Chicago, Kansas City and Omaha markets. In addition to this, during the heavy movement of sheep and cattle from California to Eastern markets, the local office issued information regarding the weights and prices received for California livestock each day when any sales were made.

No Livestock Market Here.

There have been numerous requests that the Bureau issue this same information for San Francisco, but this is impossible because there is no livestock market here. Not only has the Bureau of Markets been criticized for not issuing this information, but the publications issuing livestock price quotations have been even more severely criticized on the ground that the information is not correct. One reason given is that the press is controlled by various packing interests,

but I do not believe that the publications issued in San Francisco would be susceptible to such influence, even if they were given the opportunity. The reason the prices given are not accurate is because it is impossible to quote a livestock market in San Francisco which really means anything is that there is no system of standards and grades recognized on this market. The good cattle in California have carried the poor cattle to market for years, and this makes it impossible to state what the price is for any given grade of cattle.

Since the office of the Bureau of Markets was established in San Francisco quotations have been made public, showing actual prices received for various grades of dressed meats each day. Inconceivable as it may seem, a number of livestock men have stated that they are not interested in the prices received for dressed meats. They seem to think that as soon as they have sold their cattle to a buyer their stock is marketed, but it has merely changed ownership. It is not marketed until the products derived therefrom have reached the ultimate consumer. (The stock grower should be vitally interested in the prices received, not only for dressed beef, but for the by-products as well, for these are the prices that make the market for live cattle. All of which goes to show that the interests of the packer and stock grower and the retailer are identical rather than antagonistic. While one branch of the industry may temporarily prosper at the expense of the other, it cannot do so permanently. Accurate information regarding the selling prices of dressed meats is essential.)

There is very little available information regarding the seasonable demand for cattle. Stock growers should know how much beef is consumed in San Francisco and the State each month of the year, as this would enable them to equalize their marketing to a certain extent at least. The Bureau of Markets began compiling such records for San Francisco shortly after the office was established and has them for the past five or six months. After these records have been completed for a year they will begin to be valuable to the producer and will be available to him at any time, providing Congress sees fit to provide sufficient funds to continue the work.

It may seem to a great many people that this matter of gathering information is a very simple affair, and that it should be conducted quite easily and inexpensively by a local organization of cattlemen or some other organization, but so far the Department of Agriculture, which employs thousands of trained men, has not succeeded to any marked extent. The gathering of this essential information is a mighty big job and can only be conducted by an organization that is not only entirely unprejudiced but also supported by the highest law of the land.

Benefit of Stockyards.

Whether or not the livestock men want a public stockyard is a matter for them to decide. Opinion on this subject is very much divided, although there seems to be a growing sentiment in favor of it. There are several things that a stockyard would do. In the first place it would establish a market; that is, it would establish a center where it would be possible to ascertain exactly what cattle are selling for. It would undoubtedly increase the spread in prices paid, which at present is entirely too small. It would have a tendency to establish grades, for cattle at stockyards sell on their merits to competitive buyers.

It seems as though this ought to develop into a good feeder market. It would not necessarily do away with all trading in the country, but it would make a centralized place where buyers from all over this State and

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other States could come and buy stock. As it is now a buyer from one part of the State may be willing to buy cattle from some one who has them in a different part of the State, but he has no way of knowing who has them or where to locate them without taking an endless amount of time in looking them up. While in



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the past there have been many abuses of the stockyards, yet this fact remains evident: it is possible to localize these abuses and take some remedial measures. This has been done in the great stockyards under Federal livestock market supervision, and the work has met the approval of both packers and producers. This supervision was only a war-time measure, but if the Kendrick bill is passed it will make permanent a Federal regulation of stockyards on sane, conservative and rational lines.

Canner Cattle.

The development of the canned meat industry to the point where it would absorb the cheap cows and canner steers would undoubtedly make it possible to make it come nearer getting the value out of the better grades of fresh beef. It does not matter how much a retail butcher may desire to handle only first-class goods, if he is forced into competition with a butcher who handles cheap goods he must buy cheaper stock. This forces down the price for good dressed steers and is reflected in their values in the country. All indications are that canner stock has been the stepping-stone by which the Oriental has established so firm a foothold on the market in the Bay Cities. Both cattlemen and packers declare that San Francisco will not pay the price for good cattle. This may or may not be true. However, since the Bureau of Markets established an office here last fall, there have been very few times that the best steers on the market sold for as much more than the poorest as the quality seemed to justify. They had to compete over the retail block with canner stock. If some plan could be developed whereby this canner stock could be diverted from the retail trade to the channels where it properly belongs it would be a source of great benefit and relief to both retailers and cattlemen.

Education.

A study of the upward trend in food prices since the beginning of the war will show that the percentage of increase in the cost of beef has been less than that of any other important article of food with the one exception, I believe, of coffee. Just now the wholesale price of beef is rapidly approaching pre-war prices, yet consumption seems to be on the decline. Local wholesalers say that 20 per cent less beef was consumed in San Francisco in May, 1919, than in May, 1918. If this is true it is a serious condition and a campaign of education and publicity would help to remedy it. The orange growers created a world market for their products in this way. The raisin people have done the same. The dairymen have found it profitable to tell the public about the food value of milk, cheese and ice cream. The apple growers have made a household jingle out of the slogan, "An apple a day keeps the doctor away." But we see nothing about the food values of beef, about its relative low cost, or any of the many good things that might be told about it.

The question naturally arises, how can these things be done and who is to do them? That, as Mr. Kipling says, "is another story."

TREAT COWS LIKE MOTHERS.

Dairy cows have highly nervous temperaments and rough treatment or worrying of any kind is reflected in the milk flow, and consequently, in the cream check. A sign which should be in every dairy barn is the one put up by the late ex-governor Hoard years ago and is still to be seen in the Hoard Farm dairy barns. It reads: "The rule to be observed in this stable at all times toward the cattle, young and old, is that of patience and kindness. A man's usefulness in a herd ceases at once when he loses his temper and bestows rough usage. Men must be patient. Cattle are not reasoning beings. Remember that this is the Home of Mothers. Treat each cow as a mother should be treated. The giving of milk is a function of motherhood; rough treatment lessens the flow. That injures me as well as the cow. Always keep these ideas in mind in dealing with my cattle."

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DUCKS AS A SIDE LINE.

Only 7.9 per cent of the farms in the United States raise ducks, and probably the percentage is even less in California alone. This is a condition hard to understand, for ducks can be raised at a profit on most farms. They are not as well adapted to the average farm conditions as chickens for a source of income, yet they make quick money. In the time it requires to bring a small Leghorn broiler to 1½ pounds a duckling can be made to weigh from 4 to 6 pounds. However, the demand for table ducks at good prices is mostly confined to large cities and is not as general as the demand for chickens; also the demand for duck's eggs is more limited. Consequently, it is not advisable for the average farmer to go into the venture on a large scale, but a small flock can be raised with profit, and variety in both meat and eggs will be added for the table.

No other birds are easier to raise with less chance of loss by death, if certain fundamental principles of management are adhered to. Ducks can

green and vegetable feeds and a larger proportion of mash, as grain feeding during the first three or four months is liable to bring on digestive troubles. Ducklings do not need feed until they are from 24 to 36 hours old. They should be fed five times a day for the first week; after that, four times a day until they are two or three weeks old, and thereafter three times daily until they are marketed. The first ration should consist of a mixture of equal parts of rolled oats and bread crumbs, with 3 per cent of sharp sand and a little charcoal mixed in. When the ducklings are about three days old, this feed is changed to equal parts of bread, rolled oats, bran and corn meal. After the first week the ration should be changed again to three parts of bran, one part each of middlings or low grade wheat flour and corn meal, 10 per cent of green feed, and 5 per cent of beef scrap, with about 3 per cent of sand or grit, and a little charcoal. The amount of beef scrap is gradually increased until it reaches 15 per cent by the end of the third week. The proportion of corn meal is increased and the bran decreased as



A small flock of ducks can be kept on the average farm with profit. The Pekin is the most popular breed for the production of meat.

get along very nicely without swimming water, though it adds to their enjoyment and cleanness of feathers, and the irrigation reservoir affords an ideal pond for them. They are less subject to disease than chickens, and what few diseases they have are generally brought on by poor methods of feeding. Mites and lice do not trouble them, and if adult birds are supplied with clean hay or straw in an open shed at night they will be contented and do well.

There are 11 standard breeds of ducks, divided into three classes: (1) the meat class, including the Pekin, Aylesbury, Muscovy, Rouen, Cayuga, Buff and Swedish; (2) the egg class, which includes the Indian Runner; (3) the ornamental class, composed of the Call, the Crested White and the Black East India.

Growing Green Ducks.

A green duck is a duckling which has grown rapidly and is marketed when from 8 to 12 weeks old, weighing from 4½ to 6 pounds. This rapid growth is made possible by an abundance of care and good feeding. The highest prices for ducks are usually paid early in the spring. As a matter of fact, many farmers market their ducks in the fall at a lower price than green ducks bring in the spring.

The Pekin breed is kept almost exclusively by producers of green ducks. Ducks of this breed are hardy, make fairly good layers and are practically nonsetters. The standard weights of adult drake and duck are 9 and 8 pounds respectively. They are easily confined by low fences, and are a good breed to raise as a side issue on a general farm.

Feeding Ducklings.

Ducks may be fed on the rations recommended for baby chicks, but better results are secured by adding more

the time for marketing approaches.

Finishing for Market.

The fattening ration, which should be used for two weeks before killing, consists of 3 parts by weight of corn meal, 2 parts of low grade flour or middlings, 1 part of bran, ½ part of beef scrap, 10 per cent green feed, and 3 per cent grit. This mash is fed three times daily. The green feed is sometimes left out of the ration during the last week of fattening, as it tends to color the meat, but it is easier to keep the ducklings in good condition if it is included. Rations recommended for milk-fattened chickens will produce a well-bleached green duck, and skimmilk should be used when it is available. Celery seed is sometimes added to flavor the flesh.

Indian Runners the Egg Breed.

For the general farmer who is more interested in obtaining eggs than in producing green ducks for the market, the Indian Runner is a good breed. This duck holds the same relative position in the duck family that the Leghorn does in the chicken family. It lays a good-sized white egg, considerably larger than a hen's egg, and is a small eater, a good forager, and hardy. The introduction of the Indian Runner has helped in building up a trade for ducks' eggs, yet only in certain localities can good prices be secured, and the possibilities of securing a market should be investigated in advance. These eggs need to be marketed often as they depreciate in quality more rapidly than hen's eggs.

Do not feed a sloppy mash to your fowls. Let it be dry enough to crumble good. Sloppy food is quite sure to cause bowel trouble. Do not forget the grit. The fowls cannot get along without it any better than you can without teeth. The sharper the grit the better.

HATCHING TURKEYS OUT OF SEASON.

We wish that we had space to reproduce a picture sent us by Mrs. T. F. Carney of Smith, Nevada, showing some turkeys raised by her. They are about as fine a lot as we have ever seen, and they were raised out of season at that. In writing about them Mrs. Smith says:

"I have the Mammoth Bronze variety and think them the largest and best. First of all there is no mother equal to the turkey hen for brooding young poults. Last October one of my hens came off with 14 vigorous little turks. She mashed two when they were young, but raised 12. I put them all in a large garden and fed them very little, for they almost lived on bugs, flies and grass. The latter part of November we had some snow, so I put them in a good chicken house and never turned them out until about ten in the forenoon, or if it was stormy I kept them in all day. They grew very fast and when the heavy snows and extremely cold weather came I kept them in for a week at a time, having before them continually plenty of clean grit, fine charcoal and pure water. The food consisted of scraps from the table, some wheat, occasionally a bran mash, and sometimes a feed of cornmeal mixed with sour milk. The 12 turkeys weighed 116 pounds and dressed 100 pounds. I received 40 cents per pound, so they brought me \$40, and I think I was well paid for my trouble. The largest tom weighed 12 pounds."

RABBITS HAVE SPOTTED LIVER.

What is the cause of spots on the liver of young rabbits, and what should I do?—Mrs. L. E. R., Ukiah.

This is due to a small parasite which attaches itself to the liver and causes a diseased condition, finally getting so bad that the liver rots away. The patient generally has trouble in breathing and can be heard quite a distance. The rabbit generally eats well, but has a strange appearance. It is said that this will not occur if rabbits are fed carrots twice a day. Also plenty of dandelions are recommended as a cure, except in severe cases, when it is best to kill the rabbits at once. It is not wise to use for breeding purposes a rabbit that has been so affected.

Something queer about hens and even chicks turning cannibals and eating each other up alive. The best explanation so far is that the birds need more meat. A bit of a scratch comes on some hen, and the rest see the red spot or the drop of blood, and out of curiosity pick it off. That gives them a taste of the blood, and at it they go to devour the poor creature. If plenty of beef scraps are given, the chances are that you will never have any trouble of this kind.

Green cut bone can often be purchased from the butcher. When procured fresh it makes an excellent substitute for beef scrap. It should be purchased in small quantities, as it cannot be kept fresh for any length of time, and when spoiled may cause bowel trouble. It is best fed in a trough, not oftener than every other day, allowing about one-half ounce per bird. Should severe or continued looseness of the bowels follow it should be discontinued, or the quantity reduced.

In every flock of chicks there are a few that are not as strong as the average. These will die, or at least will make poor growth, if they have to take their chances in a large flock. If you use colony hovers it will pay well to keep a small lamp-lighted hover in operation, into which the weaker chicks may be placed. Protected and given a better chance, they will make good growth and may be made a source of profit instead of loss.

The meanest man on earth has been discovered. He had a rooster that woke his neighbor up at 4 o'clock every morning for two years, and the very night before the neighbor wanted to catch an early morning train he killed the rooster.

PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
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Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

**Western Meat
Company**
SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

When it is not possible to give hens the run of the barnyard on the farm, a run of sufficient size to allow plenty of exercise should be provided. If the size is limited, artificial methods of exercise should be utilized. Hang feeds like cabbage heads so that the hens must jump for them. Provide litter that will make them scratch vigorously and a long time to get their crops full.

Poultry Breeders' Directory

YOU ARE NOT TOO LATE—Our early maturing winter-laying strains. June hatch, develop quickest into profitable winter layers. "My thirty pullets laid at four, sixth month (January) cleared \$31." Why? Bred 20 years to lay winters, 200-290 eggs yearly. White, Brown, Buff Leghorns; Reds; Anconas; Rocks, Minorcas; clearing customers \$5. Many repeat orders, monthly, yearly. Valuable circular with proof free. 70,000 egg hatcheries supplying chicks. Thousands shipped promptly, below ordinary chicks. Breeders (Pullets). Sale beginning. J. Beeson, Pasadena, Cal.

WHITE LEGHORNS are the most profitable breed of poultry. If you are in the business for profit, you will eventually have them. Early broilers; early layers; early profits; we sell only White Leghorn Baby Chix from heavy-laying Hoganized hens. Safe delivery of full count live chix guaranteed. Prices per 100; February \$15; March \$14; April, \$12.50. The Pioneer Hatchery, 408 Sixth St., Petaluma, California.

SINGLE COMB BROWN LEGHORNS—The large, modern, heavy laying type that won high honors for us at the National Egg-Laying Contest. No better layers, none others so hardy. For 20 years our strain has won highest prizes at New York, Boston, Chicago, San Francisco, etc. Absolutely the finest Brown Leghorns in America. Eggs, \$8 and \$5 per 15; \$15 per 100. William Bros., Fullerton, California.

PEARLESS WHITE WYANDOTTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

S. C. WHITE LEGHORN CHICKS—Any quantity from A-1 Hoganized and trapped stock, winners of 1st, 2nd and special for pullet and 1st cockerel at Pacific Coast Land Show. Orders taken for June 7. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Calif.

SULLIVAN'S BUFF ORPINGTONS—Famous for 20 years in show and utility qualities. Line bred for 20 seasons. Bargains now in stock and eggs. Write Mr. and Mrs. W. S. Sullivan, 100 Market Road, Agnew, Cal.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties every week. Only good, strong youngsters shipped. Stubbe Poultry Ranch and Hatchery, Box 67, Palo Alto.

SURPLUS STOCK SALE—account of moving. Hoganized White Orpingtons and Sicilian Buttercups; trios, pens and singles, at reasonable prices; write for list. M. S. Woodhams, San Mateo, Cal.

EGG BREED—Buff Brown, White Leghorns, Golden Campines, Dark Cornish. Winners wherever shown. Send for circular. Percy Ward, 3142 Ward St., Fruitvale, California.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

BABY CHICKS—We have the large heavy-laying S. C. White Leghorns, severely culled last year. Send for prices. Tupman Poultry Farm, Ceres, California.

FOR SALE OR EXCHANGE—Dozen and half mated and working King and Red Carneaux Pigeons for bees, chickens, incubator or offers. T. Holmes Mills, Parlier, Calif.

EASTMAN'S BRED TO LAY Hoganized and trapped Barred Plymouth Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

BRONZE TURKEY EGGS—No more eggs till further notice. Albert M. Hart, Clements, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GEES, GUINEAS. Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch Rt. 2, Box 144D, Pomona, California.

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RAISE RABBITS—Most profitable and popular small animal in America. Big demand. Clean, fascinating work. Send 10c for copy of leading rabbit magazine and our Rabbit Book, P. N. 5. Gilmore's Rabbit Farm, Santa Barbara, Calif.

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NEW ZEALAND REDS—First class utility does bred \$5.00 each. Young does, \$2.50 each. F. R. Caldwell, Broadmoor, San Leandro.

RAISE RABBITS FOR US—We supply the breeding stock. Send stamp for particulars. R. E. Gibson Co., Arcadia, Calif.

WET OR DRY MASH?

For years the "wets" and "drys" in the United States have been fighting, and at last the "drys" have won. But how about the "wet" and "dry" systems of poultry feeding? Should this "dry" system become universal too?

Both systems have their supporters; both have their advantages and disadvantages. The wet mash has been used since the earliest days of poultry culture, and it is only during recent years that the dry mash has received much attention.

The wet mash is sometimes referred to as the "hardwork" method. It involves the feeding of a moist mash at a stated time each day—generally in the morning. The mash has to be mixed with just the right amount of water; the troughs have to be cleaned frequently; and any mash left uneaten must be taken away. All this means hard work—downright hard work—and it has to be done every day in the year. Probably it is the hardest part of the average run of poultry work—at least when it is done in a proper and thorough manner.

With the dry mash system a mixture of ground grains is kept before the birds at all times. This permits the mixing of several hundred pounds of mash at one time, which can be stored and used as the hoppers need refilling. This greatly minimizes the labor of feeding, as it is simply necessary to glance at the hoppers occasionally and during odd times refill any that are getting low.

There is little or no danger of the feed becoming sour and causing digestive troubles. There is no crowding at the feed troughs, and birds do not gobble down a lot of it at a time as they do when a moist mash is fed. It was the old-time moist mash that enabled the hoggish ones in a flock to stuff their crops and then go on the roost to idle the time away until the mass was digested. Those were the birds that came down with liver or digestive troubles, and that accumulated fat until they were baggy behind and worthless as layers. With the dry mash, birds eat no more than they crave, and only a few mouthfuls at a time. Also they give it the proper "mouthing."

All food eaten by both hens and humans should be moistened with saliva, and for this process Nature has provided salivary glands located near the base of the tongue. When so moistened the food is in right condition for the juices of the stomach in humans, and the gizzard and intestines in fowls, to carry on the digestive process. Consequently, when mash is eaten dry the process of digestion begins in the mouth where it should, and the dry mash system seems to be the natural method.

The amount of dry mash it is desired to have hens eat may be regulated by the amount of whole grain fed. If you want them to eat more mash and do better laying, cut down on the scratch feed. If you want them to eat less mash and slack up a little on their laying, increase the whole grain.

The objection is sometimes offered to the dry mash system of feeding laying stock that the birds will overeat, but this rarely occurs with the more active breeds. It may happen occasionally with some of the heavier breeds, but in such a case the hopper can be kept closed until noon. It certainly is much less work to merely open up the hopper than to be obliged to mix up and feed a wet mash; then return in a half-hour to see if all has been eaten.

From the standpoint of the farmer who carries poultry as a side-line, and wants to be taken from his regular work as little as possible, probably the dry mash method of feeding is the most important step made in poultrydom in recent years. It not only effects a great saving in labor, but gives most excellent results in the health of the flock and in the egg yield. And this means greater profits.

A colored man was asked what breed of chickens he considered best. He replied, "All kinds has der merits. De white ones is de easiest to find, but de black ones is de easiest to hide after you gits 'em."

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A storekeeper complimented a certain rancher on the clean and attractive condition of his eggs at all times and asked him how he did it. He said that he changed the straw in the nests weekly, removing every particle of old straw and dirt. He claims that he never gets a dirty egg, therefore never has to clean any. His eggs always have nature's bloom, which once marred or removed cannot be replaced.

Do you scald your chick fountains occasionally? Not every day but now and then, to make sure that they are reasonably clean. A chick would rather drink from a puddle than anything else, but that is no reason for giving him a filthy fountain. acres of otherwise idle land.

Every individual in the flock should show vigor and strength. Size (not fat), erectness, activity, bright eye, and red comb are favorite points indicating good constitution. Drooping tail or wing, weakened legs, head and neck not erect, denote weakness. Pullets bred from good layers are preferable. A good layer will be a hearty feeder and usually a vigorous worker.

Boys and girls should be encouraged to start in the poultry business. It requires little money, and the current expenditure may be reduced in part by utilizing farm and home wastes. If the project begins with a laying flock the return begins early, especially by supplanting the food supply of the home.



GLOBE "A-1" FEEDS

Globe "A-1" Poultry Mash —with dry buttermilk

Baby Chick Mash

The nutritious hearts of whole grains, ground and scientifically balanced with real dried buttermilk to make a wholesome feed on which chicks thrive. Makes chicks live and grow in robust health.

Growing Chick Mash

A food designed to make chicks develop into egg producers in the shortest possible time. Contains real dried buttermilk. Should be fed until chicks reach age of 5 months, then get

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for quick results in the egg basket. Contains real dried buttermilk. The use of buttermilk in poultry feeding has the indorsement of U. S. Agricultural Dept. (See Bulletin 162, Berkeley, California)

Put prosperity into your poultry yard. Start on these three great feed today. See your dealer—he has all the Globe "A-1" Feeds.

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Los Angeles San Francisco

Globe "A-1" Swine Feeds —with dry buttermilk

Three kinds, one for baby pigs, one for growing pigs, one for fattening hogs. Scientifically compounded to suit age of animal. All kinds contain real health-giving dried buttermilk, in correct proportion to make animal grow, mature rapidly and take on a load of profit-making fat. Ask your dealer.

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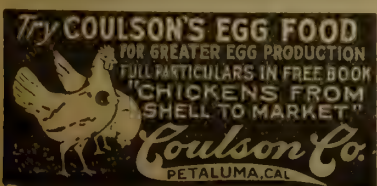
A well-balanced ration containing the proper amount of such concentrate feeds as soya bean meal, milo maize and other grains in combination with chopped alfalfa and desiccated bean straw. The whole ration treated with heavy addition of Hawaiian cane molasses. Palatable, nutritious—a winner either as a dairy or a fattening feed.

Globe "A-1" Dairy Feed

A high-protein concentrate to balance roughage available on your ranch. All we ask you to do is to weigh up the milk before and after feeding this remarkable feed for a few weeks.

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—here is a book you cannot afford to be without. Practical, sensible—a sane talk by experts who know how to raise poultry, swine and stock. Write for it now.



THE HOME CIRCLE

A PATERNAL YEARN.

"E'en 'father' sounds a trifle cold, and 'papuh' makes not a hit with me. I love that word of purest gold I used to lisp in infancy.

There's too much flippancy to 'pop,' and 'pater' always makes me mad. I like but one of all the crop; I want my boy to call me 'dad'."

"I want to win the urchin's love, yet want no love he has to feign.

I do not care to be his 'gov' or fix a gulf between us twain.

I want to be the kidlet's chum, to be a comrade for the tad;

And when he gets to talking some, I want my boy to call me 'dad'."

—Selected.

MAKE COMPANIONS OF YOUR CHILDREN.

How many parents make companions of their children? How many try to make the child feel that he is a necessary part of the family unit? Do you merely feed and clothe your children, letting them just "grow up," finding their own friends, amusements, etc.? Why not take a day off occasionally and go with them to the woods and watch the birds build their nests, learn their various calls, and how they feed their little ones? Equally interesting is it to watch the small toilers in the grass, sometimes laboriously toiling for hours to carry a blade of grass or a dead beetle or fly over the obstruction of a small stick or rock. Of course, children living outside the larger cities have the opportunity to make the acquaintance of the furred, finned and feathered tribes, but how many of them know how to study these creatures intelligently? A child will satisfy its curiosity regarding a bug or spider, in a few minutes, never taking into account the reasons for certain actions of the subject under consideration. An older person can explain in an educational way, and make these little nature studies of the greatest interest and benefit, all the time cultivating and cementing the companionship between him or herself and the child.

Enter into the plans and ambitions of children, for no matter how trivial their problems may seem to you, to the child mind they are sometimes insurmountable difficulties; and to talk it over in a calm way with an older, sympathetic mind, displaces doubt with confidence, fear with courage, and promotes a greater love for, and fellowship with, the parent who is wise enough to see his child's need and "supplieeth it."

Children of school age should be given responsibilities, either a small garden, rabbits, pigeons or chickens, and should understand that they are responsible for the care of same. This affords an opportunity for friendly discussion between parent and child regarding the latter's activities with his pets or garden, as well as a further opportunity for entering into the plans and daily interest of the child, as before mentioned. This gives a common interest and puts them upon the same plane, so to speak.

Talk to your child; ask him his opinion about things concerning the home, the ranch or the farm. If his answer is not what you think it should be, ask him his reasons therefor. Then suggest that thus-and-so would be a better plan, and tell him why you think so. Make him feel that his opinion is worth something. Draw him out and make him think, and express himself. It fosters self-confidence and broadens his horizon; it cultivates his powers of observation until his opinions grow to be really worth something eventually.

Such an association wins a child's confidence and develops a spirit of camaraderie, altogether too rare between parents and their offspring. Cultivate the habit of chumming with your children, and see how they respond to the treatment.—Z. D. H.

BEATING THE HIGH COST OF LIVING.

(Agnes Boeing Extension Service of College of Agriculture, University of Wisconsin.)

Washing Clothing Materials.

The action of the common laundry soaps and washing powders on the different types of clothing materials must be noted by the housewife who wishes to obtain the best results in cleaning clothing at home. Cotton and linen, the vegetable fibers, are not injured by dilute alkali solutions such as are found in strong washing soaps or powders. Silk and wool, the animal fibers, are affected by strong soaps on account of the alkali. Strong soaps and washing powders, if used in washing woollens, flannels, or white silks, make them yellow and harsh and injure the fiber. A dilute boiling solution of household lye in water will completely dissolve woolen material.

Great care must be taken in washing woollens because of the character of the fiber. The outer surface of the wool fiber as seen under the microscope, consists of little overlapping scales. These little scales hold the fibers apart so that they enclose the air in their meshes, making wool of great value as a warmth-giving fabric.

When the wool is immersed in hot water, especially when a strong soap is used, these scales rise and stand out like the scales on a pine cone. In this condition the scales are easily locked or felted and, when rubbed, the fibers draw together, or shrink.

The alkalis which are found in soaps and washing powders may help to make the woolen fiber swell and become felted unless very carefully used. The same warmth in all wash waters and in drying is very important. Differences in temperature will shrink wet woollens.

In washing woolen material it is best not to rinse it in entirely clear water, since the water tends to remove from the wool the natural oils which give it luster or dressing and to leave the wool rather harsh and stiff. This difficulty may be overcome by leaving a small amount of lather in the rinsing water. The soapy odor will disappear from the material after it has been hung in the wind.

Another way to overcome the harshness is to replace the oil which washing removes from the wool by adding in the last rinsing one tablespoon of glycerine to two gallons of water. The material should be run through the wringer and hung out until partially dry. When the material stops dripping, it may be rolled lightly and allowed to stand for an hour or so and then ironed while damp.

Ironing Woollens.

The best method in ironing woollens is to place a muslin cloth over the right side of the damp woolen material and press until dry. It is best to pull the basting threads, which locate the stains, before pressing, in order to avoid thread marks. If any stains remain after the material is washed they are probably obstinate grease stains which can be removed by the application of gasoline.

Old Hats Can Be Made to Look New.

The housewife often places the summer hat away in the fall with good intentions of wearing it again next

spring, but she is likely to feel disappointed when she takes it from its winter hiding place. The brilliant coloring of the outdoors in spring makes the feathers, flowers, or ribbons look faded and worn, by contrast. It is not until the flowers or feathers are retinted and the velvet ribbons are steamed that an old hat will look new.

Cleaning Ostrich Feathers.

Soiled ostrich feather, aigrettes and paradise plumes can be cleaned best in gasoline and flour mixture.

Take a deep bowl large enough to work the feather easily and use the proportion of one pint of gasoline to two tablespoons of flour. Mix thoroughly and immerse the feather, rubbing it carefully toward the tip in working. Squeeze out the excess gasoline when the feather is clean and shake it in the air until dry. If the feather is very soiled it is advisable to put it through a plain gasoline bath first, to remove some of the dirt, before putting it into the flour and gasoline mixture. If the gasoline is allowed to settle the top may be poured off and used again.

Tinting Feathers.

To renew or change the color of ostrich feathers, flowers and such materials as velvets, crepes, nettings and light-weight silk, tubes of oil paint may be used.

Mix the paint in a bowl with gasoline. Be careful to dissolve the paint in a small amount of gasoline first and to add enough gasoline to dilute the mixture to the color desired. After the feathers have been dipped into the tinting solution until colored remove them quickly and shake in the air until dry. As the gasoline evaporates rapidly, it will not remove the curl. If a darker tint is desired at the tip end of the feather, repeat the process with the tip end of the feather until it is sufficiently colored. Do all this out of doors, away from any fire. The color of velvets after tinting is better if they are dried by dripping and fanning in the air without squeezing.

Tinting Beaver.

Beaver hats, heavy laces and felt hats are best tinted by using dry powder paints in any desired color such as blue, brown and tan.

Mix the paint with cornstarch or talcum powder and rub upon the hat. Let stand a few days. Brush before wearing.

In cleaning white beaver hats and white furs, use two tablespoons of wheat flour to every pint of gasoline, as in cleaning feathers. Rub the mixture into the hat or fur and shake it out when dry.

Cleaning Velvets.

One way to restore the color of velvet and to clean it is to brush it lightly on the right side with a sponge dipped in chloroform. This must be done in front of a window and away from fire as the fumes of chloroform are likely to produce drowsiness and headache.

Steaming Velvet.

To steam velvet, hold it over the spout of a boiling teakettle and, when dry, brush it carefully to raise the nap. Another way to steam velvet is to place a hot iron between two bricks with the flatside of the iron up. Cover the hot surface with a damp cloth and then draw the velvet over it, right side up. The steam rising through the velvet will remove the creases and raise the nap. When the velvet is dry, brush the nap with a fine, soft brush. If stiffening is desired sponge the

wrong side with a little weak ammonia water to which gum arabic has been added.



Puckeriness isn't tea-taste; it's tannin-taste. Tannin is what they tan leather with.

You don't want that? Then pay enough per pound for your tea to get the real tea-flavor— $\frac{1}{3}$ cent per cup.

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More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The

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Complete outfits—\$12.50 and up, according to requirements.

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225 Market Street,

San Francisco, Calif.

THE SONG OF A BIRD.

By Dr. T. J. Merryman.

As the birds went south from the cold and snow,
There was one last fall that did not go.
His wing was weak, or his mate was dead,
Or in some other way he had lost his head.
Or if by chance he did migrate,
In the flight he must have lost his mate.

So he flew right back to the old home tree,
In search of the one he long to see;
But he found her not, and all winter long,
He sang alone his pewee song.
Yes, day by day this brave little bird
Would let his musical voice be heard.

In spite of the wind from the frigid north,
A song of enchantment he would pour forth.

'Mid falling snow on stormy days,
We heard the warm and pleading lays.
And thus it was the winter through,
His heart was light and his voice rang true.

Sometimes the song of a bird that we hear,
Will bring to us lessons of trust and cheer.

And these we learned from this pewee bird,
Whose cheerful notes we so often heard:

Let hearts be brave and voices sweet,
Whatever the atmosphere we meet.

With cheerful song let's begin the day,
And drive all anxious cares away;
And as the storms of life we brave,
With buffeting wind and surging wave,
'Neath clouds o'ercast or clear blue sky,
Remember our Father who reigns on high.

PROCRASTINATION.

He meant to insure his house, but it burned before he got around to it.

He was just going to pay a note when it went to protest.

He was just going to help his neighbor when he died.

He was just going to send flowers to a sick friend when it proved too late.

He was just going to reduce his debt when his creditors "shut down" on him.

He was just going to stop drinking and dissipating when his health became wrecked.

He was just going to provide his wife with more help when she took to her bed and required a nurse, a doctor and a maid.—Success Magazine.

TO PREVENT DOUGH FROM STICKING.

Make a cover of stockinette or any elastic knitted textile to pull over the rolling-pin in a stretched-tight way, and tie at the open end. Then take a square of canvas to lay upon the bread board. The softest dough can be worked without danger of its sticking. But before using, nearly a quart of flour must be rubbed into the rolling-pin cover the first time it is used. With careful use the covers will stay clean a long time. When necessary to wash them, use cool water and a small brush.

OUR FLAG.

"I have seen the glories of art and architecture and of river and of mountain. I have seen the sunset on the Jungfrau and the moon rise on Mount Blanc. But the fairest vision on which these eyes have rested was the flag of my country in a foreign port. Beautiful as a flower to those who love it, terrible as a meteor to those who hate it; the symbol of the power and the glory and the honor of one hundred millions of Americans." — Senator George F. Hoar.

THE RED, WHITE AND BLUE.

"Her lips are red,
Her eyes are blue,
Her brow is white above;
Unto the flag, O heart, be true!
For it belongs to love."

OUR "GARDEN FLOWERS" IN SOUTHERN CALIFORNIA.

[Written for Pacific Rural Press.]

Miss Florence Yoch, landscape architect of Los Angeles, who has designed and executed some of the most beautiful ornamental horticulture in Southern California, honors us with this frank and cordial letter:

For a long time, more than two years, in fact, I have wanted to write to tell you how much I have liked your book, "California Garden Flowers." In my work in gardening in Southern California I have found it the solidest help of any California book and have loaned my copy to my clients and their gardeners. Especially its information as to seasons and sections is enlightening to the many brand new Californians with which this region is populated. Also this past summer, in helping direct the 900 Land Army girls here locally, I drew heavily on you. This winter Mrs. Francis King, vice-president of the Garden Club of America and president of the Woman's National Farm and Garden Association, has been here and was very eager to get correctly oriented as to California conditions so I gave her your "Garden Flowers."

Several years ago Miss Yoch was a student in the University of California and afterwards completed her professional training at the University of Illinois. She not only knows what good landscape design and gardening are, and how to do them, but is a good judge of what assistance is helpful to the same end.

When we thanked Miss Yoch for her approval and asked her permission to share it with the readers of the Rural Press, she suggested that Mrs. King should be requested to authorize the use of her name as printed above. Mrs. King has consented thereto in this gracious note:

"Let me say at once that I am not only glad but proud to have you use my name in connection with your book, 'California Garden Flowers.' I expect to use your book here almost more than I did in California to refresh my memory concerning the amazing number of lovely things, all new to me, which I saw on my first visit to your state, just now. I am glad to know, too, of so excellent a book to recommend to people going to California."

LOUISA YEOMANS KING.

Alma. Mich.

Such tokens of generous appreciation are a writer's jewels.—Editor.

TINTING CURTAINS.

Yellow ochre is the best thing that I know of for tinting curtains after they have been washed. It gives them a soft, creamy appearance as when new, or they can be tinted a creamy shade of yellow. Many use coffee, but if they once tried yellow ochre, they would never use anything else. Another thing in its advantage is, that it is cheap and can be bought at any place where paints are sold. Another thing in its favor is that it is always ready, as all one has to do is to moisten it with a little cold water and then strain it through a piece of cheesecloth, adding enough water so that the curtain can be thoroughly dipped in it. A teaspoonful is sufficient to do several curtains and to this amount one should add about six or eight quarts of water.

Keep this stirred while dipping the curtains. If the solution is very weak, allow the curtains to lie in it for about 30 minutes or so, keeping them stirred once in a while. This is often done if one wishes a very delicate creamy effect.

Nothing will brighten up a dark room as much as curtains that are tinted a creamy yellow. The effect is very pleasing.

Men's and boys' faded khaki overalls, pants and suits can be re-colored with yellow ochre by dipping them up and down in a stronger solution than it takes for curtains. This must be done, however, each time they are washed. It means, instead of putting them through a bluing water they are put through a yellow ochre water. —Margaret Palmer.

TIMELY RECIPES.

Cherry Cobbler.—Butter a shallow pan and half fill with ripe stoned cherries, well drained. Add sugar to sweeten well, and sprinkle with a pinch of salt. To one cupful of sour cream (if cream is very thick, use half milk, or milk and butter may be used), add one-third teaspoonful each of soda and salt, and flour to make a thick batter. Pour the batter over the cherries to cover well, and bake in a brisk oven until nicely browned. Turn out of the dish, fruit-side up, on a platter, and serve hot with a sauce made with cherry juice.

Cherry Cream Pie.—Line a pieplate with nice pastry, fill it with stoned ripe cherries, stir one teaspoonful of cornstarch or flour into one cupful of sugar and strew over the cherries, dot with bits of butter. Beat one egg light, mix it with one-half cupful of rich, sweet cream, and pour over the pie. Bake until the custard is set.

Cherry Trifle.—Select large sweet cherries, stone them and chop fine, and let them drain while preparing the cake. Cut a stale sponge cake into slices, put a layer in a glass dish, moisten with orange juice mixed with the juice strained from the cherries, spread thickly with the chopped cherries mixed with a generous amount of sugar, adding a few chopped almonds. Repeat the layers until the dish is nearly full, and let stand in the icebox for half an hour before serving. Just before sending to the table, pour over a pint of whipped cream.

Cherry Roll.—Make a rich bicuit dough and roll out on a well-floured board to one-half inch in thickness. Spread lightly with butter, and sprinkle thickly with very ripe stoned cherries, add sugar to sweeten well, dust with a bit of cinnamon and a pinch of salt, then roll up like a jelly roll cake, pinch the ends together to prevent the escape of the juice, and bake for about three-quarters of an hour. Cut in slices across the roll, and serve hot with a pudding sauce.

Thousand Island Dressing.—One cup bottled salad dressing, two tablespoons chopped parsley, two tablespoons chili sauce, two tablespoons chopped sweet pickles, two tablespoons chopped pimento. Chill all in-

gredients, mix and serve over lettuce or other salad greens.

Tartar Sauce.—One-half cup bottled mayonnaise dressing, one tablespoon chopped onion, one tablespoon chopped pickles, one tablespoon chopped olives. Chill and mix all ingredients. Serve with canned or fresh fish.

COOKING HINTS.

If a little flour or corn meal is sprinkled on potatoes before frying, they will be a delicious golden brown when done.

To economize in lard, buy a quantity of fresh leaf lard cones when they are cheapest, run through the meat chopper and try out. Then every two or three weeks, or as often as needed, buy about three pounds of fresh suet, run this through the meat chopper, try it out and mix it with an equal quantity of the leaf lard. The mixture can be used whenever it is customary to use lard.

Pour boiling water on oranges and let them stand five minutes. This will cause the white lining to come away clean with the skin, so that a large quantity can be quickly sliced for sauce or salads.

To shell pecans and walnuts easily, pour hot salt water over them and let them stand for awhile.

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Market Comment

Barley Futures Near \$3.

December barley jumped on the San Francisco exchange this week to \$2.98 which is an advance of 7 cents over the record of the previous day's quotation. The rise was due to the exceedingly strong barley market in the East.

Hides Higher.

The hide market shows up strongly and some of the highest prices ever quoted have recently been announced. No. 1 wet salt kip, 15 to 30 lbs. has been quoted as high as 38 cents. The demand is strongest for good quality hides of the heavier weights.

Imperial Valley Long Staple 52c.

The Imperial Valley Long Staple Cotton Association recently sold between 200 and 300 bales of Pima cotton for the best price secured in that valley the past year. The sale was made at Boston averaging slightly over 52 cents net to the grower. Growers are elated at the opening of the eastern market to the valley long staple.

Wage Scale for Fruit Pickers.

Ralph P. Merritt recently appointed by Governor Stephens to determine a fair wage scale for employees in the cannery and dried fruit industries has announced the wage scale for unskilled labor for the 1919 packing season as follows: "For the first eight hours 45 cents an hour or \$3.60 for an eight-hour day. For the ninth hour and every hour thereafter there shall be paid 55 cents an hour. Fifty-five cents an hour shall also be paid for all day work and on Sundays and the following holidays: July 4, Admission Day, Labor Day, Thanksgiving Day, Christmas and New Year's Day."

Shippers Short of Shook.

It is rumored that there is a prospective shortage of shook boxes again this season which necessitates a raise in price and threatens to leave some fruit unshipped. Box makers claim that an increase of 50 per cent over the price of 1918 boxes will be needed. Various reasons are offered by the millmen for the increases. The ostensible cause is increased operating costs such as salary increases, higher freight rates and an advance in the price of rough lumber. Another reason is that new markets for shook are opening to manufacturers among Peruvian oil producers and Hawaiian pineapple growers.

The Depressed Beef Market.

When the hot summer season sets in there is usually a considerably lessened demand for all meats. This with the difficulty of disposing of the surplus supply of beef produced for war needs has seriously depressed beef prices. Representatives of more than forty live stock organizations from every section of the country met and issued a statement declaring that unless an immediate market is found for the live stock men they will be required to greatly reduce the size of their herd which will seriously threaten the country's future supply of cattle and sheep. A campaign of education to induce the public to eat more beef and lamb is contemplated.

Fruit Driers' New Schedule.

Commercial driers have adopted a new schedule of prune prices, as follows: For prunes, \$9 a ton on any estimated tonnage as green deliveries are made to the plant. This charge is based on a wage of 40 cents per hour, and includes receiving, proper drying and binning, the grower to be responsible for binned fruit. More than one extra stacking, or additional service due to the weather or other extraordinary conditions will require extra charge. Driers agree to use their best judgment and deliver properly dried fruit, subject at all times to prevailing weather conditions.

On apricots the price named is \$16 per ton for apricots running 12 to the pound or larger, green; \$18 per ton for smaller fruit running 13 to 16 inclusive.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, July 1, 1919.

WHEAT.

The following prices were announced by the Federal Grain Corporation last year and are still in effect. They are figured f. o. b. San Francisco, Los Angeles, Seattle, Tacoma and Portland, and guarantee the grower a minimum of \$2 f. o. b. shipping point:

Per bushel—	
No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.18
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
Re-cleaned, per ctl.—	
California	\$4.10 @ 4.25
Early Baart	\$4.15 @ 4.20

BARLEY.

Barley continues to advance in price as the 1918 crop decreases in the stock available for shipment. The quotations for feed and shipping are for the 1918 crop, f. o. b. Port Costa. New feed is quoted at \$2.45 to \$2.55. December futures are rapidly approaching the \$3 mark, sales having been made as \$2.97.

Feed \$2.70 @ 2.80
Shipping \$2.85 @ 2.90

OATS.

Oats were advanced in price this week in sympathy with the upward movement of barley. While the demand is not great for either grain locally, it is reported that it is sometimes difficult to find enough here to satisfy immediate delivery in quantity.

Red feed, per ctl. \$2.50 @ 2.60
Red for seed Nominal
Black for seed Nominal
Re-cleaned Red or Black for seed Nominal

CORN.

There is no movement this week in corn, which is firm at the prices quoted.

California \$3.30 @ 3.50
Egyptian, choice Nominal
Milho Nominal

HAY.

Receipts of hay for the past week were 1234 tons, compared with 1686 the previous week. Practically all receipts were from the new crop and future quotations will be this crop only. Receipts are light for the time of year and arrivals were moved without difficulty at prevailing prices. The majority of dealers feel that prices of grain hay will be easier as soon as normal receipts are available on this market. Alfalfa from the interior has been in good demand, but little other than the first cutting is ready, and this is heavily laden with foxtail, rendering it unfit for anything but stock feed.

No. 1 Wheat, per ton	\$15.00 @ 17.00
No. 2 Wheat, per ton	12.00 @ 14.00
Choice Tame Oat, per ton	15.00 @ 17.00
Wild Oat, per ton	10.00 @ 12.00
Barley Hay, per ton	11.00 @ 13.00
Alfalfa, per ton	14.00 @ 16.00
do, new, 1st cutting	9.00 @ 11.00
Stock Hay, per ton	9.00 @ 11.00
Barley Straw, per bale	.50 @ .80

FEEDSTUFFS.

The supply of feedstuffs in this market seems to be less than the demand, although the latter is not considered heavy. With the advancing price in the whole grains, especially

in barley, the rolled grains were increased in price, rolled barley advancing to an extreme of \$6 and rolled oats \$2. Alfalfa meal was also strong and higher. The price of oil cake meal showed a decline of a dollar on the turning of the demand to the other feed-stuffs.

Bran	\$45.00 @ 46.00
Middlings	52.00 @ 53.00
Shorts	46.00 @ 48.00
Cracked corn	72.00 @ 73.00
Rollod barley	58.00 @ 60.00
Rollod oats	53.00 @ 55.00
Alfalfa meal	33.00 @ 35.00
Cocunut meal	48.00
Oil cake meal	71.00 @ 72.00

POTATOES, ONIONS, ETC.

There is little movement in potatoes and the market is affected by the holidays, as well as the season. Yellow onions were higher, but with this exception the entire list showed a tendency to sag. The summer seasonable vegetables are all lower, with fair demand and good receipts.

String beans	5 @ 6c
do, Garden	10c
Peas	7 @ 9c
Carrots, per sack	\$1.50 @ 1.75
Asparagus	6 @ 8c
Rhubarb, Strawberry, box	\$1.50 @ 2.00
Cucumbers, hothouse, box of 30	\$1.50 @ 2.00
Los Angeles	\$1.00 @ 1.25
Eggplant, per lb.	8 @ 12 1/2c
Lettuce, per crate	75c @ \$1.25
Celery, crate	Nominal
Tomatoes, Southern, per crate	75 @ 1.25
Sprouts	Nominal
Summer squash	.50 @ 60c
Green Corn, Alameda, sack	\$4.50 @ 5.00

Potatoes—	
Rivers	None
Oregon	2.00 @ 2.40
Idaho	2.00 @ 2.25
Garnets, new on street	\$3.00 @ 3.50
Other new on street	\$3.00 @ 3.50
Sweets, per sack	None
Onions, Warehouse Stock—	
Australian Browns	Nominal
Onions, new red	\$3.50 @ 4.00
yellow	\$3.75 @ 4.25
Green Alameda	\$1.50 @ 1.75
Garlic	.15 @ 16c

BEANS.

A good demand for blackeyes this week caused an advance in the quotations of this variety, while other prices remained unchanged.

Bayos, per ctl.	\$5.90 @ 6.10
Blackeyes	\$4.00 @ 4.25
Cranberry beans	5.75 @ 6.00
Limas (south, re-cleaned)	.30.00
Pinks	\$5.50 @ 5.75
Mexican Reds	4.50 @ 5.00
Tepary beans	2.50 @ 2.75
Garbanzos	11.75 @ 12.00
Large whites	5.65 @ 5.85
Small whites	6.75 @ 6.90

POULTRY.

The general market is steady, with weakness developing only in hens. Receipts of this description have been heavy, and it has been met by a falling off in the demand. It is felt that hens will go lower than the present price as they cannot profitably go into storage in large quantities at more than 25 cents. This price will probably soon be reached and maintained by the demand for storage. Broilers are strong at quotations. The rest of the list is unchanged.

Turkeys, live, young spring, lb.	Nominal
Broilers, 1 1/2 lbs. and under	.31c
do, 1 1/2 to 2 lbs.	.32 @ .34c
Fryers, 2 to 3 lbs.	.35 @ .38c

NEW WHEAT PRICES ON SAN FRANCISCO BASIS.

The following are the Government terminal prices on wheat, bulk basis, as announced by Julius H. Barnes, the recently appointed Federal Wheat Director, acting for the U. S. Grain Corporation:

Hard White	Per bushel	No. 2	Per bushel
No. 1	\$2.20	No. 3	2.15
No. 2	2.17		2.11
No. 3	2.13		
Soft White	Per bushel	Club and Sonora	Per bushel
No. 1	2.18	No. 1	2.16
		No. 2	2.13
		No. 3	2.09

For sacked grain add 4 1/2c per bushel of sixty pounds to above prices. Deduction of three-fourths of a pound made for weight of each bag. Wheat trading under No. 3 mixed or smutty will be purchased accord to merit.

Smutty Wheat.

Deduct smut dockage from weight. In addition deduct following scouring charge:

If smut contents 1% to 3%, deduct	.02 per bu.
If smut contents 3 1/2% to 7%, deduct	.02 1/2 per bu.
If smut contents 7 1/2% to 15%, deduct	.03 per bu.
If smut contents 15 1/2% and above, deduct	.03 1/2 per bu.

Mixed Wheat.

Discounts on mixed wheat according to percentage of mixture and based on predominating class in the mixture:

Discounts as follows:

Up to and including 20%	.2c discount
Over 20% and including 35%	.3c discount
Over 35% and including 50%	.4c discount

Government Terminal Price.

While Port Costa and South Vallejo are San Francisco Bay terminal warehouses, as well as San Francisco, for Northern California, in all cases the freight to San Francisco from point of shipment is to be deducted from the government terminal price in fixing the value of the wheat at loading point: i. e., all wheat shipped to San Francisco Bay terminals is valued on San Francisco basis, delivered in a terminal warehouse.

Hens, extra, per lb. colored	.30 @ 32c
do, Leghorn	.28 @ 28c
Smooth young roosters, per lb. (3 lbs. and over)	.45 @ 48c
Old roosters, colored per lb.	.22 @ 23c
Geese, young, per lb.	.25c
do, old, per lb.	.25c
Squabs, per lb.	.48c
Ducks, young	.25c
do, old, per lb.	.25c
Belgian hares	.13 @ 14c
Jack rabbits	\$.25 @ 3.50

BUTTER.

July 1, being a legal holiday, the Exchange was closed, and this week's report closes with Monday's quotations. The price of butter declined a cent and a half from Saturday's quotation on Monday. The receipts in the San Francisco market during the past week were about 15 per cent greater than the previous week. Approximately a third of last week's receipts went into cold storage. At the present time there are 1,618,269 pounds in local storage. There are no official figures available for comparison with the amount in storage locally last year at this time, but in the four principal centers of the East the records show an increase of butter in storage of approximately 100 per cent over the previous year.

Extras	52 1/2	52 1/2	53	51 1/2	
Prime firsts					None
Firsts	50	50	50	50	

EGGS.

Extra eggs were a half-cent lower this week and pullets declined two cents from last week's close. There has been no official report of shipment of eggs outside the State during the week. The receipts have been steady, with an inclination to fall off. With hot weather coming in the valleys it is expected that production will show a decline. From this viewpoint it would appear that eggs were more likely to advance than to go lower.

Extras	49	49 1/2	49 1/2	49 1/2	
Firsts					Nominal
Ex. pullets	42	43	43	41	

CHEESE.

Trading in cheese was about normal this week, with a fair demand reported. Y. A. closed a half-cent up. Fancy flats advanced a half-cent during the week but did not hold this figure at the close. The records show 970,725 pounds of cheese in the local cold storage.

Fancy California flats, per lb.	.28 1/4c
do, Firsts	.27c
California Y. A., fancy	.31 1/2c
Oregon Y. A.	.33 1/4c
Oregon Triplets	.34c
Monterey cheese	.22 1/2 @ 24c

FRESH FRUITS.

The market is quiet and shows the effect of the holidays and also of the efforts of many people in helping San Francisco go dry. Cherries are getting near the end of their season, and the prices are stiffening in consequence. The Imperial cantaloupe season is also approaching a close and prices have advanced. Berries were somewhat weaker and a material reduction was made in the price of blackberries. Figs continue to decline in price and are now at their lowest. Grapes are beginning to come in. Malagas sold at \$2 to \$2.50 per Los Angeles lug, and seeders at \$2.50 to \$3 per box of 25 pounds.

California apples	\$3.00 @ 4.00
Northwest apples	3.00 @ 4.00
Peaches	.40 @ .75
Apricots	\$1.00 @ 1.50
Plums	1.25 @ 1.75
Figs	.50 @ .65c
Strawberries, chest	\$1.00 @ 1.40
Raspberries	12.00 @ 14.00
Loganberries	7.00 @ 10.00
Blackberries	7.00 @ 9.00
Currents, chest	10.00 @ 13.00
Gooseberries	.8 @ 10c

Cherries—	
Royal Anne	.10 @ 12c
Black, bulk	.10 @ 15c
White, bulk	.6 @ 8c
Cantaloupe, Standards	\$2.50 @ 3.00
do, Ponies	2.25 @ 2.75
do, flats	1.25 @ 1.50
Watermelon, lb	.2 @ 2 1/4c

CITRUS FRUITS.

Oranges and grapefruit were slightly lower this week, but there was no change in lemons, which continue to be in excellent demand. Oranges, Valencia \$3.50 @ 5.00
Lemons, fancy \$6.50 @ 7.00
do, choice 5.50 @ 6.50
do, standard 4.50 @ 5.50
Lemonettes 3.50 @ 4.50
Grapefruit 3.50 @ 4.25

DRIED FRUITS.

Prunes jumped from a half to two cents this week, and pears advanced a cent. Buying continues to be steady and some of the growers are inclined to hold out for still higher prices. This attitude is generally discouraged, and it is believed that prices have about reached the limit, especially for domestic consumption, and it is doubtful if the export trade will continue to pay any more increases in price.

Apples	.17 1/4 @ 18c
Pears	.18 @ 20c
Peaches	.14 1/2 @ 15c
Apricots	.23 @ 25c
Prunes	.13 @ 15c
Figs, Adriatic	.14 @ 18c
do, Calimyrna	.15 @ 20c

RICE.

Rice generally is very firm. With practically no paddy available it is reported that as high as \$7 has been bid in some instances. Fancy Japanese has sold as high as \$12 during the past week, but if these prices had brought out any considerable amount there is no doubt that they would have receded at once.

HONEY.

None of the present crop of honey is coming into this market and the local market may be said to be wholly inactive. The quotations below are those established by the Honey Association, but it cannot be learned

that any San Francisco dealer is buying at these figures.

Water White, Orange Blossom.....18c
White to Water White, sage (Subject to production).....17c
Light Amber Mountain (Sage-Buckwheat) 14c
Light Amber Alfalfa.....11c

LOS ANGELES.

Los Angeles, June 30, 1919.

BUTTER.

This market shows a further decline in price since last week. Price advanced 1c on the 27th and on the 30th dropped to 55c. Receipts are lighter than for sometime but demand continues good. Receipts for the week, 325,300 lbs.

California extra creamery.....55c
do, prime first.....53c
do, first.....52c

EGGS.

The egg market advanced again since reported last week. Receipts are lighter but the demand is holding up well. Receipts for the week, 1,350 cases.

We quote:

Fresh ranch, extra.....51c
do, case count.....50c
do, pullets.....44c

FRUIT

Cherries in fair demand and quoted higher. Raspberries and Loganberries reported lower and selling very well. Plums slow sale. Receipts continue good.

We quote from growers:

Cherries, lb.....13@16c
Gooseberries, lb.....10@11c
Apricots, lb.....3@5c
Strawberries—
30 basket crates, fancy.....\$4.00@4.50
Poor to choice.....3.00@3.75
Blackberries, case 30 boxes.....2.50@3.75
Raspberries, case 30 boxes.....3.00@3.50
Loganberries, case, 30 boxes.....2.50@3.00
Plums, Beauty, lb.....5@6c
do, Climax.....4@7c
do, Santa Rosa.....6@7c

VEGETABLES.

All staples in good demand and selling lower. Receipts now satisfactory and all offerings being taken at quotations.

We quote from growers:

Potatoes, new, per cwt.....\$1.85@2.00
Onions, New Red, per cwt.....\$3.50@3.75
do, Stockton yellows, per cwt.....4.00@4.25
White silver wax, cwt.....\$5.00
Cabbage, per 100 lbs.....75c@1.00
Rhubarb, per 30-lb. box.....\$1.25
Summer squash, lug.....40@45c

Peas, per lb.....8@10c
Kentucky Wonders.....6@7c
String Beans, Wax.....6@7c
do, Green.....6½@7c
Tomatoes, 4 basket crate.....\$1.75@2.00
Cucumbers, local, lug box.....\$1.00@1.50
Lima Beans, Imperial Valley, lb.....13@14c
Cantaloupes, Stand. & Pony crates \$2.35@2.50
Watermelons, 100 lbs.....\$1.25@1.60
Lettuce, crate.....50@60c

BEANS.

Fair demand for blackeyes which are quoted higher. On all others it is dull and prices unchanged.

Limas, per cwt.....\$8.00
Large white, per cwt.....8.25
Pink, per cwt.....8.50
Small white.....8.25
Blackeyes, per cwt.....\$3.50@3.75
Tepary, per cwt.....\$2.00@2.50

POULTRY.

Receipts of broilers and fryers good, but demand taking the supply. Heavy hens are scarce, steady and selling fairly. Too many light hens coming in and dull and lower. Turkeys and ducks dull but unchanged.

Broilers, 1 to 1½ lbs.....24c
Broilers, 1½ to 1¾ lbs.....27c
Fryers, 2 to 3 lbs.....32c
Roosters (soft bone), 3 lbs. and up.....24c
Stags and old roosters, per lb.....14c
Turkeys.....34@40c
Hens.....22@28c
Ducks.....23@26c
Geese.....25c

HAY.

Choice alfalfa in very good demand and market firmer. Grain hay still very dull. All quotations unchanged since last report.

We quote f. o. b. Los Angeles.

Barley hay, per ton.....\$18.00@21.00
Oat hay, per ton.....\$20.00@22.00
Alfalfa, Northern, per ton.....\$20.00@22.00
Alfalfa, local, per ton.....\$21.00@23.00
Straw, per ton.....9@10.00

ALFALFA GROWERS OF CALIFORNIA, INC.

The following quotations are furnished by the Alfalfa Growers of California, Inc., 525 Central Building, Los Angeles, Cal., for the week ending June 30th, f. o. b. cars Los Angeles.

No. 1 Dairy, ton.....\$25.00
Standard Dairy.....\$22.00@23.00
Standard Alfalfa.....18.00@19.00
Stock Alfalfa.....12.00@16.00
Barley hay, choice.....\$21.00@22.00
do, No. 1.....18.00@20.00
do, Standard.....15.00@17.00
Oat hay, choice.....\$24.00@26.00
do, No. 1.....20.00@22.00
do, Standard.....18.00@19.00

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, July 1, 1919.

The settlement of the New York teamsters' strike forestalled what otherwise might have resulted in heavy losses to the fruit interests of California.

A few shipments of Bartlett Pears have been made from the Sacramento River and we look for the heavy movement to commence next week. The quality is exceptionally good, and we anticipate a firm demand throughout the season. The canners are very active, but we believe there will be practically as many Bartletts shipped East this year as there were last year.

Texas and Oklahoma Peaches not only are arriving in larger quantity, but the condition of this fruit is weak, which has a tendency to lower the market.

The plum market remains steady and as the crop is short, we believe that there will be a firm demand for this variety, for the balance of the season.

Shipments of Thompson Seedless Grapes are now moving from the Imperial Valley, and if the quality is good and the berries have the required sugar content, we anticipate an exceptionally strong market.

Averages for the week:

NEW YORK—Tartarian Cherries, \$1.80; Bings, \$2.57; Royal Anne Cherries, \$2.67; Republicans, \$2.30; Formosa Plums, \$3.36; Beauty, \$3.11; do, lugs, \$4.00; Climax, \$3.35; Clyman, \$2.37; Comet Pears, H-B, \$3.05; Peach Apricots, \$2.45; Royal Apricots, \$2.29; do, lugs, \$2.75; Moorpark, \$2.10.

CHICAGO—Formosa Plums, \$2.50; Climax, \$2.20; Santa Rosa, \$2.40; Shiro, \$1.95; Burbank, \$2.07; Tragedy, \$2.69; Clyman, \$1.59; Beauty, \$2.09; Botan, \$1.25; June, \$1.85; Royal Apricots, \$2.18; Peach Apricots, \$1.55; Triumph Peaches, \$1.27; Alexanders, \$1.06; Republican Cherries, \$1.65; Bings, \$2.14; Royal Annes, \$2.35; Wilder Pears, H-B, \$2.80.

BOSTON—Beauty Plums, \$2.80; Clyman, \$1.96; Formosa, \$3.20; Climax, \$2.66; Santa Rosa, \$3.15; Burbank, \$2.05; Shiro, \$1.95; Red June, \$1.65; Tragedy, \$3.60; Maynard, \$2.65; Alexander Peaches, \$1.24; Royal Apricots, \$1.73; do, lugs, \$2.25; Moorpark, \$1.37; French Apricots, \$2.30; Oregon Cherries, \$2.38; do, lugs, \$2.95; Lamberts, \$2.25; Tartarians, \$2.37; Royal Annes, \$2.56; Republicans, \$2.42; Bings, \$2.68.

do, 250 to 300.....18c
do, 300 to 400.....17½c

Los Angeles, July 1, 1919.

CATTLE.

This market still lower since reported a week ago. The offerings are liberal and the market continues dull.

Per cwt. f. o. b. Los Angeles:

Beef, steers, 1000@1100 lbs. \$9.00@10.50
Prime cows and heifers.....7.50@8.50
Good cows and heifers.....7.00@7.50
Canners.....5.00@5.50

HOGS.

No change noted in this market since last week. The demand is light and prices steady.

Per cwt. f. o. b. Los Angeles:

Heavy average 275 to 350 lbs \$15.50@16.50
Heavy average 225 to 275 lbs 16.50@17.50
Light.....17.50@18.00
Rough docked 20 lbs. piggy sows 40 per cent.

SHEEP.

All quotations the same as last week. Prices are steady and the demand reported fairly good.

Prime wethers.....\$ 8.50@ 9.50
Prime ewes.....8.00@ 8.50
Yearlings.....8.50@ 9.50
Lambs.....12.50@13.50

PORTLAND LIVE STOCK

Portland, Ore., June 30, 1919.

CATTLE—Lower: receipts, 1931. Steers, best, \$10@10.50; good to choice, \$9@10; medium to good, \$8.50@9; fair to good, \$7.75@8.25; common to fair, \$7@7.50; good to choice cows and heifers, \$8@8.50; medium to good, \$7½@7.75; fair to medium, \$4.50@5.50; canners, \$3@4; bulls, \$5@7.50; calves, \$9@13.

A BIG VOLUME

Last week's issue completed the 47th volume of the Pacific Rural Press, which has seemed to us to be the best of any of its predecessors. We think the contents of the paper during those six months were more valuable as well as more newsy than ever before, and the subscribers evidently agree, as never before have we received so many new unsolicited subscriptions, or had so few discontinuances. Certainly the volume was larger—it contained a total of 984 pages—160 more pages than the largest previous volume. In point of business carried, it was also a record breaker. During the six months we printed 2203 columns of paid advertising as against 1929 columns for the same time by our nearest competitor. During the past six months this journal contained 984 pages, and its nearest competitor printed a total of 822 pages. The Pacific Rural Press is California's oldest, largest, and best farm journal.

We ask the continued patience of those anxiously awaiting the new edition of "California Fruits." Prof. Wickson is devoting all of his time these days to editing the Rural Press and revising the next edition of his book. Preparations are now about complete to reprint the eighth edition of "California Fruits," which we hope to have ready by September 15th.

HOGS—Higher, record prices equalled and further rise looked for. Receipts, 1806. Prime mixed, \$20.25@20.75; medium, \$19.50@20; rough heavies, \$18.75@19.25; pigs, \$18@18.50.

SHEEP—Steady, receipts 254. Prime lambs, \$11.50@13.50; fair to medium, \$9@10; yearlings, \$6@9; wethers, \$7@8.50; ewes, \$6@8.

EASTERN.

Chicago, June 30, 1919.

HOGS—Receipts, 56,000; estimated tomorrow 37,000; closed strong, but 15c to 25c lower than Saturday. Bulk, \$20.00@21.35; heavyweight, \$20.85@21.25; medium weight, \$20.50@21.40; light weight, \$20.60@21.40; light light, \$18.75@21.00; heavy packing sows, smooth, \$20.00@20.60; packing sows, rough, \$19.00@19.85; pigs, \$17.50@18.75.

CATTLE—Receipts, 22,000; estimated tomorrow, 13,000; weak. Beef steers, medium and heavyweight, choice and prime, \$14.50@15.50; medium and good, \$12.35@14.60; common, \$11@12.40; light weight, good and choice, \$13.40@15; common and medium, \$10@13.50. Butcher cattle, steers, \$7.75@13.50; cows, \$7.40½@12.25; canners and cutters \$6@7; veal calves light and handy weight, \$17.25@18.25; feeder steers, \$9.25½@12.75; stocker steers, \$8@12.

SHEEP—Receipts, 22,000; estimated tomorrow, 13,000; unsettled; lambs, 84 pounds down, \$15@17.50; culls and common \$8.50@14.50; yearling wethers, \$10.25@14; ewes, medium, good and choice, \$6.50@8.75; culls and common, \$2.50@6.

\$125,000,000 FRUIT CONCERN.

The organization of the American Fruit Growers Inc., is announced at Washington, D. C.—a \$125,000,000 corporation for the growing and distribution of fruit. Chas. J. Brand, Chief of the Bureau of Markets of the Dept. of Agriculture has resigned to head the new concern. The company has already bought fruit growing properties in Wenatchee and Yakima Valleys of Washington, in the Corona citrus belt and the Lodi grape region of California; the apple regions of the Appalachians and in Southern Illinois; the peach regions of Arkansas and some of the citrus sections of Florida.

COTTON FORECAST AT 10,986,000 BALES.

At Washington, July 1, Cotton production this year was forecast at 10,986,000 equivalent of Agriculture, basing its estimate on the June 25 condition of the growing crop, which was 70.0 per cent of a normal, and an area of 3,960,000 acres under cultivation on that date.

The acreage and condition on June 25 for California was 169,000 and 99.

HOGS SELL AT HIGHEST KNOWN PRICE.

At Chicago, July 1st, hogs sold for \$21.75 per hundred weight. The previous top record was last year \$19.40. The strength in the hog market was ascribed chiefly to export demand for packing house products. Before the United States entered the great war \$10.25 was the acme for hogs in July.

Classified Advertisements

Rate in this directory, 3c. per word each issue.

MISCELLANEOUS.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weisbaum Pipe Works, 160 Eleventh street, San Francisco.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

CORN HARVESTER—One-man, one-horse one-row, self-gathering. Equal to a corn binder. Sold to farmers for twenty-three years. Only \$25, with fodder binder. Free catalogue showing pictures of harvester. Process Corn Harvester Co., Salina, Kan.

AGENTS—Mason sold 18 sprayers and Autowashers one Saturday. Profits, \$2.50 each. Square deal. Particulars FREE. RUSLER COMPANY, JOHNSTOWN, OHIO.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

PATENT ATTORNEYS.

WEBSTER, WEBSTER & BLEWETT, Savins and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

FOR SALE AT A BARGAIN—75 h.p. Holt Caterpillar tractor, used six (6) months; 3 Caterpillar light disc engine plows; 1 10-foot Holt leveler. All in excellent condition. Write Simon Newman Company, Newman, Cal.

BEES FOR SALE—Golden Italians in patent hives. John G. Mee, St. Helena, Cal.

FOR SALE—One fruit-cutting machine, in first-class order. R. R. Beard, Vacaville.

WANTED.

WANTED—Married dairyman; experienced in feeding, testing, calf-raising, use of milking machines, gas engines, etc. Sunnybrook Ranch, Willits, Calif.

WANTED—Married ranch foreman, experienced in deciduous orchards and general farming. Give references. E. D. Farrow, West Oak St., Visalia.

COUNTRY LANDS.

\$35,000—85 acres, 50 yards from school; county road on two sides. 10 room house (hot and cold water), 3 wells, windmill and tank, new gas engine and pump; barn, chicken and brooder houses; 2 horses, 1 cow, 350 chickens; 300 fruit boxes, 200 trays; complete set of implements to run place, including 4 wagons, \$250 power spray pump, cider press, etc.; garage and work shop. Average income \$5,000 per annum. Will guarantee \$7,000 crop this year. 2 miles from Windsor station between Santa Rosa and Healdsburg, Sonoma county. 30 acres prunes, of which 18 acres bearing, balance 3 to 5 years; 1 acre peaches; 10 acres apples; 2 acres pears; 14 acres resistant vines; plenty of berries, beans, corn, potatoes, etc. About 30 acres of this is deep, rich bottom land with plenty of water to irrigate, if necessary. Mortgage, \$12,000 5%, can remain. Umben, Kerner & Eisert, 20 Montgomery St., San Francisco.

334-acre State Road.
Middle West Farm, \$5000.
Splendid 10-room residence, steam heat, improvements, house alone estimated worth \$7000, large barns, etc., near bustling railroad town and only 8 miles large city. Productive loam tillage, stream-watered 50-cow pasture, wood, timber, apple orchard. Borders beautiful river, motor bus passes door. To settle now, low price \$5000 gets all; only \$1500 down, easy terms. Details page 78 Catalogue bargains 1919 States, copy free. STROUT FARM AGENCY, 831 A. F., N. Y. Life Bldg., Kansas City.

\$16,000.00—80 acres on Honey Lake Valley, Lassen county. All under cultivation. Alfalfa seed, hay, and grain; under good irrigation system. Good improvements. 2 miles from postoffice and bank. School, 1½ mile; high school, 15 miles; S. P. depot, 3 miles. Daily trains. A good buy. Cash only. Have other business prospects. Write to Box 280, Standish, Lassen Co., Cal.

FOR SALE—10 acres of fine land, containing a well-equipped chicken hatchery. Good house and improvements. 7 acres in young prune trees. For particulars, inquire of Box 693, Hollister.

WHEAT--

Government Guarantee

Write us for Bulletin giving full particulars of method of handling the coming crop.

WESTERN PACIFIC GRAIN COMPANY

Successors to

SPLIVALO, McLEAN & CO.

Merchants Exchange Bldg.,
San Francisco, Cal.



ELLIOTT-BRANT RANCHO
 Breeders of Registered Guernsey Cattle,
 D. O. Brant, Manager Dairy Dept.
 Owensmouth, Cal., Oct. 22, 1918.
EMPIRE CREAM SEPARATOR COMPANY,
 Denver, Colorado.

Gentlemen: We have been using our "Empire" Milker for five months and you may be interested in the results we have had with it.

It has been a great aid to the labor problem during these war times when all labor and especially hand milkers are very unreliable. All our cows are registered and half the milking herd are on official test. Being milked three times a day, which practice we have found gives us about a 20 per cent increase in production. Two men with three single units milk 50 cows three times a day and 20 more cows twice a day, weigh their milk and record it and take care of their machine with great ease. Two men could not do this amount of milking and stick at it long, by hand.

But there is something more than just the amount of work they can do with the machines, it takes away their work easier and more pleasant. It takes away their "I've got you where I want you" attitude and it removes that constant worry that all cow owners experience—the fear of being left in the lurch, for any one of a number of men about the dairy can operate the machines on a minute's notice. The same man is a better man with the machine.

If the machine is carefully washed each time it is used and the pail sterilized in steam and the rubber parts kept in chlorinated water, milk with very low bacteria count is produced and it contains much less stable dirt.

As for production, we have found that heifers milking for the first time, take readily to the machine and there is some evidence that they do even better than they would by hand, probably because they do not have to go through a change in the style of milking and because short teats do not matter. Heavy producers take to the machine with less drop in their production than other cows that are not producing heavily. Our cows took very readily to the machine on the whole but some were slow. The machines will operate satisfactorily if the man operating them will make them.

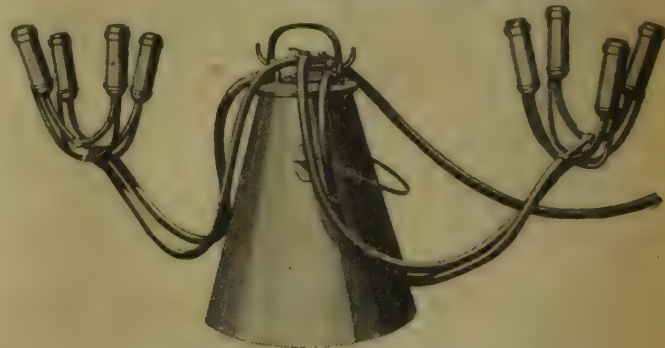
(Signed) D. O. BRANT.

"A Great Aid to the Labor Problem"

—so says D. O. Brant, manager of the Dairy Department of the Elliott-Brant Rancho, the well-known breeders of Registered Guernsey Cattle (see letter on right). Their 70 cows are handled by two men, and 50 of these 70 cows are milked three times a day instead of twice! It simply couldn't be done regularly by two men by hand milking.

Again, the Elliott-Brant people, in contest with winners from the National Dairy Show, were awarded the highest score ever given any milk or cream in this country at the recent milk test conducted by Government Officials at the Liberty Fair at Los Angeles, Cal. The Empire Milking Machine is without question a big help in the production of high-grade milk, since contact with stable air and dust is eliminated—the milk flows directly from the teats to the air-proof milker pails. Decide now to get better, cleaner milk and to cut the cost of producing it. Write for our catalog No. 45 or see the nearest Empire dealer.

The above is just one out of hundreds of letters endorsing the EMPIRE MILKING MACHINE



The EMPIRE Double Unit Milking Machine.
 Also in Single Units.

EMPIRE CREAM SEPARATOR COMPANY, Bloomfield, N. J.

Chicago, Denver, Atlanta.

Montreal and Toronto, Canada

Also manufacturers of EMPIRE Cream Separators and Gasoline Engines.

EMPIRE

MILKING MACHINES

THE PACIFIC RURAL PRESS

SAN FRANCISCO

JULY 12, 1919

LOS ANGELES

California State Lib 71-23

Wanted--More Milk-Fed Americans.

Written for Pacific Rural Press by R. H. Whitten.



OO LONG HAVE WE CLASSED MILK as a beverage, butter as a lubricant, cheese as a condiment, and ice cream as a confection. It is time for the public to understand the value of the dairy cow and learn to think of her as a producer of real foods of the most vital importance.

That was the Big Idea expressed at the first annual meeting of the California Dairy Council, held in San Francisco last Tuesday and Wednesday. The Council was organized several months ago and the veteran creamery man and dairy farmer, Sam H. Greene, was made manager. Since then Mr. Greene has been quietly conducting a membership campaign, and the movement has received such enthusiastic support that the time for putting across the Big Idea has arrived.

So an interesting program was prepared for this meeting, and the speakers included Dean Thos. F. Hunt of the College of Agriculture; Prof. H. E. Van Norman of the University Farm; Dr. Wm. C. Hassler, San Francisco Health Officer; Wm. T. Boyce of the U. S. Department of Labor; Senator E. S. Rigdon, Hon. Frank J. Cummings, and other authorities closely connected with various phases of the dairy industry.

For it must be understood that this Council is not an organization of dairymen alone. Included among its active members are purebred breeders, commercial dairymen, manufacturers of butter, cheese, ice cream and condensed milk, retail distributors, dealers of dairy

produce, machinery and equipment, millers and bankers. And among the associate members are educators, health officers, officials of women's clubs, civic bodies, labor organizations, and retail food distributors. For are not all of these individuals interested in dairy products somewhere along the line from producer to consumer?

The Council is not a producing, manufacturing, or selling organization. Its work is purely educational and legislative. It does not compete with any existing organizations, but instead includes all of them in its membership and works for the good of all. Its work is conducted along three main lines: first, educating the public to the food value of dairy products and increasing their consumption; second, helping the dairyman to increase production, reduce expenses and enlarge his profits; third, providing a common meeting ground, or forum, where all the different interests dependent upon the dairy cow or benefited by the use of her products may meet together, air their grievances and adjust their differences.

A Nation-Wide Movement.

This is not a new, untried scheme. The California Dairy Council is affil-

iated with the National Dairy Council, which was organized in Chicago November 5, 1915. There are a large number of State councils and most excellent work has already been done by many of them. In Des Moines, at end of the first week of an advertising campaign, the dairies reported increases of from 7 to 20 per cent in the amount of milk sold, and the consumption of cottage cheese increased over 500 per cent. In Minneapolis the campaign was carried right to the schools, and 50,000 children were shown the relative comparisons of dairy products and other foods. The parents' and teachers' associations were included; exhibits were placed in department store windows; posters were hung in conspicuous places, and educational films were shown in 125 moving-picture houses. In Milwaukee a practical comparison was made of children receiving plenty of milk and those having very little or none, and the former were found to be in much

better physical and mental condition. In Detroit a campaign increased the consumption of milk 20 per cent and buttermilk 50 per cent. In Seattle a "Dairy Day" was held, which resulted in an increased consumption of dairy products, and later on the school authorities arranged to supply milk to pupils who needed it. Wonderful results followed. Restless pupils became quiet; there was increased attention to their studies; and at the clinics it developed that they were building up physically.

The Start in California.

At the recent meeting of the California Dairy Council plans

for the coming months were outlined, and very soon a campaign will be started similar to those which have proved so successful in other States. Capital will be made of the knowledge that has recently been brought to light by Dr. E. V. McCollum and others regarding the food value of milk, and it will be persistently kept before the public through all available channels of publicity. Dr. McCollum has found that dairy products contain a vitamine which is absolutely necessary to the proper maintenance of human life, and that persons when deprived of it become weak, torpid and prone to disease. He has found, too, that milk is one of the best all-around foods for adults as well as children.

The movement to increase the consumption of dairy products has begun and the work will be done, just as successfully as it was done by the citrus people in increasing the per capita consumption of oranges 71 per cent in ten years with only a 21 per cent increase in population. When the plans outlined at the recent conference are put through the value of dairy products will be so raised in the estimation of the people that they will consume them liberally, and will pay a price which will give the dairymen a sufficient margin of profit.



The cow is a most wonderful laboratory. She takes the grasses of the pasture and the roughage of the field and converts them into a most perfect food for man. In that food there is a mysterious something which scientists have found essential to the highest health of the human race, and which can be found nowhere else. Men have sought the fabled Fountain of Youth for centuries. The nearest approach to it is the udder of the cow. Without her products children languish, the vigor of the adult declines, and the vitality of the human race runs low.—Frank O. Lowden, Governor of Illinois.

PACIFIC RURAL PRESS

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Copy for change of advertisements must be in office on Monday preceding date of issue. New advertising copy must reach the office by Tuesday p. m.

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NEW YORK OFFICE - - - - 381 Fourth Ave.
CHICAGO OFFICE - - - - Conway Bldg.

EDITORIAL STAFF

E. J. WICKSON - - - - Editor
R. E. HODGES - - - - Assistant Editor
J. O. J. FOX - - - - Horticulture
R. H. WHITTEN - - - - Livestock

EDITORIAL.

EDITORIAL PRIVILEGE.

We desire to inform our readers briefly of the work of a facile liar, who is now infesting the California countryside in the interest of a rival journal. We are informed by several subscribers that this slick slanderer is manifesting particular interest in our personal career and freely sharing with the public his ideas of our achievements. Sometimes he merely mournfully pictured us as being now retired to well-earned seclusion, while a bunch of play-writers has been secured by the publisher to keep this journal going. Sometimes—

"The big round tears

Coursed one another down his innocent nose
In piteous chase."

—as he reported us dead and sobbed some comfort from the retention of our name at the head of the editorial columns as a fitting decoration of our tomb! These and other slanders concerning the re-issue of our horticultural books are being circulated by this glib calumniator to rob this journal of its good name and to divert from it the increasing patronage and support which are now naturally flowing to it as the recognition of nearly half a century of service in the promotion of California farmers and farming interests. It is very coarse lying, because it is common experience that an institution like the Pacific Rural Press will continue and will grow in popularity because of the value of the work it is doing and no misrepresentation can prevail against it. So far as our personal connection with this work is concerned, it is very silly lying, because everyone knows that the onward course of an efficient public journal is not dependent upon the limitations of any individual. Still, as this freak falsifier seems to think that he can get away with some swag by lying about this writer, we desire to state frankly that we have never before done as much work for these columns as we are doing now, nor have we ever had such keen delight and satisfaction in doing it. And while, of course, we know no more than any other man knows, how soon we may have use for a monument and an inscription, the prospect clearly is that we shall be gaily carrying on with this popular endeavor long after the moral pervert who is slandering us enters into his rest in some county jail. We claim the privilege of asking our readers to take note of his performances and help protect the people from being imposed upon by them.

E. J. Wickson

THE PREENING OF THE PRUNE.

AS WE glided along the tessellated aisle of our favorite cafeteria the other morning and were just beginning to wireless to our willing heart the glad welcome which suffused the faces of the dispensing damsels behind the rows of overflowing trenchers, we happened to catch the burning gaze of the particularly queenly wielder of the mush-ladle—which, of course, caused our glance to fall modestly and enquiringly. As our vision sank from the conflagration aforesaid, we started with a thrill as our new line of sight pierced this price-card:

PRUNES, 10 CENTS

And there they surely were: five stewed prunes of the 60-70 variety nearly submerged in a sea of gory goo, offered to the public at this exalted rate, while saucers of apple-sauce and other pomological slumgullions were priced at 6 cents, and whole bananas, halves of orange and grapefruit, and slices of pineapple were also available at the lower figure! Our delight in our attractive environment was forgotten: all our senses and our discriminating judgment ceased to act as we stood in wrapt adoration of the exalted prune! Here was an organism, once held common and lowly, pinnacled above all the fruity host! Here were five small plums such as grow in our backyard and are easily cured in the sun on the roof of our henhouse, out-valuing all the other fruits—even those which come from beyond the seas and have braved all Maskewian terrors in their approach. It seemed beyond credence that the prune, after serving so long as the symbol of dietary monotony and ineptitude, that nice but rather naughty Mary Pickford, when impersonating a foundling in an orphanage could only describe her life as "just one darn long prune," should have attained such cafeterial queenship of all the fruits. And yet, so it was: the day of the prune has dawned, or, as we may say, the prune has turned!

THE USES OF ADVERSITY.

"Sweet are the uses of adversity," sang the Bard of Avon—and obviously thus they should be when adversity strikes a cured prune, which is often more than one-half sugar. But sweeter far than the millions of pounds of saccharine substances which the depression of prune prices made widely available for the nourishment and medication of the world, were the uses of adversity which made prune producers conscious of the fact that they had attained to the achievement of a great industry, and that it was up to them to be more than pickers, prickers, dippers and spreaders of plums with which packers and jobbers waxed wealthy while they themselves, though actual producers of the wealth, fared worse than hirelings. It was adversity indeed and it required more than two decades of consecutive, though not well-connected, co-operative efforts to escape from the clouds of it. However, the day of fair returns to producers dawned upon the crop of 1915, through the efforts of the Prune Growers' Committee, and full day followed in the achievements of the Prune and Apricot Growers' Association. In this way the uses of adversity became sweet—for it was the very hardness of the yoke of commercial bondage which nerved the prune producers to throw it off. And it happened to have been done just at the most opportune moment, for through the work of the Association the upward course of prices, which war demands caused, yielded its net returns to the growers of prunes and not to the gamblers therein. It would be difficult to over-draw the hardships which the war would have brought to producers had it not been for their co-operative organization. In 1915 it saved them from a slump which dealers declared the exclusion from the European markets would inevitably occasion. In the three following years producers would probably have netted only pitifully because between the increasing cost of labor and supplies and the unyielding pressure of the packers to secure the crop, the growers would have gone through three crop years as limp overalls emerge from the mangle of a steam laundry—with gaping fundaments and pockets full of buttons. Quite in contrast has been the joyous, whole-seated prune-grower since he learned to do his own selling as well as producing. The whole aspect of the Santa Clara valley has taken on new colors—as, perhaps, the map of Europe will assume them under the beneficent application of the league of nations covenant! The producers are learning to defend themselves against autocratic rule from both below and above. New light and life are to be discerned all through the countryside. It is confidently believed that if the observers on Mt. Hamilton will train their instruments downward they will discover many more shooting stars on the floor of the valley below, as the headlights of the prosperous prune growers flash their beams through the tree-bordered, rural highways, than they can

describ in the midnight skies above them. And if the astronomers above will listen as well as look they will also become aware that the tinkle of the tin-lizzies, in which the growers fly from the movie-palaces of San Jose to their orchard homes, actually fills the whole valley with melody more cheering and humanly comprehensible than the music of the spheres. "Sweet are the uses of adversity"—but one must learn how to use it!

WHAT ADVERSITY DID FOR PRUNES.

Prune growers were at the bottom of their adversity in 1900. The more prunes a man had on his trees the worse off he was because he was tempted to pay out money to gather and cure them, which he never could recover. We remember listening to a man who had done it and we tried to change the current of his gloom by asking if he could not do better with the large sizes at least. "Oh, yes," he said, "I like the large sizes a little better. In this delightful fall weather I am sleeping out in the yard and I keep a box of large prunes near the head of my cot. The cats bother me some with their moonlight sonatas and I can throw a big prune straighter than a small one. Yes, on the whole, the big ones do a little better for me."

It was a slough of adversity, and yet—have you ever studied a mudhole at a point where a newly cut roadway has hit upon a little spring: how the traffic churns the dirt into a bog which all moving things skirt around if possible. Have you noticed how there will seem to be a little thrill in the water at some point, and perhaps a few bubbles rising to the surface? And have you watched until there came at that point a clearing in the the water through which you could see the spring discharging now and then its pure contents and constantly widening its sphere of influence until if no disturbance intervenes, the mudhole becomes a crystal pond? It was adversity which sent the plow-point into the natural channel through which a little trickle of water was pushing along beneath the surface. It was a use of adversity which sweetened the pond and disclosed an opportunity for later work to lead the water to serve some beneficent wayside purpose.

It was the adversity of 1900 which pointed out the way to the prosperity beginning with the achievement by the Prune Growers' Committee of 1915. It was not a revelation of purpose or of method; they were born to the small local co-operations which preceded the disaster of nineteen years ago. It was not a demonstration of success, for the outcome of the effort of 1900 was at the time a calamity and was followed by a decade and a half of discouragement and depression. The adversity of that year was crushing, but the last uses of it were sweet.

THE PERILS OF PROSPERITY.

So far as we can now remember, no poet has ever found any candy in the uses of prosperity. Both poets and preachers seem to regard them as dangers and menaces to the soul—even though they do describe them sometimes as possible joys to the mind and body of a man. Prosperity seems to have about the same relations to prunes. When there are so many prunes in sight and so few orders for them that packers do not think it worth while to call a grower by his front name, the growers go off by themselves and do something for themselves. When there are few prunes visible and many orders for them, the packers go after them with racing super-sixes and the growers, who the previous year denounced all packers as land-pirates, are apt to be swinging on their gates as they approach, with fingertips pointing to their lips—like merry maidens waiting to be wooed. Such are the perils of prosperity. Growers who fore-sware the packers when prices pinched are apt to forget their oaths and signatures when buyers offer them fractions above whatever price their association shall fix and allow themselves to be tempted to break their agreements and to be led captive as Timothy describes it, like "silly women laden with sins, led away with divers lusts."

Such are the weaknesses of mankind that adversity draws ordinary men of similar sufferings and necessities together and prosperity spreads them apart—even though it was united action born of

adversity which created the prosperity. It is not that way with deep-thinking, resolute men, for when they unite to secure prosperity for themselves the attainment of it binds them more closely together—until the courts are invoked to unscramble them. All our co-operative marketing associations have in some form or other encountered the disintegrating tendency of their own successes. This is because all co-operations include many people who do not think or see deeply, and therefore do not discern that the currents of trade may be under-cutting the abutments on the prosperity bank of the very bridge which carried them over to it. Fortunately, this weakness of the flesh has not been able to undermine the spirit of our great agricultural co-operations so that disaster has befallen them, but such weakness has always limited their operations and successes, and resolute effort has always been necessary to safeguard their own victories and to prevent the irresolute from yielding to temptations which, if freely indulged in, would plunge their whole outfits into the stream of disorganization and cause their industries to cantilever again from the adversity side.

THE PRUNE MUST REACH NEW OBJECTIVES.

The California prune interest is great, productive and widespread throughout the State. The beautiful Santa Clara valley, in which it was first domiciled and which now supplies more than half its production, will not be in the future so preponderatingly its habitation and warehouse—if prune-growers maintain the mastery of its trade as they have during the last five years. In fact the prune industry promises to encompass all the valleys of the State, both coast and interior, and to be larger and more wide-spread than any other fruit specialty of California. It can successfully use lands which many other fruits refuse and at the same time profitably use lands which delight most of them. It has advantages over most other fruits in greater ease and economy in the protection and promotion of the tree and in the gathering and preparation of its product, and it has wider scope and opportunity in the marketing thereof. It has only one rival in the ambition to world-recognition as a staple food—and that is the raisin, which can claim no such breadth of adaptation to local producing conditions of soil and climate. It is therefore in a glorious pomological and industrial sense that it may ere long appear to the outside world that California is "just one darn long prune"!

For the attainment of these objectives it is indispensable that the State at large consider the prune as its own affair, and lend its full influence to the promotion of its production and the prosperity of its producers and the prevention of the perils which that very prosperity seems to invite. We recently cited, in the columns devoted to the fruit interests, the fact that the directors of the Prune and Apricot Growers' Association had announced that to continue its successful work and to enforce its option to handle the crops of 1920 and 1921, it must be entrusted with a greater proportion of those coming crops than it now has signed up. This does not mean that its support is actually less than it has been. The courts will render that impossible. But it will be relatively less; that is, it will have a less percentage of the whole crop because so large an acreage of trees too young to be signed up in 1917, is coming into bearing. The planting of prunes has been very large during the last few years; planters have fairly looted the nurseries of prune trees. Trees which will be bearing during the two years following 1919 should be signed up this year. New growers should understand that the fact that they are now glad that they have such trees rests directly upon the other fact that packers are now the servants of the industry, as they should be, and not masters of it. Old growers who have unsigned trees coming on and may think it will be fun to have the fruit from such trees to gamble with, while the Association sees to it that the wheel is flung fairly, should realize that such gambling is an industrial crime, because indulgence in it may turn them back to throwing the packers' loaded dice on a curing tray—just as they did in the days of their adversity. It has been the for-

tunate experience of other California co-operative selling that each time they have renewed contracts they have covered a greater percentage of the product. This is what the Prune Association should be enabled to do through new and extended memberships. Prune-selling is not likely to be always as joyful as it has been during the last two years and only competent growers' control of increasing amounts of coming crops can make it as joyful as it can be. There will be plenty of time for thought and discussion of this matter, but when the Association announces what increased acreage it will require to be signed up before it will proceed to take up its two years' option following this year's crop, every grower ought to be ready to exercise his judgment on the proposition. The crowd is getting too large to be covered by the old umbrella. If a good stiff-ribbed canopy is not provided by larger co-operation it is quite possible that in the driving storms, which must be reasonably expected, a good many growers may awaken to find their coat-tails wet!

QUERIES AND REPLIES

By the Editor.
Inquirer Must Give Full Name and Address.

Wrong at the Root.

To the Editor: I have a Santa Rosa Beauty plums three years old. The plums are beginning to ripen. I noticed the leaves beginning to wilt and I dug down around the roots and found they are diseased. I am sending you a twig. Please tell me what the trouble is and what can I do for it?—Novato.

The twigs only show that they have not been properly supplied with sap to make good growth and that the foliage is now wilting and the fruit shriveling for the same reason. The trouble has probably existed since the tree was planted, for last year's growth was slim and scant and this year's has only poor leaves and failing fruit. Something in the soil is wrong and has been for some time. It may be that there is too much saline matter or that standing water in the winter has caused root rot, although the soil may now be too dry. It looks either as though the soil is inhospitable to fruit trees or the root upon which the tree was worked in the nursery is not adapted to conditions which perhaps other roots might endure.

Currant Troubles.

To the Editor: I am sending some leaves and currants to see if you can tell me what to do for them. They are infested with a small green bug that takes them every year.—E. V. S., Merrillville.

The small green bug which you mention is an aphid or plant louse. It can be killed by spraying as soon as you see the first of them early in the spring—using soap and tobacco wash with a sprayer which can be shot against the under sides of the leaves. The treatment must be repeated to kill later hatchings in a week or ten days. Your leaves show also mildew, which is checked by sulphuring as soon as seen. The berries show the work of the currant fruit-fly which lays eggs in the fruit which hatch into grubs feeding inside the berry. This is a very hard pest to overcome. These flies rise from the ground where they emerge from pupae which remain in the soil through the winter. The pupae are destroyed or exposed by cultivation. To dig up the ground several times during the winter or early spring and allow the fowls to work it over will largely reduce the numbers of flies and their injury to the fruit.

Blemishes on Rose Leaves.

To the Editor: I am enclosing leaves taken from my rose bushes. Can you advise me what this blight is and what to do for it? I have tried sulphur but without results.—A. M. R., Chico.

The leaves show signs of mildew, which causes discolorations of grayish hues over considerable areas of the leaf. This trouble seems, however, to have been checked by your sulphuring or by the increasing heat and dryness of the summer air. There are also black blemishes on other leaves which are quite definite but of irregular outline. The two occurrences have no clear relation to each other. These black blemishes affect but one side of the leaf and do not penetrate the tissue so as to affect the other side at all. They are not recognizable as signs of any fungus blight or insect at-

WHAT ARE YOU DOING?

We have a number of men who are doing excellent work in our circulation department, looking after our renewals and securing new subscribers. They enjoy the work and are making good money.

We can use a few more men, and if you are not satisfied with your present work and feel that you can earn more money, perhaps we have just what you are looking for. Anyway, it won't do any harm to investigate.

So if you have an automobile and are free to travel; if you are not afraid of hard work, and believe that you can successfully present our paper to the people, write us about yourself and we will give you full particulars.

tack, and are probably only local and negligible though they have a very threatening appearance. Keep the bushes well watered and manured so they can make plenty of other leaves to serve growth purposes.

Figs, Peaches and Peas.

To the Editor: I am thinking about setting out either peach or figs the coming season and would like to have your opinion, and how far trees should be apart. I would like to raise peas for seed between the trees. What is the best variety to use, the proper time to plant, and how? This place can be irrigated.—A. F. K., Ripon.

We would not plant fig trees nearer than 32 feet, and unless we were very sure whether we wanted peaches or figs we would be tempted to plant both at 20 feet distances—alternating the rows both ways so that we could take out the peaches later and have the figs at 40 feet. The common field pea will do well if planted in the fall as soon as the soil is deeply wet. Plant in drills 2½ feet apart for horse cultivation. If you wish to try garden peas for seed get a contract with a wholesale seed dealer and plant the kind he wishes to buy.

A Mole in a Berry Row.

To the Editor: Is there any method of getting rid of moles at the roots of raspberries? They seem to travel from one end of the row to the other and go back again, as I only have one row, and every time I look the same line is there.—H. F. G., Gardena.

You can get that mole if you will take time and think hard enough—for a man has a larger brain than a mole. You can wait and watch until you see the ground rising as he goes along and throw him out with a spade, or you can buy a mole-trap, press down his gallery gently and set the trap carefully so next time he comes along and lifts up the ground which you pressed down he will set off the trap and get a prod in his back. Or you can spade up the ground along the row deeply and fine the soil loosely so that it will keep falling in on him and he will get tired of trying to make a tunnel in which worms and grubs will gather. A mole does not make a tunnel to get to plants and places as a gopher does. He is setting a trap of his own to catch grubs and does not like to be digging all the time. He does not hurt your plants intentionally. He may lift them up or he may cut off the roots to get the right of way for his tunnel, but he may pay for that by saving other plants from ground insects which he is hunting for. Still, he does dry out plants by allowing too much air to get at the under-soil through his tunnels, and no one likes to see his piles of tailings rising among one's plants or on one's lawn, because it looks like shiftless gardening. But the mole is not easy to get rid of. He knows a few things better than you do, unless you learn them by close watching and hard thinking. When you learn to know them as well as he does, and learn a few other things which he does not know, you have you chance to beat him. A man can do that if he has time and patience enough—for a man has a larger brain than a mole. Besides, the mole is blind! Will you stand it to be robbed of your peace of mind by a blind bur-

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending July 8, 1919.

Stations—	Rainfall		Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest Lowest
Eureka .....	.00	.00	.04	62 48
Red Bluff .....	.00	.00	.00	104 62
Sacramento .....	.00	.00	.00	104 50
San Francisco .....	.01	.01	.00	78 48
San Jose .....	.00	.00	.00	96 46
Fresno .....	.00	.00	.00	106 58
San Luis Obispo .....	.00	.00	.01	86 44
Los Angeles .....	.00	.00	.00	86 56
San Diego .....	.00	.00	.00	76 80
Reno, Nevada .....	.00	.00	.02	98 50
Winnemucca .....	.00	.00	.08	98 50
Toponah .....	.00	.00	.08	92 56

Departmental Work in Fruit Growing

(Written for Pacific Rural Press by John J. Fox.)

Order and method are the foundation of success in armies and in any business undertaking, big or little. Without it the small and apparently unimportant details are overlooked, and it is the small details that count. They are like the particles of sand in a concrete block, unimportant taken singly, but in the aggregate they knit the whole mass together and carry the load. Without them the cement would crumble and disintegrate.

The details on a large fruit ranch, such as the Limoneira in Ventura County, which we visited recently, are innumerable and the whole enterprise is run in departments with accredited heads—whether they be actual foremen or leading workmen or specialists. All are responsible to one head who, in turn, is responsible to the company.

The Largest Bearing Lemon Orchard.

The Limoneira Ranch has the largest bearing plantation of lemons in the world—850 acres, half Lisbons

Fertilization of Citrus.

We saw many carloads of baled bean straw bordering the orchards, ready to be carted out and applied as a dressing. J. D. Cuthbertson, the superintendent, said that years when the bean straw has been spoiled by rain it can be bought for from \$3 to \$4 a ton and up to \$10. Manure is laid down at the ranch at \$4 a ton and is applied at the rate of ten tons per year per acre. A cover crop is raised in addition to this. Mr. Cuthbertson said, "I am of opinion that the effect of all this organic matter incorporated with the soil is as beneficial to its physical as to its mechanical condition and plant food value, or, in other words, it assists the trees by providing the best sanitary and assimilating conditions while at the same time it is more responsive to the cultural work of tools. With regard to cover crops, I know that if they are left too late, so as to harden the texture, it frequently retards the spring growth and shows in



A small part of one of the Mexican villages on the Limoneira Ranch. Some of these groups meander along beneath the trees along the bank of a creek.

and half Eurekas, sold under brands that have been in use for 20 years. The soil is a deep, sandy loam with enough clay in it to give good capillarity, but friable and easy to work. It is high in nitrogen and is kept supplied with humus by the application of manure and bean straw and the growing of cover crops. We noticed one young plantation of alternate oranges and lemons with beans planted between the rows. Two years ago the interplanting yielded two tons of beans to the acre and the soil is improved. For irrigation is very regular and the soil moisture kept at as equable a point as possible.

the paler color of the foliage. But leguminous cover crops are most important. I cannot lay too much stress on that."

Nitrogenous Manures.

"We put five pounds of blood to the tree this year on mature trees in addition to the cover crops. With regard to nitrate of soda or sulphate of ammonia two or three pounds to the tree is enough at any one application—we found that out. We gave this block a heavy dose one year and it resulted not only in paling of the foliage but a dying back of the twigs. You can see here how I handled the trees (cutting back) and we have them in good shape again. By giving them no more they gradually came back to their present healthy condition."

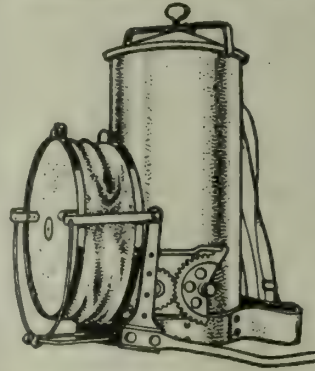
Irrigation.

The drainage here is practically perfect and the soil sufficiently fine to retain its moisture satisfactorily. It takes about ten miner's inches a year and the water is applied at intervals of from five to six weeks throughout the season. There is any quantity of water, part from their own watershed, the Sespe and Little Santa Clara Creeks. The gravity system and furrows are used, for the grading was perfected before planting. Tractors and heavy tools do the main of the heavy work in the bottom, and are supplemented with mule teams. An irrigation boss superintends.

Special Work. 230 Acres of Walnuts.

A trained entomologist is kept here to observe and deal with any orchard pests as they appear. He orders the spraying, fumigation and dusting when needed and supervises the operations. He also has a very up-to-date insectary for the breeding of beneficial predatory insects and conducts their distribution in the orchards wherever needed—a responsible department of which he has entire charge. A tree surgeon is also kept

AMERICAN BEAUTY DUST SPRAYERS



To Kill Red Spider

Dust your trees lightly, but thoroughly, with fine dry sulphur; do this four times, with five or six days between dustings. The cost is negligible—less than five cents per tree, and you will save crop losses, and conserve the vigor and vitality of your trees.

Tomato Worm, Flea Beetle, Etc

Dust with Lead Arsenate or Paris Green.

Aphis

Dust with Nicotine Sulphur mixture.

Rust and Mildew

Use dry Sulphur or Bordeaux.

Ask us about it.

Write Department "A."

One man does from 15 to 25 acres per day

Standard Size\$18.00

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Motor Truck Bodies Built to Order.

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Our manufacturing facilities enable us to make a uniformly good product. Dealers who handle the HARDIE LADDER capture the bulk of the trade. There is a reason. The weight is about 3 lbs. per ft. Price 50c per ft. The Hardie Booklet on request.

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Office: 1023 Leighton Ave.,

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Held by a Grip of Steel!

Where is the weakest point in every ladder—it's the point where each step is fastened to the stile but that's where the

SECURITY LADDER

is strongest! Each step-end is held to stile by a light steel cuff-bracket which forever eliminates all wobble, and makes the SECURITY strongest where other ladders are WEAKEST!

See your dealer's name in Pacific Rural Press of May 24, page 798. If your town is not listed there we will ship to you freight prepaid on approval two or more ladders at following prices: 8-ft., \$5.00; 10-ft., \$6.00; 12-ft., \$7.20. Pay after you examine and approve shipment.

J. B. PATTERSON, MFR.

70 Franklin Street, Oakland, California

ARCADIAN

Sulphate of Ammonia

Men who applied ARCADIAN Sulphate of Ammonia to their grain are beginning to reap the profits.

ARCADIAN Sulphate of Ammonia is for sale by: CALIFORNIA: San Francisco; Hawaiian Fertilizer Co., Pacific Bone Coal & Fertilizing Co., Pacific Guano & Fertilizer Co., Western Meat Co., California Fertilizer Works, Los Angeles; Pacific Guano & Fertilizer Co., Pacific Bone Coal & Fertilizing Co., Agricultural Chemical Works, Hauser Packing Co., OREGON: North Portland; Union Meat Co.

For information as to application, write

The *Barrett* Company

Agricultural Department

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to investigate injury, repair and seal cuts, excise galls or morbid growth and attend to bad pruning wounds in the 230 acres of walnuts, which are from 20 to 26 years old, as well as the other deciduous fruit and citrus. Dusting the walnuts for aphids with

two power dusters was being done while we were there.

Orchard Heating.

About 600 acres of the lemons need protection from frost. This is a large area, and to provide for the handling of the fuel oil two 100,000 gallon oil

SULPHUR



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 6 times they will not be affected by MILDEW or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also E A G L E Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, LEAVING NO ASH. VENTILATED Sublimed Sulphur—Impalpable Powder, 100% pure, in double sacks, for Dry Dusting and making Paste—(Atomic Sulphur).

For LIME-SULPHUR SOLUTION, use our DIAMOND "S" BRAND REFINED FLOUR SULPHUR. We can furnish you this Sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out in labor for spraying your orchard, even if you pay your men \$4 per day for making the solution and applying same.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre DIAMOND "S" BRAND POWDERED SULPHUR, 100% pure. This has increased various crops up to 500%.

Also PREPARED DRY DUSTING MATERIALS, Tobacco Dust, Dry Bordeaux, Dusting Sulphur Mixtures, etc. And "Anchor" Brand Standard LIME-SULPHUR SOLUTION 33 deg. Be., Sulphur Paste, Nicotine, Black Leaf 40, etc. Fungicides and Insecticides. Carried in stock and mixed to order.

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Please state for what purpose you use the sulphur, quantity needed, and date of shipment preferred.

TELEPHONE KEARNY 871.

tanks are established on an adjacent hill. The oil cars are unloaded into a concrete tank at the railroad siding below (for the S. P. R. R. serves) and thence it is pumped through a mile and a half of pipe to these two big reservoirs. It gravitates back through these delivery pipes to distributing points. These are placed 1,000 feet apart to serve the whole area and the oil is piped to these standards with regulating gates.

Packing and Shipping.

The large packing establishment needed by this ranch was in full swing when we were there. They were shipping three carloads of lemons a day and hope to ship up to one carload to the acre from the whole acreage.

The Labor Department.

The great central group of buildings comprise, in addition to the packing and curing houses, stables, warehouses, office buildings, bungalows and so forth, two large dormitories for the unmarried white men. One contains 36 rooms and another 48, together with baths, washrooms, modern toilets, club rooms, etc. A separate dining room is attached to each place separate from the dormitories. A large amount of Mexican labor has always been employed here. They indeed belong to the soil and are good workers. There are several groups of houses arranged in picturesque colonies in different parts of the ranch, the largest group containing 35 cottages. There are about 170 Mexican laborers' cottages in all and each one has a lot about 40x100 (but varying in size to suit the family), so that they can raise their own garden truck. Each man thus has his own home and privacy yet the companionship that the Latins crave. A neat school stands at a convenient point to accommodate the children. So that it will be seen that the comfort and well-being of all employes is given due thought and consideration. For harmony and contentment are essential to the smooth running of any undertaking. There is no room for the chronic belly-acher or the yawning sun-watcher. It is a pity our new quarantine law could not be extended to exclude this class of insect along with the other pests.

CARNEROS APPLE GROWERS' ASSOCIATION FORMED.

(Written for Pacific Rural Press by C. F. Honeywell.)

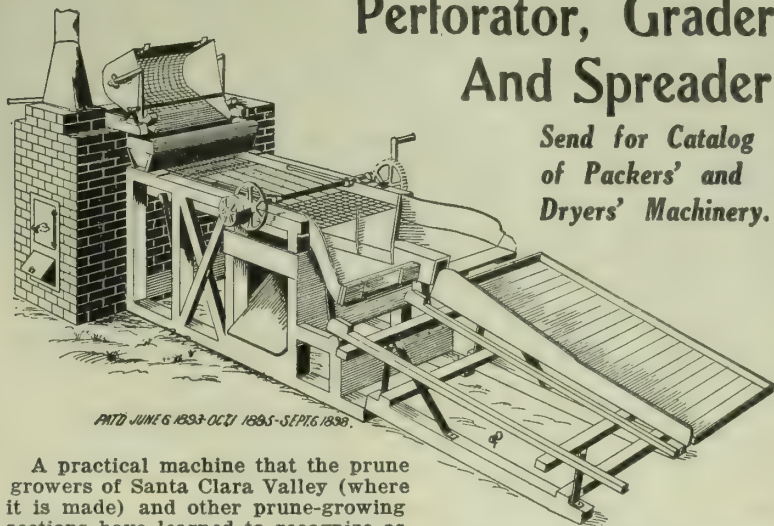
The apple growers of Carneros Valley, southwest of Napa, have recently formed a new association for the drying and marketing of their product. N. F. Patterson, the owner of a sizable orchard in this district, is taking the initiative in the perfecting of this association and is constructing a new type of artificial drier on his place, financed by and for the use of the association members. Some 350 acres of bearing apple land are so far included in the new co-operative movement, which comprises most of the apple orchards of that district.

The new drier is a single story building with the floor some six feet above the orchard level. In the center of the building a reinforced concrete pit has been built, six feet deep, four feet wide and ten feet long. Lining this pit are pipes connected to a hot-air furnace established beneath the floor at one end of the pit. Tray racks, lowered and elevated by chains and pulleys hanging from the rafters, lower the loaded trays into the pit. A sulphur box is conveniently located at one end of the drier. The pit, running at full capacity, can accommodate 188 yard square trays at one time. The fruit can be properly dried by leaving it in the pit from five to six hours.

The association has already disposed of its entire crop of Gravensteins to be sold green, at \$2.50 for four-tier boxes, \$2.35 for four and a half tier and \$25 per ton for wind-falls. The apple association of the Sonoma Valley has refused the highest offer made to them of \$2.25 for four and four and a half tier boxes, deciding to ship directly for Eastern consumption, having been guaranteed a 9-day delivery by the railroads.

Anderson Combination Dipper Perforator, Grader And Spreader

Send for Catalog of Packers' and Dryers' Machinery.



PATD. JUNE 6, 1903-OCU. 1905-SEPT. 1906.

A practical machine that the prune growers of Santa Clara Valley (where it is made) and other prune-growing sections have learned to recognize as the standard machine of its kind. It embodies every possible advantage—and does the work perfectly in every way. Durable and substantial in construction.

MADE IN VARIOUS SIZES

We can furnish this Combination Dipper, Perforator, and Spreader in any size desired—for either hand or power use. Write—and tell us your requirements.

Anderson-Barngrover Manufacturing Co.

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The "Syphon System"



SIMPLE
ECONOMICAL
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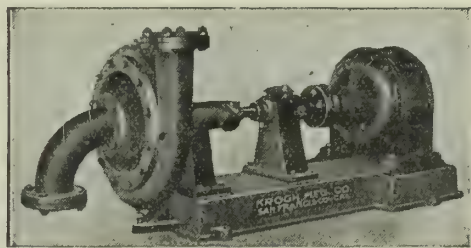
INVESTIGATE

Siphons adapted to Irrigation. Takes the water over the bank. Designed to displace gates or boxes. Quickly primed. Easily

moved. Take out the water where you want it. Divide the stream or regulate the flow as you like. Clean ditches. No gates. No leakage. Compare the cost. Write us your conditions.

IRRIGATING-SYPHON CO., Woodland, Cal.

IRRIGATING PUMPS



Single Stage Motor Driven Pump

KROGH PUMPS absolutely hydraulically and automatically water balanced. No end thrust whatsoever. Also DEEP WELL TURBINE PUMPS for bored wells 10-inch diameter and up.

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Always Gives Satisfaction

It will protect and beautify your Home, Garage, Barn, Warehouse or other buildings in a most acceptable manner. There is a grade made for every purpose.

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No maintenance cost—practically fireproof—low insurance rate—very reasonable in first cost.

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Sacramento, California

Wiring Prune Trees to Hold the Crop

(Written for Pacific Rural Press by D. L. Kieffer.)

A. E. Burge of Oakville, Napa County, has for the last two years depended upon a system of permanent wiring of his prune trees to support the fruit-laden branches instead of using scantling props for the purpose. His orchard is one of the show orchards of Napa Valley today, and last year he took 175 tons off 35 acres of seven-year-old trees. Mr. Butler, Napa County Horticultural Commissioner, says the crop in this orchard is 100% this year. Some trees will go 400 pounds or better. This orchard is proving the practicability and advantages of this much-argued system to the prune men of this region. Mr. Burge has 1400 eight-year-old trees on 35 acres wired from branch to branch, using number 14 galvanized iron wire and galvanized staples to anchor the wires to the branches instead of screw-eyes, which he has found do not hold so well and also weaken the branches.

Use Great Care in Wiring.

Good judgment must be used in placing the wires at the center of load on each main branch. The best time to wire is just before the trees lose their natural shape and begin to sag, so that the constant growth of the tree while bearing the load will be toward strengthening it in its normal shape. This point most often is found to be when the tree has on it about one-third of its final load. Great care must be taken to catch the trees just at this point and to avoid binding them too closely, or to allow so much sag that the crotches will strain. Care must also be taken to place the anchorages high on the branches and to divide the load. The trees in this orchard were wired in their sixth year. As they grow larger the wires must be cut every three or four years and an additional section spliced in to allow for the corresponding increase of distance between branches. Also additional wires must be placed when the load on new branches demands it. Only galvanized wiring is used in the tree. In the two years the wires in this orchard have been exposed to the weather, not a spot of rust has been found on them. In other districts where the periods of fog are greater than here, rust will make this system impracticable.

Only one out of every fifty trees needs to be partly propped in addition to the wiring, either because the tree is not of proper conformation to permit wiring fully, or the small branches are too numerous to be properly wired, or because the crotch of some branch is very weak. In such cases one or two props are usually sufficient to hold up these troublesome branches. It has been found impracticable to plant tall posts beside the hole of the tree and support the limbs by wires from it. The unequal pull from various directions so loosens the post that it will lean and allow the heaviest branches to sag beyond the breaking point.

Wiring Cheaper than Propping.

This wiring method is much cheaper than propping and has the advantage of being permanent. Three men can cover four acres a day with 71 six-year prune trees per acre. Paying a man \$5 a day and with wire and

staples 9½ cents a pound—about 5 cents per tree—it costs \$7.50 an acre to wire thoroughly. Ten-foot scantling props of 1x3 at 2 cents a board foot will cost 5 cents apiece and it takes 6 or 7 per tree in this orchard. Not counting the yearly labor costs, it amounts to nearly \$20 per acre to use props. Once the orchard is well wired it is no longer necessary for some one to walk through it once every day to replace props. In this region the wind is continually blowing them down.

HORTICULTURAL JOTTINGS.

Italy's area under vines in 1919 is estimated at 10,724,000 acres.

Prunes in Butte county are sizing up after considerable June drop in some orchards.

The first shipment of Turlock cantaloupes was made the first of July. Shipping is now general from this section.

The Sebastopol (Sonoma county) apple crop is estimated at 750 cars for this season, of which two-thirds will be Gravensteins.

Newell C. Lucas of Ceres (Stanislaus county) has sold the crop on his nine-acre fig orchard for \$3600 on the trees—a cash transaction.

In the Ontario-Cucamonga district, buyers are said to be offering \$30 a ton for wine grapes on the cars as against \$25 paid for the same grapes last year.

The Watsonville district expects to create a new record with her apple crop this year. Such spirited buying of entire crops has never been equalled.

"This year's pears are the cleanest and best quality I have ever seen so far as I can remember," said a pear buyer today. Scabby or wormy fruit is the exception.

George Mead of Chico has an estimated crop of 7000 pounds of nuts on five hundred six-year-old almonds trees. The almond crop in this section is looking full.

Boxes and shook are not likely to be any cheaper and may still soar. Many of the associations are buying at wholesale for their members and furnishing it to them at cost.

California's crop of peaches is estimated to exceed the record crop of 1917 by 10 per cent. About 12 per cent will probably be shipped fresh and the rest goes to the canneries and driers.

The demand for early peaches has strengthened again, with the appearance of Hale's Earlys. Considering the season's yield and the increased acreage in early peaches, the crop has done well. It has to be handled carefully and sold promptly.

In 1918 the strawberry crop of California was estimated at 12,656,600 quarts, of which 54 per cent was used for local consumption, home markets and nearby cities. About 31 per cent was used for the manufacture of preserved products and 15 per cent for distant shipments.

AGRICULTURAL NOTES.

The second sugar beet failure is reported from Stanislaus county, being due this year to the leaf hopper.

The engineering force at the Durham State colony is completing their work of putting the farmsteads into producing condition.

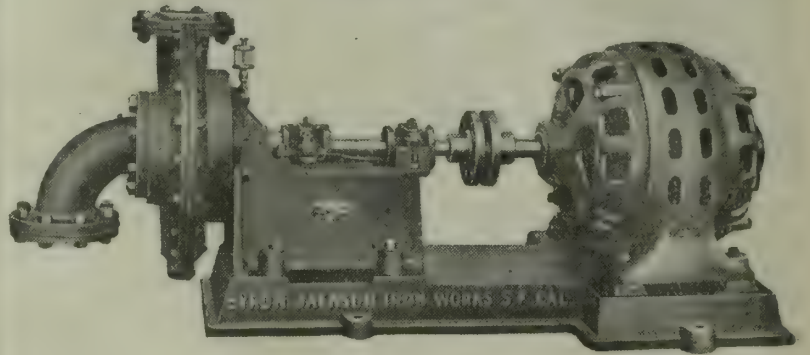
Steps to prevent settlement in the Sacramento and San Joaquin valleys by Japanese, Hindus, and other Orientals, and to preserve the land for settlement by persons of the Caucasian race, are being taken by the Fourteen Counties Association.

The equivalent of practically 11,000,000 bales of cotton, averaging 500 pounds per bale, is the estimate of the U. S. crop made by the Department of Agriculture July 1, basing their figures on a 70 per cent condition June 25 of the crop which occupies 33,960,000 acres.

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Japanese Berry Growers Sued.

The Sacramento Berry Growers' Association have brought action against six Japanese berry growers in six different suits to compel them to abide by their contracts as members and recompense the association for all berries they have sold to outside parties. Their contract does not end till 1920, and provides \$1 a crate indemnity to the organization for all sold outside its sphere. Each defendant is said to have so disposed of 350 crates. An accounting will be demanded.

Ripe Cherries Brought Good Prices.

In regard to ripe fruit carrying and keeping better than unripe fruit, H. G. Keesling of Mountain View said that many years ago he shipped dead-ripe cherries to the New York market in the face of repeated remonstrance from the shipping firm who handled them. Two shipments to which particular exception were taken because of their dead-ripe condition, brought the highest prices obtained that year. Experiments have been and are being carried out by the Pomological Department of the University of California on the maturing of fruit in storage and transportation.

Soil Moisture Studies.

What tree needs the most air in the soil? This question is answered by Dr. J. C. Whitten of the University of California in a recent talk with the growers. "The cherry needs the most air in the soil and the pear can do with the least air. If the soil becomes excessively laden with water round a cherry tree's roots, in a very short time the feeding roots turn yellow, become inactive and soon cease to function entirely and decay. On the other hand the cherry suffers from inadequate moisture more quickly and to a greater extent than other trees. For this reason, irrigations must be more frequent and less in volume to conserve the equable soil moisture condition best fitted to the tree's well

being. A pear tree can stand having the ground saturated, provided there is ordinary drainage and still not suffer.

Prohibition Helps Fruit Consumption.

Prohibition is going to be a good thing for table grape growers, in the opinion of V. D. Ely, an eastern representative of fruit buyers. It will mean a big demand for anything running to sugar. For a man who has been used to alcoholic liquor takes sugar when he cannot get the spirit. Buyers consider that green fruit men are asking prices that are unreasonable. But the thing is they are selling the fruit without effort because of insistent demand, and it is not unusual to seek for all the market affords. As one grower said, "We are not here for our health—we have plenty of that."

Standardization of Apples.

It is said in the trade and by officials of the Bureau of Markets that California is behind in the matter of standardization. It has not yet been carried far enough—Oregon and Washington are ahead of us in thoroughness only we don't realize it. Our legislators passed the standardization law but withheld the means to carry it out by trained men. This is why California apples do not occupy as high a place in the trade as some other sections of the country having standardization. It has not yet been universal. In the scramble for trade we must run as fast as the other fellow or be content to pick up what is left.

Grape Growers Ask Demobilization.

The grape growers of the State have sent a dispatch to President Wilson requesting the issuance of a proclamation of demobilization in order that the 1919 crop of wine grapes may be saved. The crop is estimated at a value of \$12,000,000. E. M. Sheehan, Secretary of the State Viticultural Commission, says that no market exists for the sale of dried wine grapes and customs duties prohibit the profitable export of dried wine grapes to Mexico. No one has yet attempted to make grape syrup in a commercial way. The Viticultural Commission ceases as such on July 21, and its activities will become a department of the new State Board of Agriculture under the consolidation law.

A Pioneer in Grape Improvement.

One of the earliest attempts at improvement of grapes by selection on a commercial scale was carried out by Mrs. Dr. Sherman (nee Eschelman) in the San Joaquin Valley about 22 years ago, according to A. C. Kuhn of San Jose. She had three acres of Emperor grapes and, in order to select the best wood for propagating she took a man around with her and put a dab of white paint on the heaviest producing vines. The following year she went over the vineyard again at harvest time and put on a dab of red paint. Then from those vines which carried both colors the cuttings were selected for the planting of the most productive vineyard in that section.

The Fruit Growers of California, Inc.

We recently called on President R. P. Van Orden of Mountain View (Santa Clara County), to find out the extent of the proposed activities of this new fresh fruit marketing organization and when it would be ready to do business. He told us that this year's work would be chiefly confined to organization and the signing up of membership. The full details of the work have not yet been defined. The new organization intends to deal with the fresh cots as the market demands. For instance, he said that this year he was offered \$100 a ton for his apricots and sold them after giving due notice to the Prune and Apricot Growers' Association, according to the terms of his contract. It

paid better to sell green at this price than to dry them. This fresh fruit organization now organized and incorporated is "purely co-operative," he said, and was in no way intended to compete with any other co-opera-

tive organization of a similar character. All its existing members are also members of the Prune and Apricot Growers' Association, from which body they will be accorded active support.

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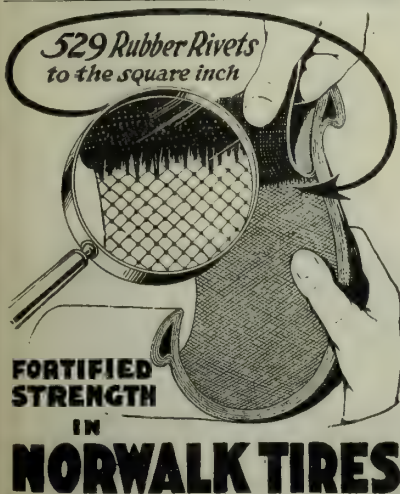
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Suggestive Agricultural Tips

(Written for Pacific Rural Press.)

Black Aphis and Horse Beans.

Black aphis on horsebeans often ruin the crop. They were controlled by Ed. Weeks and F. C. McCormick, one of whom had thirty acres of horsebeans near Pescadero last season. They gave the bugs a strong dose of one pint blackleaf 40 per 100 gallons of water and four pounds of soap. This was applied to the vines with three vermored nozzles, spraying from the top and both sides at once. The horsebeans yielded 40 sacks per acre and sold at \$5.60 per hundredweight. One Japanese in this territory is said to have sold \$14,000 worth of horsebeans from 45 acres. [This is fine, but we are not advising readers to plunge into horsebeans until they are sure of a market. They can be sold green in the pods or dried and threshed. In the latter case, horsebeans have the disagreeable reputation of being particularly weevilly.—Ed.]

Fraudulent Sweet Corn Packing.

Fraudulent packing of sacks of green sweet corn in Alameda county is getting some growers into trouble. The system is to insert a stove pipe in the sack and pack good corn around it. Inferior ears are dumped into the stovepipe, which is then withdrawn and good corn packed over the top of the bunco core. Prosecution is likely to follow such practices.

San Joaquin Cotton Prices.

The Egyptian long staple cotton grown in the San Joaquin Valley in 1918 has been purchased by the California Products Company of Fresno. This purchase covers the cotton pool at Fresno and also the one at Bakersfield. Prices received by growers were as follows: Extra grade, 1½ in., 46½c; choice grade, 1½ in., 46c;

standard grade, 45c; medium grade, 42c; mixed grade, 42c.

How Should We Measure Water?

There is an abominable labyrinth of expressions by which water measurements are given and which require a mathematical education along with a handbook for reference in converting one expression into the equivalents as expressed the other way. A miner's inch day, a second foot of water, an acre foot of water, and a thousand gallons per minute—of what relation are they? How do I know how many acre inches my pump will furnish at 1000 gallons per minute or running 50 miners' inches. Why shouldn't we first have a legally defined uniform expression of measurement and as fast as practicable work over our commercial expressions to conform. A bill introduced in the last Legislature to standardize water measurement by second-feet died a strangling death in the Senate. It may be that the standard unit should be acre-feet, which everybody understands. Meters are already in use which indicate and record their measurements in acre-feet or fractions thereof. We ought to get back of such a movement in the next Legislature.

Farmers' Mutual Fire Insurance.

Nearly 2000 farmers' mutual fire insurance companies in the United States have a total of \$6,000,000,000 of insurance now in force. The average membership is about 1532 and more than four-fifths of the companies allow each member one vote only, regardless of the amount of insurance he carries. Bulletin 786 of the U. S. Department of Agriculture points out several advantages that would accrue to such companies if they were more uniform in their systems of organization.

Our Grain Dockage Handicap--Beat It

(Written for Pacific Rural Press.)

The problem of getting pay for dockage in wheat is peculiar to California, writes President Geo. H. Sawyer of the Stanislaus Farm Bureau, because we handle grain in sacks. The grain has to be bulked before being cleaned, as our combined harvesters do not have adequate facilities to separate the barley and oats from wheat, and sack them separately. To bulk the grain for cleaning and to resack it for shipment is a great waste of scarce, high-priced labor. Therefore, it is not cleaned until it is bulked at the mills preparatory to grinding.

"All wheat must be cleaned before it is milled. This is an expense in the operation of making flour which is charged against all flour and paid for in the price paid by the consumer. Now to ask the producer of the wheat to pay for the cleaning and also charge it to the consumer is an outrage."

Mr. Sawyer was arguing for the U. S. Grain Corporation to pay 1½ cents per pound for all valuable dockage found in wheat. The Grain Corpora-

tion proposes to allow to producers all that the latter can get for the dockage but deducting whatever the cleaning costs. As it is estimated that the cleaning would not be repaid unless five per cent of the gross weight is valuable dockage, there is not likely to be much return to the growers for dockage. It is believed that this year's wheat crop will not show over five per cent average dockage even considering that a great deal of wheat is mixed with volunteer barley. Therefore farmers cannot expect to sell their dockage after cleaning at the mills for enough to net them anything. Meanwhile, if they have 5 per cent of dockage, they will directly or indirectly have paid freight and hauling costs on 100 pounds of dead loss for every ton of wheat they sell.

Save that 100 pounds for yourself and do not pay the freight on it. Get a grain cleaner and use it on your own farm. While you are emptying the sacks and refilling them, or writing out checks to pay other men for this work, meditate on the saving you could make if you were handling the grain in bulk without sacks!

YIELDS INCREASED BY LETTING ROOTS TO THE SUBSOIL.

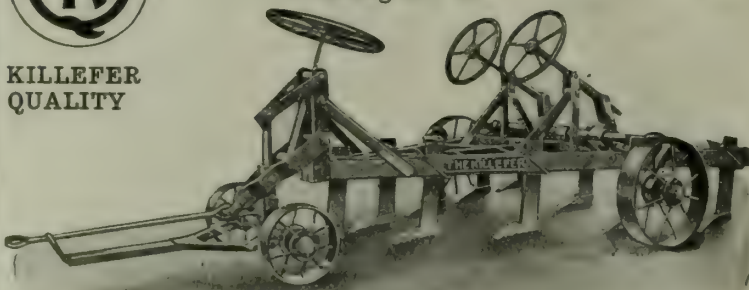
Rice growing reduces alkali and adds to the humus, but it does not exhaust the soil as so many people seem to believe, according to Manager J. G. Beekler of the Dodge Land Co. in Butte county. But it does tend to form under the top soil a hard layer which does not permit water or roots to penetrate deeply. This is no serious handicap to the use of such land for grain as shown by the extra big crop of Early Baart wheat grown on three-year rice land, as pictured elsewhere. Mr. Beekler opened the subsoil to moisture, air, and roots by breaking up that hard layer with a Killefer tractor chisel. Another implement of the same kind resulted in a good crop of grain for Barnard Bros. of Los Angeles county, where they used it; while on the balance of the ranch their grain grew about six inches tall and burned up. In San Diego county, C. M. Pilgrim had twelve acres from which he cut about three tons of hay per year. He subsoiled this eighteen inches deep with a tractor subsoiler and the first season produced nineteen tons of hay with a rainfall of only eight inches. There are thousands of acres of grain land in California that are practically non-productive because rainfall is not conserved. Thorough subsoiling or deep chiseling would make much of this yield well above the cost of the extra labor and interest on investment.



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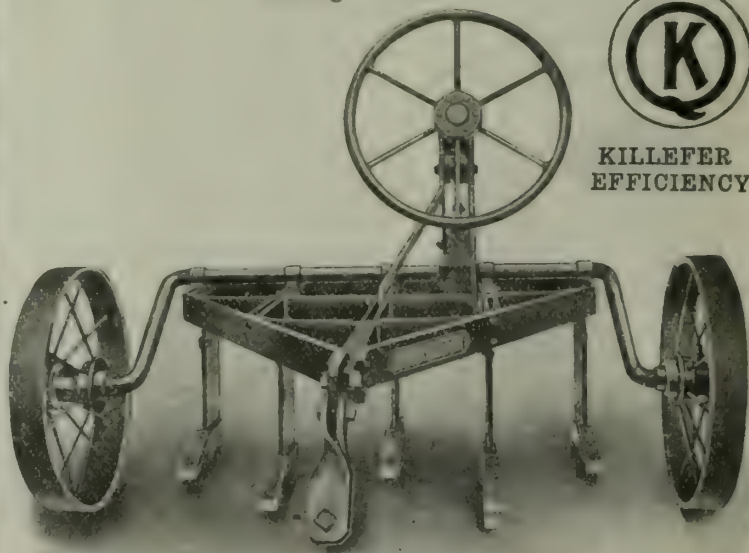


Now is the time to commence deep chiseling and subsoiling. Do it in time to prepare the ground thoroughly to receive the benefit of the winter rains. Break away from the old habit or mistaken idea of scratching the ground and expecting to harvest a crop.

Deep chiseling is becoming recognized by the successful rancher as the best means of breaking land in order to be reasonably sure of obtaining a fair return for labor and material expended. Our Tractor Chisel is largely used by the beet and bean growers and will open the ground to a depth of from ten to fourteen inches, aerating the soil and allowing the water and air to penetrate below the plow sole. The frame made in the form of an "A" is ¾ inch by 6 inch high grade steel. The standards, ten in number, are made from special steel and the ¾ inch by 6 inch. Axles 3 inches. Width of frame 8 feet. Total weight, 4300 pounds.

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We make subsoilers with one, two, three and five standards, suitable for tractors from the smaller to the larger ones. We also make the three and five standard Subsoilers with an automatic lift and will furnish you with cuts and description upon application.

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OXNARD SUGAR COMPANY LABOR.

(Written for Pacific Rural Press.)

The Oxnard Sugar Company in Ventura county has been making a special study of conditions that should be to the greater comfort and contentment of their "help." This large factory employs some 800 hands during the sugar season in the factory, while there are 600 to 700 men in the fields. Apart from the factory hands who live in the town, there are 15 attractive modern bungalows for the office force. In addition, there is a small settlement of adobe houses for the Mexican field laborers, built to suit their gregarious tastes and customs. There are 48 adobe buildings set out in streets with water and sanitary arrangements installed. Each building accommodates two families, each within its own domain. The Mexicans themselves make the adobe bricks and the cost of these double houses when built was approximately \$400 each.

Care of Labor.

R. Beck, the assistant manager, spoke of the high economic importance of adequate housing and comfort for the help. He said that even last year any man that could take care of his labor satisfactorily had no trouble in obtaining all the hands needed. Those who were not prepared with living quarters and boarding facilities were the men who were short of help and embarrassed at harvest time. He suggested that it would be a good plan if two or three small farmers who did not need a man all the time, could build a community cottage for the accommodation of one family, who could help them in turn. The firm is now building outlying houses for labor in different parts of their large estate, so that the men won't have so far to go to work, and can attend to their own gardens. Also in this way they hope to get individual men to take small sections of the land to farm on contract and thus eliminate the large contractors. Small, comfortable, individual quarters will help to do this. Lime from the sugar works is distributed gratis to men farming the company's lands for local use.

Rotation of Crops.

Rotation of crops is invariably practised—beets and beans being grown alternately. On light land beans are grown for two or even three years in succession and then beets for one year only. On strong land one year of beans is enough to keep the land in condition for a beet crop. Beet by-products and bean straw are put through the silo, fed and returned to the land. One of the farmers built a beet-top silo.

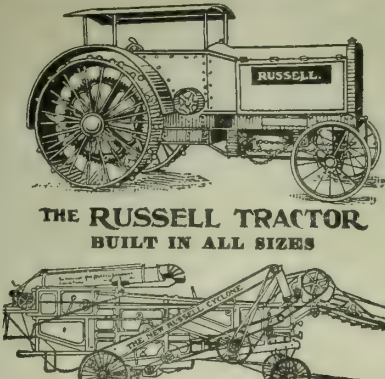
Commercial fertilizers have been tried, but rotation of crops is found better for keeping up soil fertility—that and a supply of humus, which is the chief thing wanted.

The requirements of labor and the demands for the improvement of soil fertility are two fundamentals that receive first consideration from the Oxnard Sugar Co.

OFFICIAL DECLARATION OF LAND VALUES.

The Railroad Commission, in a decision recently handed down authorizing the San Benito Land and Water Company to increase its rates for service, declares that the increase in land values from \$60 an acre as grain land to from \$800 to \$1500 an acre as bearing orchard land, is directly attributable to the irrigation work of the San Benito Land and Water Company. It tells the ranchers "that present conditions cannot continue without wrecking the company and causing large losses to themselves." It suggests the formation of an irrigation district so that the expense of the system will be equitably distributed among all irrigators and land-owners who may benefit from it when they desire.

Wine grapes are being bought for cash, offers of ten cents a pound being not uncommon, according to the Turlock Tribune. Dried black wine grapes are supposed to be bought for the purpose of domestic wine-making.



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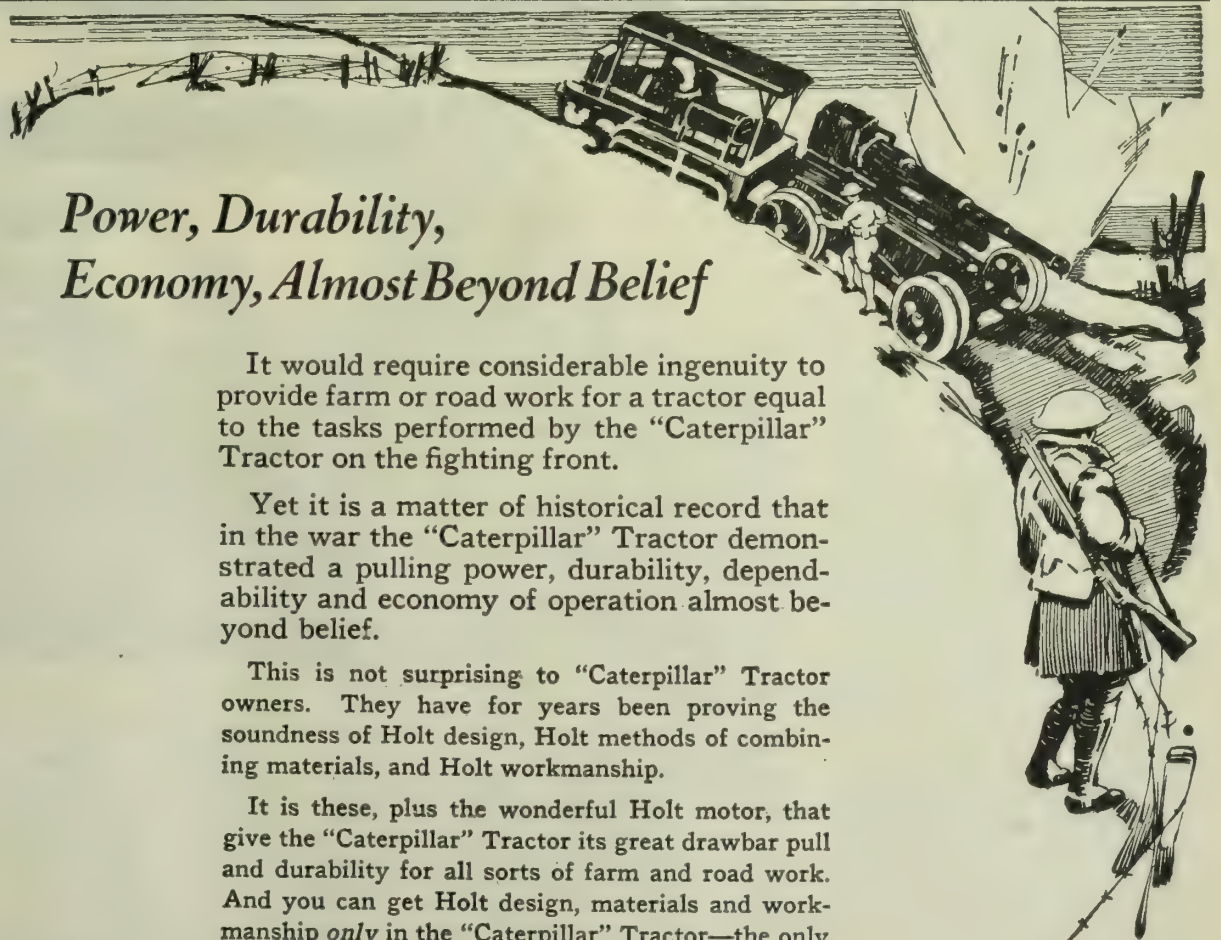
Railway and Land Co's. are offering unusual inducements to home-seekers to settle in Western Canada and enjoy her prosperity. Loans made for the purchase of stock or other farming requirements can be had at low interest.

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You can obtain excellent land at low prices on easy terms, and get high prices for your grain, cattle, sheep and hogs—low taxes (none on improvements), good markets and shipping facilities, free schools, churches, splendid climate and sure crops.

For illustrated literature, maps, description of lands for sale in Manitoba, Saskatchewan and Alberta, reduced railroad rates, etc., apply to Superintendent of Immigration, Ottawa, Canada, or

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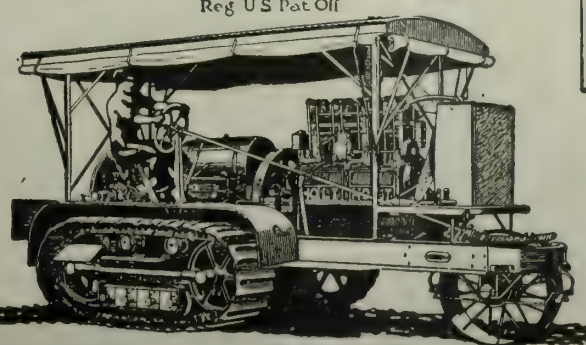
It would require considerable ingenuity to provide farm or road work for a tractor equal to the tasks performed by the "Caterpillar" Tractor on the fighting front.

Yet it is a matter of historical record that in the war the "Caterpillar" Tractor demonstrated a pulling power, durability, dependability and economy of operation almost beyond belief.

This is not surprising to "Caterpillar" Tractor owners. They have for years been proving the soundness of Holt design, Holt methods of combining materials, and Holt workmanship.

It is these, plus the wonderful Holt motor, that give the "Caterpillar" Tractor its great drawbar pull and durability for all sorts of farm and road work. And you can get Holt design, materials and workmanship only in the "Caterpillar" Tractor—the only tractor of the track-type used by the Allies in the great war—chosen and proved by severe and prolonged tests.

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California

Farm Owners' and Operators' Nat'l Assn.

(Written for Pacific Rural Press.)

FRUIT RANCH GETS PLENTY OF HELP.

Seven thousand dollars in one month was paid last year to Y. M. C. A. boys for picking fruit on the ranch of Losse Bros. in Santa Clara county. A hundred and fifty boys were employed at 35 cents per hour. Messrs. Losse liked them so well that they offered the same wages this year. The boys liked the work so well that they grabbed the chance and agreed to come. Other farmers, however, liked the idea so well that they offered the boys higher pay, and Mr. Losse simply agreed to meet whatever scale may generally be in effect. Such a condition is a pocketbook argument for organized action on the part of farmers, not only to standardize wages, but also to take measures to secure enough help during harvest so that such wages could be maintained without loss of crops by individual ranchers. Such an organization is already active in California, including Santa Clara Valley—the Farm Owners' and Operators' National Association.

The boys were not cared for in a haphazard way, nor were they treated as bums. In fact, they are housed and fed separately from the rest of the ranch help. As the Losse Bros. have sold part of their ranch and will have only 700 or 800 tons of apricots, besides pears, peaches, and plums, to pick this year, they plan to have only 125 boys. But absolutely new quarters are being built at a cost of \$1,000, using lumber from Camp Fremont. The big mess hall has screened sides. Boilers and kitchen are at one end, and behind the boilers is a cement floored room with several shower baths, which will supply hot water any time. This water, with waste

from kitchen and from toilets goes into a new septic tank just built. Sleeping quarters for the boys consist of a mammoth lattice-work building boarded up high enough to insure privacy, but open enough to give the boys all the good air they need—almost like camping out. Regular ranch workers are housed in a big building with baths and all sanitary conveniences and a separate room for each man upstairs over the mess hall. Ten or twelve Chinese who do the pruning, etc., have their own separate bunkhouse with good accommodations. Janitors will keep the place clean.

The Y. M. C. A. boys furnish their own cook, food, and bedding, but Mr. Losse furnishes cots and mattresses. They are divided into small gangs for the fruit picking, and are under

proper Y. M. C. A. supervision. Certain boys are detailed in rotation to make beds, clean the place, etc. They have their good times after work.

Wage Scale for Canneries.

Ralph P. Merritt was appointed by Governor Stephens to consider the wage demands of employes of California canneries and packing houses at

the suggestion of the operators of these plants that a regulator be employed to consider these demands. They agreed to abide by any decision made by the Governor's representative and to establish any wage scale he considers necessary. The wage scale is to hold from July 1, 1919, to January 1, 1920.

PREMIER BURNER THE STANDARD



The Scientific World has acclaimed THE PREMIER the Standard by which all Burners are Gauged—a Burner is either as good as the Premier, or it isn't.

Time has proven the Premier, absolutely dependable. There can be only one best, of any similar article. You can have your own Gas Plant—

The Premier makes this possible. You can save a substantial portion of your fuel expense—

The Premier makes this positive. Makes a Clean Gas from Kerosene (Common Coal Oil) Descriptive Circular Sent upon Request.

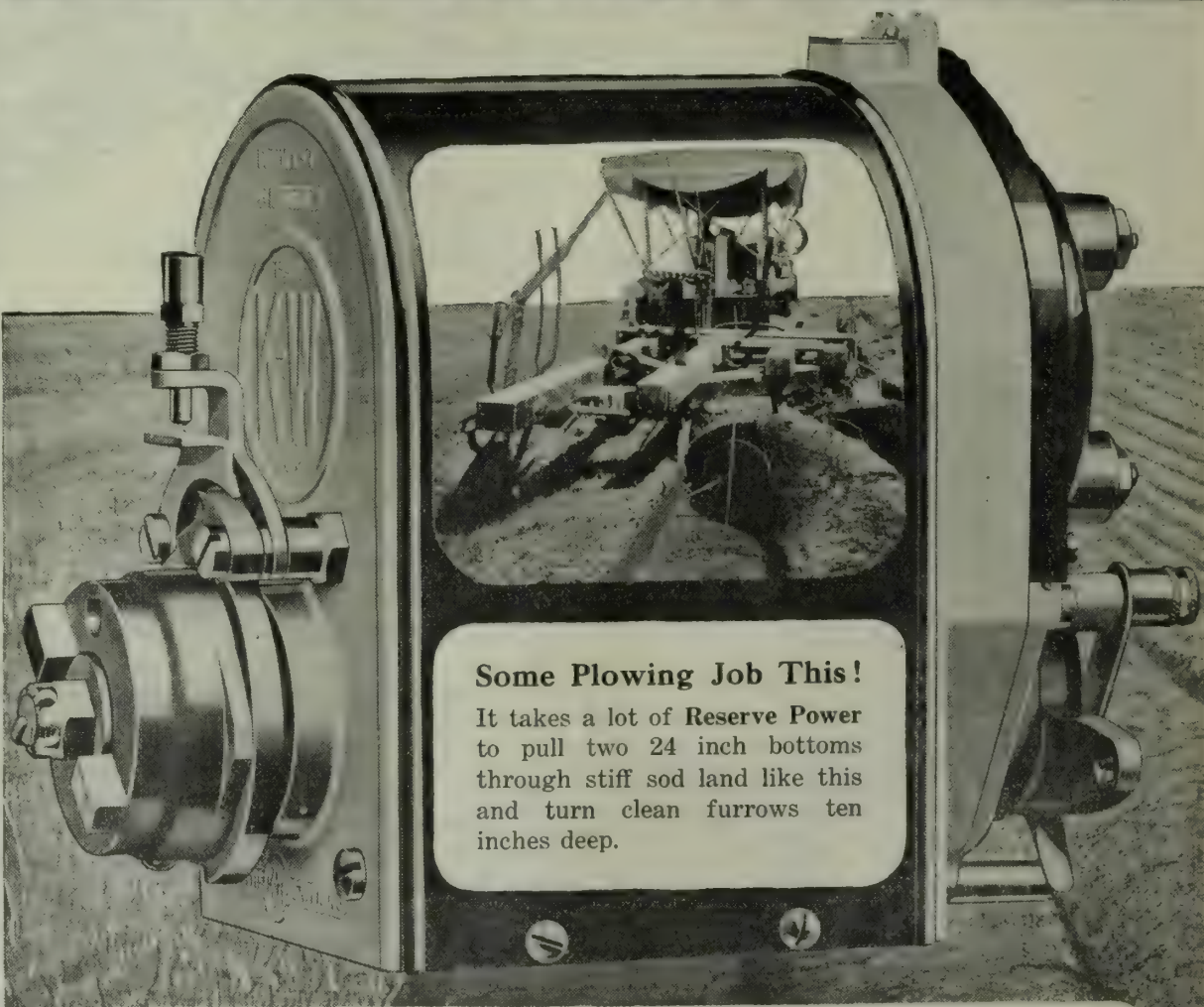
Complete outfits—\$12.50 and up, according to requirements.

VAUGHAN & MATTISON, Pacific Coast Agents

225 MARKET STREET,

SAN FRANCISCO, CALIF.

TRADE MARK K-W High Tension MAGNETOS Fire Any Kind of Fuel and Get Maximum Power Out of Every Drop Used



Some Plowing Job This!

It takes a lot of Reserve Power to pull two 24 inch bottoms through stiff sod land like this and turn clean furrows ten inches deep.

This Reserve Power is only available when the fuel is fired by the hottest spark known, such as that delivered by a K-W High Tension Magneto.

This K-W equipped Holt tractor pictured here makes easy work of jobs like this, because the K-W Magneto gives the hottest known spark, timed accurately. This intense spark fires the mixture rapidly, thus releasing the energy contained in the fuel in the shortest possible time and delivering maximum power to the piston.

Owners of K-W equipped tractors are also able to fire leaner mixtures and use cheaper grades of fuel and still develop full power from their engines. As a result they materially reduce their plowing cost per acre.

But of even greater importance than this fuel saving and reserve power is the Reliability of K-W Magnetos. This known reliability is

only natural because K-W Magnetos are built for tractor service and made their reputation for reliability on tractors. Two manufacturers have used K-W Magnetos as standard equipment for over 9 years; 18 for over 5 years; as many more for from one to 5 years.

Time is the Only Test of Reliability.

Make sure the tractor you buy is K-W equipped. Write for a list of K-W equipped tractors and free booklet, "Plow This Additional Acreage Without Fuel Cost."

THE K-W IGNITION CO.
2889 CHESTER AVE. CLEVELAND, OHIO, U.S.A.

IMPROVE YOUR OWN VEGETABLE SEED.

It is already time for us to think of the vegetable seed we are to use next year. If we save it ourselves, we know the quality of the vegetable it comes from. A few suggestions from a paper read by Prof. S. S. Rogers at the Riverside Fruit Growers' Convention, are timely now.

Good seed true to type mean larger yields of high quality crops. It may therefore be readily understood that the initial cost of the seed is negligible as compared to high germination and trueness to type.

Improvement of seed is accomplished in two major ways—hybridizing followed by selection and selection alone. The hybridizing requires almost unlimited capital in money or persistence, or both, and many years. It must be left to specialists like Luther Burbank. But anyone can begin improvement of seed at once by selecting the plants bearing most desirable crops and having the most desirable characteristics of the plant itself. Selection may be for higher yields, better quality, earliness, uniformity, etc.

The most important consideration is to have a definite ideal to select toward. This ought to conform to market demands. The same person will have to carry it on from year to year, and a written description of the ideal in detail will be necessary in order finally to arrive at that ideal. The closest approximation to the ideal must be selected each year, provided not too much deterioration is found in other desirable characteristics. Frequently several plants will be about equally near the ideal. In this case, selection from them may well be made for other characteristics. Thus the ideal type will sooner or later be found approximately and will become fixed enough to depend upon for seed.

Selection should not be made for individual fruits, such as tomatoes or melons, etc., according to Prof. Rogers, but should be made for the character of the entire crop on the vine. In selecting for earliness, do not choose only the first-maturing fruit, but choose the vine which matures its whole crop first, if that crop is of the type desired.

COTTON ACREAGE AND CONDITION.

The 1919 cotton acreage in the U. S. is nearly nine per cent less than in 1918; and the acreage in California is 12½ per cent less than in 1918, according to a report based on July 1 conditions and issued by Field Agent E. E. Kaufman of the U. S. Bureau of Crop Estimates. Of the estimated 33,960,000 acres growing cotton in U. S., California has about 169,000, of which about 142,000 are in Imperial Valley. The decrease in Southern U. S. is largely due to concerted action of planters for that purpose, and partly due to unfavorable conditions at planting time. California conditions July 1 were highly satisfactory, being estimated at 99 per cent of normal as against 70 per cent for the U. S. The 173,000 acres which were picked in California last year yielded 97,700 bales as against an estimated 114,000 bales to be picked this season if no unfavorable conditions shall arise. On the other hand, the yield for U. S. seems likely to decrease by more than a million bales, having been close to 12,000,000 bales last year. The Blythe district in Riverside county has increased its cotton acreage by more than 5000, and has a prospective crop of 18,000 bales. The San Joaquin valley had about 2500 acres last year, half of which was picked, yielding about 500 bales. This year about 8000 acres were planted, of which about 5000 are in Fresno county. The prospective San Joaquin valley crop is about 3000 bales.

ADAPT FARMING TO TRACTORS.

(Written for Pacific Rural Press.)

Many failures with tractors have been due to the attempt to give them identically the same work and the same working conditions that horses would have. A general realization that the tractor has opened new possibilities in economical farming is being followed by the realization that the limit of such possibilities cannot be reached by our old methods. Farmers who are willing to change their methods and adapt them to the particular nature of tractors are opening new fields of opportunity. Some have found that a change in distance between rows of beans, beets, etc., permits use of tractor planters, cultivators, and harvesters where they couldn't be used with rows as ordinarily planted. Fields and headlands and fences have been laid out for horses in a way that is wasteful when tractors are used and thus make tractors less economical. To study such features of tractor farming, President F. H. Poss of the California Tractor and Implement Association recommended at its last meeting that a "Standardization Committee" be appointed with power to make detailed recommendations for changes in farm operations which will add greatly to the economy of tractor farming.

CALIFORNIA GRAIN FORECAST.

Grain crops as forecasted July 12 on the basis of July 1 by J. E. Rickard of the U. S. Crop Reporting Service for California show the following: Wheat, 13,914,000 bushels, based on a condition of 83 per cent normal as against 73 per cent last year and 80 per cent for a ten-year average; barley, 31,546,000 bushels on 82 per cent condition as against 75 per cent last year and 86 for a ten-year average; oats, 5,542,000 with 84 per cent normal condition as against 79 percent last year and 84 per cent ten-year average; rice, 8,680,000 bushels on 140,000 acres this year with a condition of 94 per cent normal as against 90 per cent last year on 108,000 acres (102,000 were harvested); white potatoes, 12,250,000 bushels on 91,000 acres with a condition of 88 per cent normal. Acreage last year was 93,000.

SMALLER BEAN CROP IN STATE.

The acreage planted to beans in California this year is 415,000 compared to 597,000 in 1918, according to crop report issued today by E. E. Kaufman, Field Agent, Bureau Crop Estimates. Southern California shows decrease in acreage of about 15 per cent, and north

of Tehachapi there is a decrease of fully 45 per cent.

The condition of beans of all varieties is only 75 per cent of a normal compared to 90 last year and a 10-year average of 91.

A condition of 75 per cent forecasts a probable production of 5,602,000 bushels of beans for the 1919 crop.

The Lima bean crop alone shows a condition of only 59 compared to 94 last year and 91 in 1917. Deficiency of soil moisture at planting time and afterward besides a fungus disease causing more or less wilt is the direct cause of this poor condition of Limas.

The premium list for the 1919 California State Fair, August 30 to September 9 inclusive, has been enlarged considerably this year, for all divisions except the one for exhibits of beverages. The wine premium list has disappeared and prizes offered this year are for cider, soda water and mineral water principally. Approximately \$45,000 in cash prizes have been offered in addition to trophies and ribbons to be awarded in various divisions.

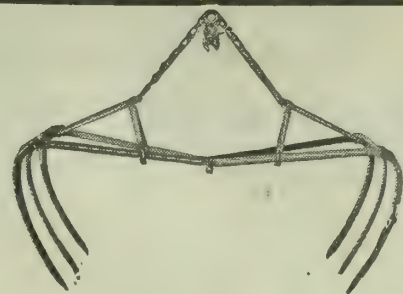
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AND WE WILL ALSO SEND YOU THE COMPLETE LOUDEN CATALOG of modern sanitary barn equipment. Send for these two valuable books today.



LOUDEN BALANCE GRAPPLE HAY FORK

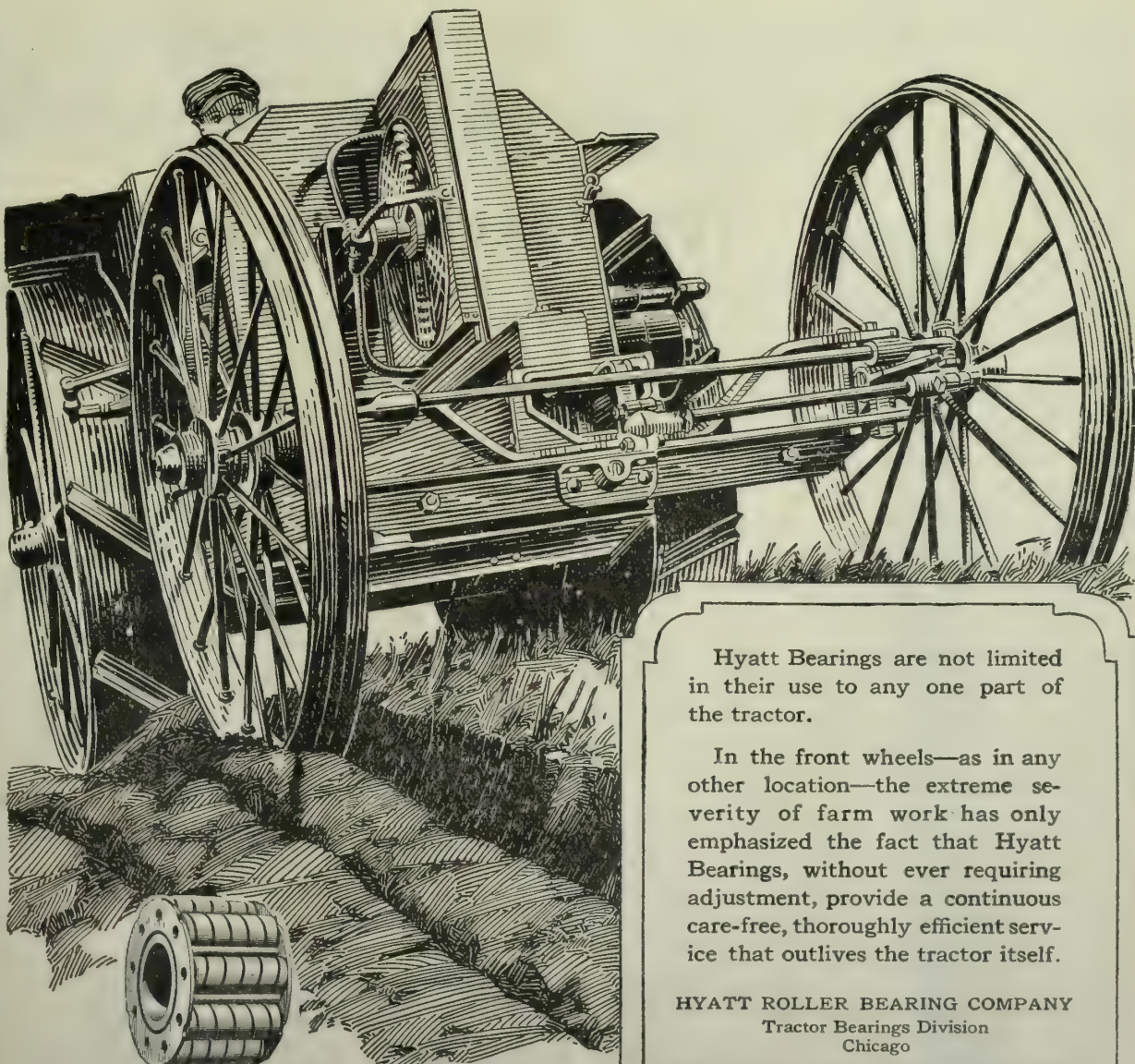
Lifts an enormous load. Binds it tight. Drops it clean. Spreads it well in the mow. Leaves no litterings to be cleaned up with a pitchfork. Three or four fork-fuls clear the rack. PERFECTLY BALANCED, slender but strong, will not bend or break. A money-saver in haying time.

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ENGINEERING AND SUPPLY CO.**

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LOS ANGELES

~ and in the front wheels, too



In this Parrett Tractor Hyatt Bearings are used in the front and rear wheels, on the reverse idler and on the fan.

Hyatt Bearings are not limited in their use to any one part of the tractor.

In the front wheels—as in any other location—the extreme severity of farm work has only emphasized the fact that Hyatt Bearings, without ever requiring adjustment, provide a continuous care-free, thoroughly efficient service that outlives the tractor itself.

HYATT ROLLER BEARING COMPANY
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HYATT

ROLLER BEARINGS

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

TRAILERS AUTOMATICALLY STEERED.

The first trailers put on the market were not much of a success when traveling at motor-car speeds. They wobbled so much that they were dangerous to other machines on the same road, and were especially dangerous to themselves on narrow mountain roads. They required too much power for economy, because, whenever the car pulling them made ever so slight a turn, the trailer did not follow the tracks but had to make new tracks of its own.

Recent improvements in trailers have eliminated these defects by providing steering devices which make the trailer follow steadily in the tracks already made, according to H. L. Mason of the Los Angeles Trailer Co.

In designing an automatic steering device, several features had to be considered. A trailer is sure to encounter bumps in the road. Its springs are intended to minimize the shock of such bumps. Therefore the steering device must not prevent free up and down movement of the axle and wheels. For this reason, the drawbar must not be hitched to the axle and should not be used as a steering gear. Neither should it be rigidly

attached to the steering gear. But manifestly the steering gear, to be automatic, must be regulated either by the drawbar or by another attachment to the motor car or truck. The latter scheme has not, so far as we know, been worked out satisfactorily, but the Los Angeles Trailer Company has hitched its drawbar directly to the frame of the trailer and designed a flexible connection between the drawbar and the parallel rod in front of the axle which works the automobile-type steering of the wheels. On top of the center of the parallel rod is a triangular steel bracket. A vertical pin turns in ball bearings in the apex of the triangle and in the center of its base. The triangle is properly braced, for the strain of steering comes on the pin. A flat steel arm has a hole near one end to fit over a pin fixed on the trailer frame over the front axle. Another hole in the arm fits over the pin in the triangular bracket on the parallel rod. The arm projects forward several inches and is joined by a knuckle joint to a bar which projects still farther forward and is joined at its forward end by a knuckle joint to two short, heavy steel bars hanging vertically from the drawbar. The knuckle joints permit plenty of play up and down, but none sidewise.

When the motor car turns the trailer drawbar, it exerts leverage on the pin and the triangular bracket and the parallel rod sidewise, thus automatically turning the wheels.

NEW POWER LIFT PLOW ATTACHMENT.

A new attachment on Knapp tractor disk plows attracted considerable attention at the Sacramento demonstration. They are all equipped with power lift, which was designed on the basis of the original Knapp plows so it can be installed on any of them. By the new attachment, the power lift is never in action except when actually raising or lowering the plows. An eccentric trip disengages the chain from the ratchet which runs it to raise or lower the plows as soon as that is accomplished. Depth of plowing is regulated by a hand wheel which operates a worm gear.

LITTLE TRACTOR MOVES HOUSE.

We have before us the picture of a little Cletrac tractor pulling a five-room house through the streets of Chula Vista and 2½ miles into the country. The house was jacked up so that timbers supported on broad roller wheels were put under it. The tractor hitched to the house looks utterly unable to move it, but it not only hauled the house over the roads, but ended up by pulling it over plowed ground to the center of an alfalfa field, where it is now used as a tenant house.

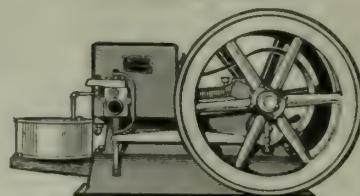
WITTE Engines

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Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

A. H. SIMPSON CO.

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THE SELF-OILING WINDMILL

has become so popular in its first four years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil, preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws. Write AERMOTOR CO., 2500 Twelfth St., Chicago



The Transmission of Power

A Transmission Belt that will give continual and satisfactory service will pay for itself in one season by eliminating costly shutdowns, etc. If you can depend upon it you are relieved of all worry. Don't peg along with a makeshift belt. You are losing money every day.

TEST SPECIAL BELTING

You never need worry when there's a TEST SPECIAL on the job. Always running. No breaks or shutdowns.

Test Special is made of long fibre cotton and high grade vulcanized rubber. Its plies will not separate, even when subjected to the most severe abuse. The TEST SPECIAL is guaranteed to give longer and better service than any other rubber belt made. Investigate it now.

Fill Out Coupon—Mail It Now

Let us take care of your belt problems. Our engineers will advise you without charge. If you are having difficulty with the belt you are now using, write to us and we will tell you how to make the proper adjustments.

Fill out and mail this coupon for samples and complete information about TEST SPECIAL BELTING.

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Send me samples of Belting that you will guarantee to give satisfactory service on my work, and quote prices delivered at

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NEW THRESHER ON MARKET.

The Twin City All-Steel Thresher is a late addition to the power farming machinery line of the Minneapolis Steel and Machinery Co. Features of the machine are triple tandem chafers, giving a total separating area of 84 square feet in the 22-42 machine; an auxiliary cylinder which re-threshes unthreshed heads and tailings and delivers them not back into the straw, but direct to the grain pan for cleaning; a special feeder controlled by a Pickering governor to regulate the volume of grain fed to the cylinder; a special spreading cylinder with skew blades, which spread the grain to the full width and take maximum amount of grain without danger of choking; fishbacks and lifting fingers on the straw racks increase the speed of straw as it passes rearward and give no chance for bunching; sieves adjustable to various-sized mesh in a minute so that no changing of sieves is necessary; all bearings outside may be oiled while the machine is in motion.

TRUCKS SAVE MILK IN SOUTHERN CALIFORNIA.

Complaining that milk shipped from their ranch via the railroad arrived in Los Angeles in a bad condition and was therefore forced on the market as sour cream, R. S. Smith and George Wiegand put on a motor truck, and, according to a petition filed with the Railroad Commission, solved the milk shipping problem. They ask for a permit to continue in the motor truck business, declaring that the demands of the other ranchers for general service will justify the maintenance of a truck line. In support of their contention, they cite the fact that they are now using four trucks hauling milk under contract. Their proposed route is between Los Angeles and San Jacinto, Temecula, via Riverside.

MOTOR TRUCKS RAISED MILK PROFITS.

Dairymen of the San Jacinto-Temecula districts in Riverside county have been enabled to get increased prices for their milk in the Los Angeles markets by reason of a commercial motor truck route and the transportation rates have been attractive to the dairy men, according to announcement of the State Railroad Commission in granting the truck operators further privileges in handling other products.

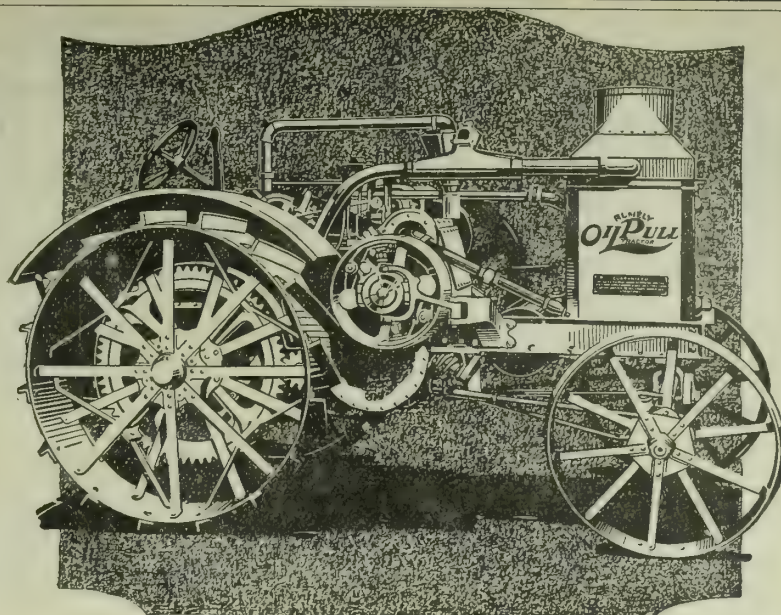
FARMERS WILL HAVE THEIR "DRIVE."

Harvest activities by the farmers are so general at the present time that the Farm Owners' and Operators' Association is not for the moment centering its activities on the solicitation of memberships in the field. Instead, it is shaping its plans for an unusually active drive through a dozen or more counties as soon as the farmers have finished their harvest work.

At the offices of the State Organization Committee in Stockton a letter census is being made of sentiment in the different counties. Lists are being compiled, forms adopted, routes mapped out, and a definite plan evolved for a strongly organized drive just as soon as the State Board gives the word.

Most farmers, especially those who are grain raisers, are too busy to attend meetings at present, but by scores and hundreds they are pledged to personal co-operation as soon as the big drive begins. The work of organization is to go forward in several counties at the same time. Local leadership is to be aided by the presence of some of the best-known farmers in the State. In the mail received at the State office there are continuous pledges of personal service. From Kings to Sutter and from Santa Cruz to Ventura there will be under way in a few weeks a drive that will complete the organization of the strongest State Association ever formed by the agricultural interests.

The area under olive trees in Italy is estimated at 5,683,000 acres, the same as in 1918.



The
New
12-20
RUMELY
OILPULL
TRACTOR

Cheapest in Cost per Year of Service

On what basis are you going to buy *your* tractor—by the dollar of cost or by the years of service?

Advance-Rumely is one tractor manufacturer who insists upon putting quality first. By quality we mean rugged, dependable construction, surplus power, real fuel economy and all around service.

In building the new 12-20 OilPull, Advance-Rumely refused to put out a cheap, lightly constructed tractor. We know and you know that durability can't be combined with cheap, light construction. And if a tractor won't "stand the gaff" nothing else about it counts for much.

We have embodied the proved OilPull ruggedness and substantial construction in this small, light weight 12-20. And by light weight we mean *right* weight—the proper weight to give long lasting, year after year, dependable service.

Like all OilPull tractors, the 12-20 is backed by a *written guarantee* to burn successfully all grades of kerosene under all conditions, at all loads to its full rated brake horsepower.

And just as Advance-Rumely guarantees its OilPull tractor as a cheap fuel burner, it insists upon giving the purchaser a surplus of power. The 12-20 rating is based upon only 80 per cent of its maximum power efficiency—a 20 per cent overload capacity when you need it. This means further insurance of long life—a tractor that will be doing the same good work five years hence as in its first season.

The 12-20 is oil-cooled—no evaporation and the radiator can't freeze. The circulating system is always open and oil preserves the metal parts. The OilPull cooling system keeps the motor at the right temperature at all loads—the harder the OilPull works, the cooler it runs.

On the 12-20 the belt pulley is on the right hand side—up within full view of the operator. The 12-20 can be lined up with a belt machine, backed into the belt and the belt started and stopped from the platform. The belt pulley is driven direct off the crankshaft—no loss of power.

The 12-20 OilPull will pull three 14-inch bottoms under ordinary conditions and a proportionate number of disc plows. It will operate a 22-inch thresher fully equipped and economically handle all other power jobs, drawbar or belt.

To safeguard the customer's best interests Advance-Rumely maintains 27 branch offices and warehouses, each equipped to give immediate service in machinery, parts and expert help.

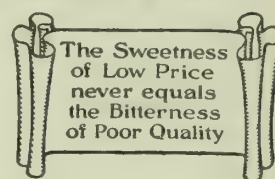
The wise farmer will buy a tractor by the year—not by the dollar. Just as the OilPull will plow an acre at lower cost than any tractor built, its cost measured in years of service makes it the cheapest tractor obtainable.

Ask for the catalog describing the new 12-20.

ADVANCE-RUMELY THRESHER CO., Inc.

La Porte, Indiana

San Francisco, Cal.,
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Fuel—Guaranteed to burn kerosene successfully under all conditions.

Cooling—Oil cooled—no evaporation—non-freezing.

Motor—Heavy duty, 2 cylinder 6 in. x 8 in.—560 R. P. M.

Crankshaft—Built to U. S. naval specifications.

Frame—Hot riveted steel members—no bends—no splices.

Transmission—Cut steel gears—enclosed and running in oil.

Bearings—Hyatt roller bearings in transmission and rear axle.

Governor—Fly ball throttling type—automatic speed regulation.

Belt Pulley—19 inch diameter—running directly off crankshaft—no intermediate gears.

Lubrication—Force feed and splash.

Speeds—Two forward—one reverse.

Drawbar—Adjustable spring drawbar.



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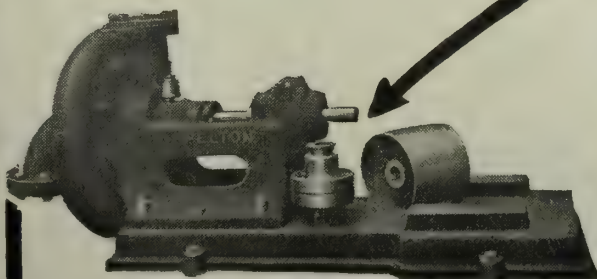
PROTECT YOUR CROPS WITH MINIMUM COST

When lack of moisture and warm weather threaten crops, irrigation will protect you from loss.

The irrigation equipment that will give you the most service is a PELTON irrigation plant—an interchangeable PELTON pump driven by any kind of engine, motor or tractor available.

Later, this pump may be permanently installed, direct connected to an electric motor, with minimum cost, and will give more water per horsepower.

PELTON dealers make quick delivery.



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Ulmer Machinery Co., Porterville.
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California Mechanical & Electrical Engineering Co., Sacramento
THE PELTON WATER WHEEL COMPANY,
1990 Harrison Street, San Francisco, California.

Livestock and Dairy Notes

Livestock breeders all over the state are invited to send on postal cards, notes regarding their sales. State and County Fair intentions, new stock, etc.

LIVESTOCK SALES DATES.

July 16—Tulare County Duroc-Jersey Breeders' Association, Tulare. Second consignment sale of 60 head.
August 2—Butte City Ranch, Butte City. Shorthorn cattle, Berkshire hogs, Shropshire sheep and Shetland ponies.
August 6—Francis T. Underhill, Santa Barbara. 100 head Hampshire hogs.
August 26—Fresno County Poland-China Breeders' Association, Fresno. Consignment sale of bred sows and gilts.
September 17—John M. Bernstein and W. L. Haag & Son, Hanford. Poland-China bred sow sale.
October 4—H. I. Marsh and Les McCracken, Modesto. Poland-China bred sows and gilts.
October 7—M. & A. L. Bassett, J. A. Crawshaw and F. D. Ross, Hanford. 75 head of Poland-Chinas.
October 16—H. M. Elberg, Roselawn Stock Farms, Woodland. 45 head of Shorthorns.
October 18—Trewitt, Vaughan and Nehls, Hanford. Poland-China bred sows and gilts.
October 29—Tulare County Poland-China Breeders' Association, Tulare. First consignment sale.

The Dairy.

S. J. Lowe of San Luis Obispo has 40 head of registered Shorthorns on his 4,000 acre ranch and runs from 300 to 400 range cattle.

The Holstein cow, Creampot Pontiac Korndyke, owned by Cole & Hicks, Grandville, N. Y., has made a record of 50.70 pounds butter from 795.9 pounds milk, thus displacing Segis Fayne Johanna in the full-age class.

J. W. McLean of San Luis Obispo has a herd of grade Jerseys that averages 6% in butterfat test. Mr. McLean is working for an average daily milk production of 35 pounds. His herd sire is Eminence Golden Chief.

Beef Cattle.

Hereafter hornless Durhams or Shorthorns are to be officially known as polled Shorthorns. This was the decision made at the last meeting of the Polled Durham Breeders' Association.

JERSEY BREEDERS

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit Cows. Write for information.

W. J. HACKETT,

Ceres, California

T. B. PURVINE & SONS

PETALUMA, CALIFORNIA.

Breeders of

Registered JERSEYS

Young bull calves for sale. Fine individuals with Register of Merit backing.

VENADERA HERD REG. JERSEYS

Herd headed by Altama Interest, Grand Champion 1918 State Fair. Awarded two other championships and 10 firsts, including Aged Herd Breeders' Young Herd, and get of sire. Young bulls for sale from dams and granddams in Register of Merit.

GUY H. MILLER, Modesto, Cal.

N. H. LOCKE CO.

LOCKEFORD, CAL.

Choice young bulls of King's Valet Blood, backed by Records.

Call at the ranch and make selection.

RANCHO SANTA MARGUERITA

D. F. Conant, Prop.,

Modesto, Cal.

Register of

MERIT JERSEYS

A limited number of bulls for sale.

FOR LARGE AND ECONOMIC PRODUCTION

Get one of my young Jersey bulls from a high producing dam. They are rich in the blood of Gertie of Glynlyn and Lady Letty Lambert. Occasionally one old enough for service.

A. A. JENKINS, Tulare, Cal.

At the Carpenter & Ross Shorthorn sale at Chicago, June 24, 172 head sold for an average of \$2,200, which is a new world's record for the number sold. The top was the bull Cudham Dreadnaught, who sold for \$19,500. The top female brought \$6,000.

Swine and Swinemens.

F. L. Sandercock of San Luis Obispo is starting a herd of registered Berkshires and has as his herd sire Duke's Natomas Rookwood 4th.

White Triangle Ranch, Santa Margarita, are just beginning to establish a herd of registered Berkshires and have some very good foundation stock.

Judge J. C. Craig, Duroc breeder of Owensmouth, is expecting a boar and 5 sows from the east very shortly. The animals were selected by Fred DeVore and are as good as can be found.

Recent sales by the Ireland Ranch, breeders of Durocs, at Owensmouth, include: One bred gilt to J. B. McGee, Whittier, 1 bred gilt to Bard Estate, Hueneme, and 1 gilt to H. M. Lord, Marion.

The Poland-China breeders of Madera county are considering the forming of a county association according to W. A. Clarke, vice-president of the Farm Bureau, who has the matter in charge. Mr. Clarke says that he is pretty sure of 25 members.

F. M. Johnson of Napa has sold his entire herd of 40 registered Durocs to Harvey M. Berglund, Dixon, which added to his already good herd gives Mr. Berglund one of the largest and best herds in the West. Mr. Johnson will go back to Nebraska in the fall and bring out a carload of the best Durocs he can find.

Sheep.

The University Farm at Lincoln, Neb., has purchased 160 head of California lambs to eat up the green feed that otherwise would go to waste about the campus. They must have a good opinion of California stock back there.

The National Sheep and Wool Bureau is starting a campaign for a "pure goods" law that will compel marking of all fabrics so as to show whether they contain only "virgin wool" or "shoddy." It is claimed that what people have been buying for all wool is a mixture in two-thirds of the cases.

Miscellaneous Livestock.

A Placer County Farm Bureau Fair will be held at Roseville August 25-28. A livestock show will be one of the chief features.

A county fair will be held at Balboa Park, San Diego, during the last four days of September. Premiums amounting to \$1,500 will be offered. The fair will be under the auspices of the farm bureau.

SAN FRANCISCO SHOW WILL BE A HUMMER.

Yes, the wheels of progress are now moving rapidly and plans are taking shape which will make the San Francisco Livestock Show the big event of the season. Prof. Gordon H. True, who will be manager, has opened offices in the Lachman Building and is right on the job. He promises to have the premium list out soon. There will be classes for all kinds of livestock, and the premiums will be liberal. The show will open Nov. 1 and continue to Nov. 8.

Breeders will be delighted to learn that the directors expect to secure the California Building at the Panama-Pacific Exposition grounds. This is only one of many big moves that will be made by the board of directors, which consists of many of San Francisco's leading men, with W. T. Sesnon as president. Mr. Sesnon is putting his whole heart and soul into the work, and with the affairs of the Show in such capable hands its success is assured.

Too Valuable to Waste



THE PART a cream separator plays in the success of a dairy farmer is becoming more and more important. With butterfat worth about fifteen times as much as wheat and twenty times as much as shelled corn, it is too valuable to waste a particle.

Primrose and Lily cream separators are designed to save all

the cream. They guard against those daily losses which in themselves might seem trifling, but when summed up, amount to a big loss.

One of the vital differences between the Primrose and Lily and other cream separators, is that in the former there is no obstacle in the path of the cream as it leaves the bowl. They are the only separators with two wide open cream outlets.

Another difference, every bearing is oiled automatically, and the oil is forced through every bearing. You may forget, but the machine never does. Used oil is automatically drained off.

Prompt and efficient service is always at hand to make any adjustment, repair or replacement needed. See the nearest local dealer, or write us for complete information.

The Full Line of International Harvester Quality Machines

Grain Harvesting Machines

Binders Push Binders Headers Rice Binders Harvester-Threshers Reapers Shockers Threshers

Tillage Implements

Disk Harrows Tractor Harrows Spring-Tooth Harrows Peg-Tooth Harrows Orchard Harrows Soil Pulverizers Cultivators

Power Machines

Kerosene Engines Gasoline Engines Kerosene Tractors Motor Trucks Motor Cultivators

Mowing Machines

Mowers Tedders Side Delivery Rakes Loaders (All Types) Rakes Bunchers Combination Side Rakes and Tedders Sweep Rakes Stackers Combination Sweep Rakes and Stackers Baling Presses

Planting & Seeding Machines

Corn Planters Corn Drills Grain Drills Broadcast Seeders Alfalfa & Grass Seed Drills Fertilizer & Lime Sowers

Corn Machines

Planters Drills Cultivators Motor Cultivators Binders Pickers Ensilage Cutters Shellers Huskers & Shredders

Other Farm Equipment

Cream Separators Feed Grinders Manure Spreaders Straw Spreader Attachments Farm Wagons Farm Trucks Stalk Cutters Knife Grinders Tractor Hitches Binder Twine

INTERNATIONAL HARVESTER COMPANY

OF AMERICA, INC.
BILLINGS, MONT. CRAWFORD, NEB. DENVER, COLO. HELENA, MONT.
LOS ANGELES, CAL. PORTLAND, ORE. SALT LAKE CITY, UTAH
SAN FRANCISCO, CAL. SPOKANE, WASH.

Large Production and Fine Type

are combined in the get of
PRINCE RIVERSIDE WALKER



Aagie Acme of Riverside 2nd and Miss Valley Mead De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

King Korndyke Pontiac 20th, our young \$6,500 sire, whose great individuality, fine type, and backing of an unbroken line of great

producing dams are hard to beat. Come and see the result of this breeding, and for further particulars.

Our Entire Herd is Tuberculin Tested.

TULARE HOLSTEIN FARM

W. J. HIGDON, Owner

TULARE, CAL.

H. L. REDD, lamb

BUY A YOUNG BERKSHIRE BOAR

and grow him out for spring service. We are offering a few exceptionally good ones, 4 months old. These will make real herd headers. They are sired by our 700-lb. first prize winning son of Laurel Champion, and out of large stretchy sows. All sow pigs either sold or reserved. Also have for sale a 14-months-old boar, that weighs around 450 lbs. He is good enough to head any herd, and is priced right. Write us at once for further particulars.

IMPERIAL STOCK FARM

R. J. MERRILL & SON,

Morgan Hill, Cal.

HAVE SOME NICE YOUNG BULLS

Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.

M. Bernstein's new boar, The
is growing faster than any
cause is a boar of great finish.

ESTOCK DIRECTORY

this directory 3c per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from
Grand Champion Sows and sired by Mayfield
Rookwood, sire of Champion Barrow at 1919
Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The pro-
lific, easy-feeding kind that make the highest
priced pork from the lowest priced feed. They
will increase your profits. Prices reasonable;
satisfaction guaranteed. Write for free book-
let, describing our world's reserve champion
STAR LEADER. We are now making a
special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

TWO SOWS AND A BOAR—\$100 the trio.
Two sow pigs from ten raised sired by Baron
Duke 201st, 780-pound, \$1100 Grand National
Champion, from Rival B Princess, a prize-
winner at San Francisco, Sacramento, Oregon,
and Omaha National Swine Show, and a boar
sired by the Grand Laurel Champion boar
from Symbaler Belle, and of Superbus blood
lines. A boar from a litter of ten raised, big,
long, typey, stretchy pigs. Sanderoock Land
Co., in charge of Natomas Land Sales, 23
Montgomery Street, San Francisco, Cal.

HERD BOAR—One of Grand Leader's best
sons. Loma Rica Leader 234317, bred by
Humphrey, dam Majestic Belle, 10th; this
good boar has size without being coarse;
heart girth 60 inches; present weight about
600; can readily carry another 150 pounds;
will be three years old Sept. 8; has been used
with small herd (five sows), and is unusu-
ally vigorous and active; our price is \$250,
but we will buy back one of his sons, our
pick, from spring litters, for \$100 at weaning
time. Loma Rica Nursery, Grass Valley, Cal.

GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and
Grapewild Farm Leader. A. B. Humphrey,
Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large lit-
ters. Order one if you want the best. Satis-
faction guaranteed. R. J. Merrill, Morgan
Hill, California.

QUALITY BERKSHIRES—Young stock of
both sexes. Calac Orchards, Geo. P. Upham,
Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the
\$1500 boar, Kounias Registered Stock Farm.
Modesto, Calif.

FOR REAL GOOD BERKSHIRES write
Frank B. Anderson, B. 724W, Sacramento, Cal.
CARRUTHERS FARMS BERKSHIRES—
Cholera immune. Live Oak, California.

REGISTERED BERKSHIRES—Write R. D.
Hume, Dos Palos, California.

BERKSHIRES—Fair Oaks Ranch, Willits,
California.

Poland-Chinas.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall
boars by a great son of Caldwell's Big Bob;
also spring boars by the Grand Champion
King's Big Bone Leader and other noted sires.
Satisfaction guaranteed.

PARADISE, CALIFORNIA

BOAR PIGS—Out of sows selected
J. Gotshall, from the corn belt. One
Bob pig sired by Bridges' Bob
Buri, grand champion, and out
F. W. W. Bridges' Bobby. Two sired by
J. T. M. Under Buster and out of the
J. T. M. Bob's Giantess. These are real
J. T. M. intended to please. H. C. Shinn,
Tulare.

EL DORADO—Our great herd boar, will
put producing qualities into your herd.
His offspring have size, stretch, bone, good
backs and feet, and easy feeding qualities.
To make the right start with big-type Poland
Chinas, get one of his boar pigs. Prices
right. Correspondence cheerfully answered.
Viola L. Kendrick, Santa Barbara, California.

NOW BOOKING ORDERS for spring pigs,
either sex, from my prize winning, large type
Poland-China hogs. Also will book a few
orders for bred gilts, February and March
farrow, and a few good, serviceable, aged
boars. Hole I Marsh, Modesto, California.

SOW BARGAINS—We are offering some ex-
ceptionally nice tried sows, bred and open gilts,
at attractive prices. They are all sired by
the undefeated and world's grand champion
Superba and out of big type sows, which cost
me \$200 and over. Investigate before buying
elsewhere. Rough's Greenfields, Arlington Sta-
tion, Riverside, California.

BRED AND OPEN JULY GILTS by King
Big Bone Leader for sale. Also September
gilts by California Jumbo Buster and a few
toppy young boars. A. Buckland & Son,
Route E, Box 126, Fresno.

ELDERSLY FARM—We are offering some
excellent tops from our fall and spring pigs
at attractive prices, sired by one of America's
best-bred boars, Big Black Bone Wonder, with
grand champion breeding on both sides.
He is a real 1000-lb. boar. J. H. Ware, Live
Oak, California.

MAKE BIG MONEY with Cloverdale Farm
big-type Poland-Chinas—the prolific, fast-
growing, easy-feeding, money-making kind.
We purchased the famous Whitten Ranch herd
including great boar Jumbo Model. High-class
stock for sale—farmers' prices. Write us,
Cloverdale Farm, R. F. D. 1, Escondido, Cal.

HARTSOOK BIG TYPE POLANDS—A fine
lot of young boars. Both bred and open gilts
for sale. Toggenburg goats and Holstein
bulls ready for service. Fred Hartsook, Lan-
kershim, California.

3 CHOICE GILTS November 7th farrow—
\$40.00 each; 3 January 21 farrow—\$30.00
each. Registered and crated. Edward A.
Hall, Route 1, Box 39, Watsonville, Cal.

McCarthy & Starkweather
FALL BOARS—Big type, smooth and classy.
Cholera immune. Box 2250, San Francisco, or
Paradise Road, Modesto.

BIG-BONED POLAND-CHINAS—From East-
ern prize-winners. Sold out of boars; a few
choice October gilts for sale. D. H. Forney,
Route G, Fresno, California.

OXBONE HERD offers March boars for
sale from King's Big Bone Leader, grand
champion at State Fair, 1918. Write F. E.
Fay, Tipton, California.

BOOKING ORDERS for spring pigs sired by
"Bob Big Bone" 281289, litter brother of the
Junior Champion of Sacramento, 1918, P. E.
Mitchell, Atwater, California.

WAUKEEN HERD POLAND-CHINAS—Big
type herd boar, the \$700 Grand Champion of
California. Les McCracken, Prop., Ripon, Cal.

HORAN'S POLAND CHINAS—Young stock.
Bred and open gilts. Big-Bone Bob and Won-
der blood lines. N. K. Horan, Lockeford, Cal.

BIG TYPE POLAND-CHINAS—Stock from
the best herds of the Middle West. N. Hauck,
Alton, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for
sale. Giant Buster and President Stock. Prices
right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large smooth
and big-boned Poland Chinas. Geo. V. Beck-
man & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—
Prize winners. Finest stock in the State. M.
Bassett, Hanford, California.

RIGHT TYPE POLAND-CHINAS—Weanling
boars. Registered and immunized. W. T.
Dice, Hanford, Calif.

CHAS. L. WEAVER, Tulare, Cal., Poland
Chinas. One 11 months old—"A Wonder"
bred boar.

POLAND-CHINA PIGS—Bernstein Trewhitt
and Ross blood. B. M. Hargis, Tulare.

KEAOKS RANCH herd of registered
Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for
sale. E. S. Myers, Riverdale, California.

BIG TYPE POLAND-CHINAS—Young boars
for sale. Carstens & Halloway, Madera, Calif.

POLAND CHINAS—Young stock for sale.
H. E. McMahan, Lemoore, California.

POLAND CHINAS—Strictly large type. J.
F. Lehman, Lodi, Cal.

LARGE TYPE POLAND-CHINAS. Winton
Poland-China Farm, Winton, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Just a
few left to offer. One 1917 fall boar and
one 1918 fall boar; both cholera immune.
Spring farrows are all sold except 10 boar
pigs. Will have 10 more sows farrow dur-
ing May, June and July, and will book orders
now from these coming litters, delivery at
weaning time. C. B. Cunningham, Mills, Calif.

BILLIKEN CHESTER WHITES—Nothing
this month. Eight spring boar and 5 spring
sow pigs to offer during August. All young
stock is now immune. At the State Fair this
year will show a full exhibit of good ones.
Drop in and see them and get some real big
type ones. C. B. Cunningham, Mills, Calif.

DANDY REGISTERED CHESTER WHITE
weanlings. Reasonable prices. K. Wellman,
Los Altos, Cal.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Home of
Cherry Volunteer II, Grand Champion Boar
at Riverside. Ireland's Orion Defender and
Orion's King of Ireland are excellent sires in
service. Booking orders for spring delivery.
Ranch at Owensmouth. City office, 1219
Brockman Bldg., Los Angeles, Calif.

REGISTERED DUROC-JERSEYS—Wean-
lings, both sexes, from Orion, Defender and
Golden Model stock. Pino Vista Ranch, Plac-
erville, Cal. Address H. C. Baum.

BIG TYPE DUROCS—Herd headed by Cal-
ifornia Orion King. Am offering a few se-
lected boar pigs. Inquiries invited. Harvey
M. Berglund, Dixon, Calif.

PATHFINDER AND KING'S COL stock—
immune. Weanlings, \$25 each. Bred gilts
and service boars. Derryfield Farm, Capital
National Bank Bldg., Sacramento, Calif.

WE WON MORE MONEY on Durocs at the
State Fair than any other exhibitor. Why
not buy some of this winning stock? June
Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popu-
lar herd in the West. Our Durocs make money
for us—they will do the same for you. Winsor
Ranch, Bonita, San Diego Co. Address R. K.
Walker.

REGISTERED DUROC JERSEYS—Open
and bred gilts, August and November boars.
Great herd headers. Weanling pigs, both
sexes. Stock of the big strong type so much
desired. Jack Borge, Dos Palos, Cal.

DUROC JERSEY SWINE FOR SALE—Best
blood lines. Bred sows and gilts. Service
boars. Jersey Queen Farm, San Jose, Calif.

DUROC JERSEYS—Fine big type gilts,
tried sows and boars Eastern and California
bred. H. P. Slocum & Son, Willows, Calif.

HEAVY-BONED DUROCS—A few service
boars for sale. Ormondale Co., Route 1,
Redwood City, California.

REGISTERED DUROCS—All from prize-
winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W.
J. Fulgham & Sons, Visalia, California.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs,
dandy young boars. Uneeda Hampshire Swine
Farm, Tom M. Bodger, Prop., Gardena, Cal.

MY HAMPSHIRE are money makers
Stock for sale. Buy now. L. W. Denker,
Saugus, California.

Miscellaneous.

LARGE YORKSHIRES—The ideal hog for
the progressive farmer. Young stock for sale.
A. L. Tubbs Co., Calistoga, Calif.

DAIRY CATTLE.

Guernseys.

HIDDEN VALLEY FARM offers for sale 2
young Guernsey bulls, ready for service, out
of high record advanced register dams. A. J.
Welch, proprietor, Redwood City, California.

EDGEMOOR FARM GUERNSEYS—First in
the show ring and in official records. A few
choicely bred bull calves for sales. Edgemoor
Farm, Santee, San Diego county, Calif.

PAJO ALTO STOCK FARM, Palo Alto—
Breeders of registered Guernseys; both sexes;
prices reasonable.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice
young bulls at reasonable prices. J. H. Meyer,
440 Montgomery St., San Francisco, Calif.

REGISTERED YEARLING ROB ROY
Bull. Farmer's price. Redwoods Ayrshire
Farm, La Honda.

AYRSHIRES—Registered; all ages. E. B.
McFarland, 412 Claus Spreckles Building, San
Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron
Estate Co., Valley Ford, Cal.

Jerseys.

SUNSHINE FARM JERSEYS—Tuberculin
tested. Production counts. E. E. Greenough,
Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Regis-
tered and unregistered bulls and heifers. Two
unregistered 2½ years old range bulls. Chas.
L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for
sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Regis-
tered young bulls for sale. Alexander &
Kellogg, Suisun, California.

Holsteins.

A PRICE ON EVERY ANIMAL.

Herd free from tuberculosis. All sales sub-
ject to sixty days' retest. Sons of Funderne
Soldene Valdessa, whose dam is not only a
world record cow in seven-day division, but
has two sisters holding world's records for
yearly production.

Toyon Farms Association.
679 Mills Building, San Francisco

YOUNG HOLSTEIN BULLS—Excellent
breeding and individuals. Satisfaction guar-
anteed. Pecho Ranch and Stock Co., San Luis
Obispo, Calif.

PAJO ALTO STOCK FARM, Palo Alto,
breeders of registered Holsteins. Heifers and
service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with
world's record backing. Kounias' Registered
Stock Farm, Modesto, California.

REGISTERED HOLSTEIN CATTLE—E. B.
Freeman, Route B, Modesto, California.

EL DORADO HERD OF HOLSTEINS—
Alex. Whaley, Tulare, California.

CREAMCUP HERD—Registered Holsteins.
Pontiac bull calves. M. Holdridge, Rt. A
Box 437, San Jose, California.

F. H. STENZEL, SAN LORENZO, CALIF.—
Breeder of Registered Holsteins. High test
producers.

THE VICTORY HERD—Registered Holstein
cattle and Duroc Jersey swine. H. E. Spire,
Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Young stock
for sale from A. R. O. dams. La Driver Stock
Farm, Nicolaus, Cal.

REGISTERED HOLSTEINS—Best blood
lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS—We breed for
production. Leeman and Kilgore, Ninon, Cal.

J. W. BENOIT, Modesto, Calif. Breeder of
registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of
registered Holstein-Friesian. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No
females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from
A. R. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris
& Sons Corp., Importers and Breeders, Wood-
land, California.

REGISTERED HOLSTEINS and Duroc-
Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—
Purebred range bulls, unregistered, for sale
Estate Thos. B. Dibblee, Santa Barbara or
Lompoc, Calif. John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS
(founded by Governor Sparks). Herd and
range bulls. Reasonable prices. W. D. Duke,
Likely, Modoc county, California.

REGISTERED YEARLING SHORTHORN
BULLS—Heavy-boned, thick-meated, Scotch
and Scotch-topped breeding. Ormondale Co.,
Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue
free. Thomas Harrison, Santa Rosa Stock
Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn,
California. Over one hundred registered ani-
mals. Fairfax and Repeater bulls head the
herd. On highway.

THE NEVADA HEREFORD RANCH, Jno.
H. Cazier & Son Co., Props., Wells, Nevada.
Registered Hereford cattle. Breeding stock for
sale.

HOPLAND STOCK FARM—Registered Short-
horns. Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable.
Diamond G Ranch, Esparto, California.

SIMON NEWMAN CO., breeders of Regis-
tered Hereford, Newman, California.

GEORGE CALLAHAN, breeder of registered
Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks
Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered
Herefords, Bishop, California.

HEREFORDS—Mission Hereford Farm, Mis-
sion San Jose, California.

REGISTERED SHORTHORNS—Julien
Ranch, Grenada, Siskiyou Co., California.

SHORTHORNS—Carruthers Farms, Live
Oak, California.

HORSES AND MULES.

FOR SALE—A-1 Breeding Jack, Bargain
Have quit raising mules. W. P. Harkey, Grid-
ley.

PERCHERONS—Registered Stallions, Mares
and Fillies; three, four, and five years old.
Cora S. Secrest, Escalon, Cal.

SHEEP AND GOATS.

PURE-BRED RAMBOUILLET RAMS, large
smooth frames, extremely heavy shearers, from
the very best strains of this country and
France. Immediate delivery from ranch at
Ord Bend, Glenn county. P. O. address, Win-
dell Orchards, Glenn, Calif.

F. A. MECHAM ESTATE, Petaluma, Cal.—
Breeders and importers of Shropshire, Ram-
bouillet and American Merinos, both sexes.
Also Red Polled cattle. Take electric car at
Petaluma or Santa Rosa for Live Oak Ranch.

HAVE FOR SALE fifty head of fine year-
ling Shropshire rams. Also 25 head of high-
grade Rambouillet rams. These are big fine
wooled rams. E. D. Dudley, Dixon, Calif.

500 GOOD TWO AND THREE-YEAR-OLD
breeding ewes for sale, in good order. Write
James J. Connell, 399 North 3rd St., San Jose.
Phone 3763.

J. R. BLOOM, DIXON, CAL.—Breeder of
Shropshire rams out of pure blood ewes and
imported registered rams. Single and car
load lots.

SHROPSHIRE—43 yearling, purebred,
registered Shropshire rams for sale. Harry L.
Huston, Winters, Calif.

DORSETS AND ROMNEYS—Dorset ram
lamb for sale. John E. Marble, South Pas-
adena, California.

BULLARD BROS., Woodland, Calif. Breed-
ers and importers of Rambouillet sheep.

BISHOP BROS., SAN RAMON CALIF.—
Breeders and importers of Shropshires.

KAUPKE BROS., WOODLAND, CALIF.—
Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of
Rambouillet Hanford, California.

WANTED—52 two-year-old Shropshire ewes.
Route 1, Box 8, Cloverdale.

CALLA GROVE FARM, MANTECA, CALIF.—
Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shrop-
shires, Berkshires and Shetland ponies. Write
for prices and descriptions before buying.
Butte City Ranch, Box P. Butte City, Glenn
county, Cal. W. P. Dwyer and W. S. Guil-
ford, owners. Special Notice: Second Farm
Sale. Shorthorns; Shropshires; Berkshires;
Ponies. August 2, 1919.



ROUTE 4, BOX 735

REGISTERED DUROC-JERSEYS

We have for sale right now, big, heavy-boned, high-up, four-
months-old boars. Also some A-1 weanling pigs, either sex. Also
some young gilts. Our herd boar has the best blood of the breed
and was a prize-winner at the State Fair last year.

Write for prices.

THE GARDINER RANCH, SACRAMENTO, CAL.

Chester White Boars

Here is your opportunity to secure Fall boars ready for service, and sure to put money-
making qualities into your herd. Sired by the \$1,000 Highlander and the pick of the
season's crop. Prices reasonable.

OAK KNOLL FARM

LAKEPORT, CAL.

SAN FRANCISCO OFFICE, 601 Balboa Bldg.

Tulare Sales Pavilion Ready

(Written for Pacific Rural Press.)

Months ago the farsighted breeders of Tulare County saw the important position that the section was bound to hold as a breeding center, and realized the need of a suitable place for holding public sales. The Tulare County Livestock Association put the matter up to the Tulare city people, and the result is that they now have a whole block of ground on the highway south of the city, enclosed by a 7-foot tight

cement washing floor in the center of each row of cattle stalls. Water is piped to all pens and stalls.

The grounds and buildings represent an investment of \$8500, but this is only the beginning. It is planned to erect another building double the size of the Sales Pavilion for exhibition purposes at fair times, and the enterprising people of the community are boosting for a fall fair.

The first sale in the new pavilion



One of the two hog barns adjoining the new Sales Pavilion at Tulare.

board fence. A Sales Pavilion 60 feet square has been erected; there are two hog barns, each with 15 pens of various sizes; there are two rows of 40 double cattle stalls.

All buildings have been erected with the idea of permanency. They are well built, and there are cement foundations wherever necessary. The hog barns have cement floors and tight partitions between pens. There is a

will be held July 16, when the Tulare County Duroc-Jersey Breeders' Association will hold a consignment sale of bred sows and gilts. The tops from the leading herds in the county will be offered. They represent the best blood lines of the breed, and have been bred to some of the most noted boars on the coast. With a free lunch and drinks at noon, the new Sales Pavilion will be dedicated in a big way.

Cattlemen Want Stockyards

(Written for Pacific Rural Press by R. H. Whitten.)

About the middle of last November the Sierra Vista Vineyard Company of Minurn, began feeding two carloads of grade Hereford and Short-horn steers—all by registered bulls—and gave them all the chopped alfalfa hay they would eat, together with about 8 pounds of barley each per day.

When the steers were ready for market they would have brought the top price of 20½ cents at Chicago, but locally the manager, D. B. Harris, was offered only 13 cents with a 3 per cent shrinkage, making a difference of about \$90 per head, or \$4500 on the two carloads. Mr. Harris

spent \$75 a head on the steers to put them in prime marketing condition, yet he was offered only ½ cent above the price paid for half-fat grass steers. He says that had he fed the steers hay alone for 60 days and then carried them on grass until about the first of June he could have contracted them for shipment East at 12½ cents and made money, instead of losing, as he was obliged to in selling at 13 cents after feeding the steers on high-priced grain. In other words, Mr. Harris was penalized for doing the things that every breeder should be encouraged to do—breeding up and feeding for quality beef.

We asked several cattlemen their opinion on this subject and quite a number recommended better breeding. J. H. Cazier & Sons of Wells, Nevada, White & Terry of Sacramento, L. N. Pabst of Cedarville, and W. S. & W. K. Humbert of Phoenix, Arizona, stated that they thought the passage of a law requiring the use of purebred bulls on the range would go a long way toward solving the problem. "With better breeding stock we would have heavier and better beef, matured earlier and at less cost to produce," says Mr. Humbert. Yes, that's so, and purebred bulls ought to be universally used. But it is not enough to make additional profit from

TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM

W. O. Pearson, Prop. Woodland, Cal.

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM

P. O. Box 177, Lancaster, Cal.

CAN IT BE DONE?

As an experiment during July I am selling on a new plan

35 Registered Duroc-Jersey Spring Pigs

For the first time in California high-class REGISTERED DUROCS will be sold to bona fide farmers on easy terms.

In this lot are husky, growthy big type pigs from a 1100 LB. GRAND CHAMPION grandsire, out of dams producing 10 to 17 pigs per litter twice a year. The most popular Eastern blood lines are represented.

Every pig will be registered, crated, and sold with an iron-bound, money-back guarantee.

Send no money, but write today for full particulars, stating sex and number of pigs interested in.

GEO. L. HORINE,

WINTON, CALIF.

Lendorris Ranch Poland - Chinas



PUT PROFIT IN FARMING

Our herd is the result of careful selecting and constructive breeding, and combines size, bone, easy-feeding qualities, prolificacy—everything you want for a profit-making hog.

GREAT BATTERY OF BOARS

YOUNG JUMBO (see picture), the great son of Jumbo Bob, who is all that his name and breeding imply; also the sensational young boar, LENDORRIS LIBERTY BOND, a son of Liberty Bond, for whom \$10,000 was refused. He promises to become one of the Coast's greatest sires. This is the blood you need to insure your success.

W. L. HAAG & SON
Hanford, Calif.

UNEEDA GLENN COUNTY HERD OF

Duroc-Jersey Hogs

KEY HERD OF PACIFIC COAST

Won at Sacramento:

Grand Champion Sow, Senior Champion Sow, Junior Champion Boar, seven Firsts, 23 other prizes.

PIGS BY NOTED SIRE

High Orion, the world's record-breaking sire, Great Wonder, Grand Champion Iowa; King Orion Cherry, First Prize Indiana and Ohio, and other best boars of the breed. Get some of their pigs. Few bred sows and gilts left.

H. P. SLOCUM & SON

WILLOWS, CAL.

UNEEDA QUEEN MODEL,
Grand Champion State Fair, 1918.

A FEW GOOD DUROC BOARS FOR SALE

Sired by California's Defender No. 181269 and out of Tagus OK Lady No. 649796, Tulare Belle, No. 655690, Tagus OK Def. 1st, No. 752198, Tagus Girl Def. 6th, No. 752208, Tagus Lady Defender II, No. 752184.

Weanlings, \$25.00 each
4 months old \$35.00 each
6 months old, \$50.00 each

Serviceable Boars over
6 months,
\$60.00 and up

DIABLO STOCK FARM

Phone Danville 8F2

G. W. EMMONS, Proprietor, Danville, Cal. E. F. PETERSON, Supt.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO. LOS ANGELES

GREENWOOD DUROCS

OUR sows are all carefully selected individuals of greatest merit and choicest breeding. At the head of our herd is one of the very best boars in California, a genuine big type sire. Every sale guaranteed to make a satisfied customer.

H. C. WITHEROW, Mgr. LIVE OAK, Sutter Co., Cal.

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St. San Francisco

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

One mile east of town.

St. Helena, Calif.

SHROPSHIRE RAMS

The kind that produce the large uniform black face lamb so much sought after in the markets.

Call on or write to

C. E. BARNHART, Suisun, Calif.

LAKE VIEW FARM SHROPSHIRE SHEEP

Hardy northern grown. Woolled from nose to toes. Ship on approval.

Our First Offering:

20 RAM LAMBS.

25 EWE LAMBS.

Apply to or Address

Wilson E. Elliott

Box 73,

Loleta, Cal.

ROSEDALE FARMS Hampshire Sheep

WE OFFER FOR THIS SEASON:

25 Head of Ram Lambs

50 Head of Yearling Ewes

100 Head of Ewe Lambs

One 3-year-old Butterfield Ram.

Apply to or address

D. E. KELLIHER, EUGENE, CAL.

having the cattle mature earlier. There should be further profit because of the quality of the meat. It isn't very satisfactory to market steers yielding a higher quality of meat, a greater proportion of valuable cuts, and a smaller proportion of offal, and receive the price of common stuff.

Mr. Harris says that there is no competition between the large packers in California today, and that unless the cattlemen organize for marketing purposes they must expect to pay tribute to these companies. The packers say that there is no market in this State for high-quality beef, and they throw the blame on the consumers. If they are right, what's the reason for this state of affairs? Why should Californians be satisfied with a poorer grade of meat than consumers in other sections of the country demand? Do they need to be educated to the superior qualities of heavy beef? If so, perhaps it would be a good thing for the packers to use for this purpose a little of that money they are using for advertising to put themselves right with the producers and consumers.

J. A. Bunting, of Mission San Jose, recommends that cattlemen build and operate their own packing houses so that they will not be such lambs for the big packers. Mr. Harris makes a suggestion somewhat along the same line, which is that cattlemen should organize so that when the California market cannot take their stock they will be prepared to slaughter, refrigerate and ship to whatever market is the best. Perhaps this will be the ultimate solution, but it would be a mammoth undertaking, requiring lots of time, effort and money, and something of less magnitude must be done to better the situation before such a plan can be put into operation.

Stockyards owned by cattlemen—that's what most of the stock men want. Ormondale Company of Redwood City, E. A. Noyes & Son of Sutter, H. H. Gable of Esparto, H. M. Barngrover of Santa Clara, Pacheco Cattle Company of Hollister, H. L. & E. H. Murphy of Perkins, and dozens of others are strong for co-operative stockyards.

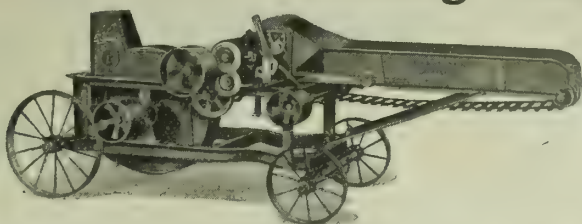
Either directly or indirectly, stockyards would solve most of the marketing problems. As stated unofficially by E. E. Nicolls of the U. S. Bureau of Markets at San Francisco, stockyards would provide an open market, competitive buying, a uniform system of grading, reliable market quotations, stabilization of live-stock loans, and development of feeder trade. And aren't those the improvements most needed?

CALIFORNIA HOLSTEIN BREEDERS STAND HIGH.

The official prize list published by the Holstein-Friesian Association shows the following amounts won by the California breeders for the season 1918-1919: A. W. Morris & Sons, Woodland, \$324; Bridgford Company, Knightsen, \$275.50; Palo Alto Stock Farm, Palo Alto, \$168.50; McAlister & Son, Chino, \$126.50; W. J. Higdon, Tulare, \$125.70; M. H. Tichenor, Palo Alto, \$113.50; A. J. Stalder, Riverside, \$97; E. E. Freeman, Modesto, \$90.25; J. H. Harlan Co., Woodland, \$78.50; Gotshall & Magruder, Ripon, \$65.50; F. W. Kiesel, Sacramento, \$58.50; Anita M. Baldwin, Santa Anita, \$48.50; J. J. Jeffries, Burbank, \$36; State Hospital, Napa, \$33.50; A. M. Bibens, Modesto, \$22.50; J. W. Benoit, Modesto, \$19.50; E. J. Weldon, Sacramento, \$19; G. A. Smith, Corcoran, \$18.25; K. W. Abbott, Ripon, \$18.25; Dean Beeman, Woodland, \$10; R. L. Holmes, Modesto, \$7.50; Los Angeles County Farm, Hondo, \$6.50. California stands fifth in the number of breeders receiving prize money, and A. W. Morris & Sons have appeared among the first twelve breeders in the United States every year for five years.

C. A. Miller of Ripon has sold a registered Holstein cow to Martin Edwards of the same place, who is just starting in the pure-bred business. Mr. Edwards has also purchased three cows from W. F. Miller, Ripon.

For Clean Cut, Close Packing Silage---



The ACME Cutter

The Combined Silo Filler, Hay Chopper and Alfalfa Meal Machine.

RELIABILITY

THE name "Acme" on a feed cutter is a guarantee of its reliability, for we have made it our creed to offer dairymen machinery which embodies only the soundest engineering practice, the best materials and the best workmanship.

The Light-Running Acme

has proven its superiority to thousands of dairymen in the five essential requirements of a reliable feed cutter and these are:

- | | |
|----------------------------|---------------|
| 1—Quality Cutting | 2—Convenience |
| 3—Durability | 4—Safety |
| 5—Light Power Requirements | |

Catalog Mailed Upon Request

DE LAVAL DAIRY SUPPLY CO., 61 Beale Street, San Francisco

Calco products for every farm

CALCO PRODUCTS are made of all metal construction—built of Armeo Iron and Cast Iron. Every piece is rigidly made, strong, durable, sanitary—built to give long service.

The Calco Stock Watering Trough is made for cattle and horses. Built ready to go on supporting frame. Capacities from 18 to 153 gallons—right prices.

Calco Hog Troughs—for healthy hogs—are made in sizes from 24 to 120 inches in length. Armeo Iron and Cast Iron construction throughout. Safe, clean, durable.

Calco Sheep Troughs—made for sheep, deep troughs in capacities from 51 to 131 gallons. Ready to go on supporting frame.

Calco Automatic Hog Watering Fountains give constant supply of fresh water. Clean, durable and give long service. Illustrated Fountain (Stock number 751), diameter 44 inches.

Calco Automatic Hog Grain Feeders are made in capacities from 2 to 14 bushels. Give automatic supply of clean, fresh grain. No waste. Long service.

These products are profit-producing, long service, all-metal farm necessities. Write for price lists—TODAY.

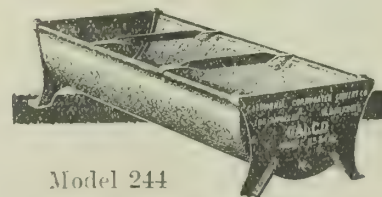
California Corrugated Culvert Company

LOS ANGELES
417 Leroy Street

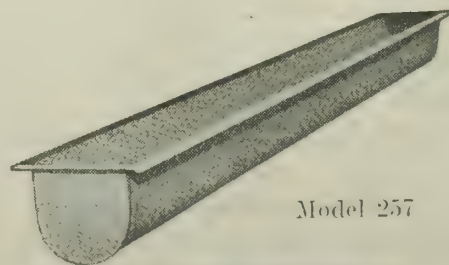
BERKELEY
406 Parker Street



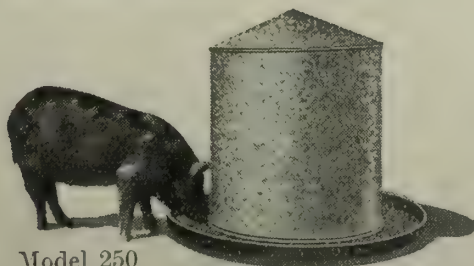
Model 200
Calco Stock Watering Trough



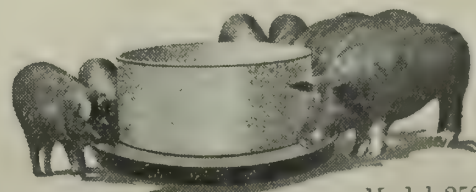
Model 244
Calco Hog Trough



Model 257
Calco Sheep Trough



Model 250
Calco Automatic Hog Grain Feeder



Model 252
Calco Automatic Hog Watering Fountain

Rubbing Elbows with Other Breeders

(Written for Pacific Rural Press by Thos. F. McConnell.)

Berglund's Big Ones.

A gilt that weighs 512 pounds at one year old is some baby hog, and of course she is a Duroc, or Harvey M. Berglund of Dixon wouldn't have her. This bouncer was sired by Johnson's Defender, and besides being a great animal herself, has a wonderful litter of pigs.

Hogs can't help but grow for Harvey though, as he is always on the job giving them his personal attention. When the writer called he was busy cleaning out the pens and then sprinkled them thoroughly with air-slaked lime, which made them both clean and sanitary.

Mr. Berglund believes in the big type and his herd header, California Orion King, weighed 756 pounds at 2 years, after being used on 40 sows.

THE OTIS HERD

Milking Shorthorns
WILLOUGHBY OHIO.



LADY OF THE GLEN.

Bred by us and acknowledged the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison,

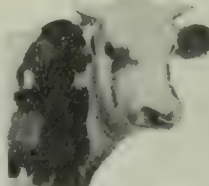
Santa Rosa Stock Farm, Santa Rosa, Cal.
California Representative.

CATTLE RANGES

ARE YOU
INTERESTED?

In knowing facts about Central British Columbia Cattle Ranges and mixed farming, improved and non-improved, large and small? Write your requirements, resources.

J. H. BROWNLEE, Canadian Land Surveyor,
Peoples Savings Bank Bldg.
Phone Main 23354. Sacramento.



REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.
R. D. "A," Box 437.
Two miles out North First Street.

California Breeders

have sold more than \$350,000.00 worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.

CALIFORNIA BREEDERS' SALES AND PEDIGREE CO.
C. L. HUGHES, Sales Manager, Sacramento, Cal.

HOLMES STOCK FARM

WATERFORD RD., MODESTO, CALIF.
Registered Holstein Friesians.
YOUNG SERVICE BULL FOR SALE
Prince Abbecker Aralla Walker,
No. 204267—Three-quarters white.
Write for pedigree and price. Inspection invited and satisfaction guaranteed.

Shropshire Rams

Pure blood yearling rams—singles and carload lots. Also pure-blood lamb bucks, ready for service by Sept. 1st. These bucks and rams are from pure-blood ewes (formerly registered) and the best registered rams to be purchased in the United States.

J. R. BLOOM, DIXON.



BOOK ON DOG DISEASES And How to Feed

Mailed free to any address by the Author

H. CLAY GLOVER CO., Inc.,
118 West 31st Street, New York

This boar not only is big, but has large bone and excellent conformation. There are very few animals that are his equal.

Haag's Hogs Make Good.

It is gratifying to observe the methods of a breeder whose chief object is to have his stock make good in the hands of purchasers. Many breeders will feed their animals to the limit and turn them over to purchasers without a word as to how they have been fed or how they should be fed. Often the result is that the animals go backward and the new owners become disgusted with pure-breeds.

But W. L. Haag, who with his son conducts the Lendorris Ranch at Hanford, believes in accustoming his hogs to common feed, such as are used on the average California farm, so that when the hogs go to new homes they will thrive. He feeds barley and milo, some middlings and very little milk. By doing this he figures that if a hog is placed on a milk ration after passing into other hands it will do well, but if no milk is fed it will not fall off.

Mr. Haag also has made a close study of the best age to breed a gilt and has come to the conclusion that the best results are obtained when a gilt is bred at from 10 months to a year old. The sows will be bigger, litters larger, and the pigs bigger and stronger. Pigs are generally weaned at from 10 weeks to 3 months, but often they wean themselves, as creepers are provided and they learn to eat at an early age. Sows that are good breeders are kept as long as productive, but if not prolific they are sold to the butcher and are not allowed to get into the hands of other breeders. The boar pigs are culled very closely and only the tops are sold for breeding purposes.

The senior herd sire, Long Jumbo, never looked better than at present. He is a strong, active fellow; very deep, has a wonderful back, and shows lots of character and quality. He will be a strong bidder for high honors if shown this fall.

Too much cannot be said in favor of the junior herd sire, Lendorris Liberty Bond. His sire is the great boar Liberty Bond, owned back in Missouri, and in the last mid-winter sale sows bred to him and Liberator made an average of \$823. An offer of \$10,000 cash was refused for him. The Haag boar seems the exact duplicate of his illustrious daddy and promises to make a great name for himself here on the coast. Sixteen of the fall gilts which will be offered at the coming Bernstein-Haag sale will be bred to him.

The 22 brood sows which make up the female side of this excellent herd are about as fine as will be found anywhere. One sow, Lorraine B, has farrowed 22 pigs during the past year and raised 21. Then there are eight yearling sows that are almost a show in themselves. They were sired by Young Jumbo and King's Big Bone Leader. Mr. Haag and his son have built up this herd by close personal attention to both breeding and feeding. Mr. Haag is very modest and claims that he is only a fruit man, but if so there ought to be more fruit men raising hogs.

Bennett Has Some Bouncer.

W. V. Bennett of Nord is a great believer in the big type Duroc-Jersey breed of swine, and he has some animals of supreme merit to back his belief. Mr. Bennett made a trip east in search of something in the swine line to better his herd, and brought back a sow sired by Barker's Premier Giant that comes near being the best anywhere. She is a sow of great size, large full ham and strong bone—an ideal brood sow.

Mr. Bennett has four other younger sows that are great types and if the State Fair was in session today he would be very apt to "bring home more bacon" than he took with him.

Alfalfa for Draft Horses.

N. W. Thompson of Patterson is a great believer in first quality alfalfa

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?

Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

SAN FRANCISCO

The BIG AUCTION SALE BUTTE CITY RANCH

Owned by W. P. Dwyer and W. S. Guilford
BUTTE CITY, CALIFORNIA

Saturday, August 2, 1919.

For their Second Annual Sale the owners of Butte City Ranch have selected from their herds and flocks a choice lot of young breeding animals that should prove attractive and profitable investments to new owners. The offering will include

50 REGISTERED SHORTHORNS
38 FEMALES—12 BULLS
125 REGISTERED SHROPSHIRE SHEEP
50 REGISTERED BERKSHIRE HOGS
10 SHETLAND PONIES

Some of the most noted families of the respective breeds are represented in this sale by individuals fully worthy of their breeding, and the offering throughout is composed of prime young animals in vigorous, thrifty condition.

Watch for Detailed Announcement Next Week

Catalog of sale free on request

Management—

CALIFORNIA BREEDERS' SALES AND PEDIGREE CO.

J. M. Henderson, Pres. C. L. Hughes, Sales Mgr.
Sacramento, Calif.

Auctioneers—

COL. BEN A. RHOADES, Los Angeles.
COL. GEO. W. BELL, Tulare.

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay
Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type
A few yearling heifers of same breeding.
Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY,

Perkins, Sacramento Co., Cal.

ORMONDALE SHORTHORNS

All are heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED.

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road.
We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE DUBOC-JERSEY SWINE ORMONDALE CO. REDWOOD CITY, CAL.
R. D. No. 1

AUCTIONS

A postcard with your name and address will put your name on my mailing list for announcements of sales worth attending.

ORD L. LEACHMAN, THE AUCTIONEER

1004 Fifth St.

Sacramento.

hay as a feed for draft horses at all times. For stallions, either in active service or otherwise, it cannot be beaten. Supplemented with a little rolled barley, when animals are getting hard service, or fed alone, no deleterious effects have ever been observed by Mr. Thompson who is feeding it regularly, and has been for a term of years. There never has been any trouble with colic or kidney troubles among his stallions, and he has quite a number of young Percherons and Belgians that show in most excellent condition and are getting nothing but straight alfalfa hay. A light roan Belgian stallion, Waussux, 3 years old, and weighing over 2,000 pounds, is in excellent flesh—firm and hard, with a beautiful coat—and has not had anything but alfalfa for 90 days.

Two colts that were brought in from the range in October and fed alfalfa with a light grain ration, gained on an average 110 and 120 pounds per month respectively for 4 months, and kept in the best of condition. Mr. Thompson has no use for medicines or veterinarians. He thinks alfalfa, salt and pure clean water provide all the treatment necessary.

Lehman Likes Milking Machines.

The question is often asked, "Are milking machines a success?" The answers are many and varied. J. F. Lehman of Lodi has been operating one of the popular makes for over five years, and as he is a successful dairyman the very fact that he has continued the use of the machine method of milking for this period is a very convincing affirmative answer. To achieve this success with the machine method has meant close attention to detail and watchfulness, but there has been no injury to the cows or falling off in the milk flow; otherwise a careful dairyman like Mr. Lehman would not continue the use of the machine.

Mr. Lehman milks from 25 to 30 high-grade Holstein cows and at present he and his 12-year-old son do the milking more quickly, easily and profitably than they could by hand.

DAIRY COUNCIL ELECTS OFFICERS.

If the achievements of an organization can be estimated in advance according to the caliber of the men in its directorate, then the California Dairy Council should accomplish wonders during the coming year, for it is doubtful if a stronger body of men was ever gotten together than the new directors elected at the annual meeting in San Francisco last Wednesday. They represent all of the different branches of the dairy industry, and each man is a recognized leader in his line.

The new board is made up as follows—Breeder: A. W. Morris, Woodland; G. M. Brown, Burr Farms, Los Angeles; W. H. Saylor, San Francisco. Producers: Hon. F. J. Cummings, Ferndale; John Denman, Petaluma; Ed. H. Webster, El Centro. Milk Distributors: D. M. Dorman, Crescent Creamery, Los Angeles; C. A. Fieweger, Walnut Grove Creamery, Oakland; E. A. Green, Liberty Dairy, San Francisco. Butter Manufacturers: Geo. E. Platt, L. A. Creamery, Los Angeles; W. B. Hopkins, Petaluma Co-operative Creamery, Petaluma; C. E. Gray, California Central Creameries, San Francisco. Cheese Manufacturers: C. C. Lester, Gilroy. Ice Cream Manufacturers: F. S. Calkins, All Ice Cream Co., Los Angeles; F. H. Ames, National Ice Cream Co., San Francisco. Condensed Milk Manufacturers: H. W. Low, Hughson Condensed Milk Co., Hughson. Bankers: H. D. Swengel, Bank of Arcata, Arcata. Dairy Produce Dealers: J. T. Frietas, Pres. San Francisco Wholesale Dairy Produce Exchange. Dairy Machinery and Equipment: J. N. Gilman, De Laval Dairy Supply Co., San Francisco. At large: H. E. Van Norman, Dean University Farm School, Davis; R. H. Whitten, Livestock Editor Pacific Rural Press, San Francisco.

The directors at a later meeting elected Hon. F. J. Cummings of Ferndale president, Geo. E. Platt of the Los Angeles Creamery, Los Angeles, vice-president, and Sam H. Greene of San Francisco secretary-manager.

HILLCREST STOCK FARM

Shorthorn Cattle

Shropshire Sheep

Merino Sheep

RAMS AND BULLS FOR SALE

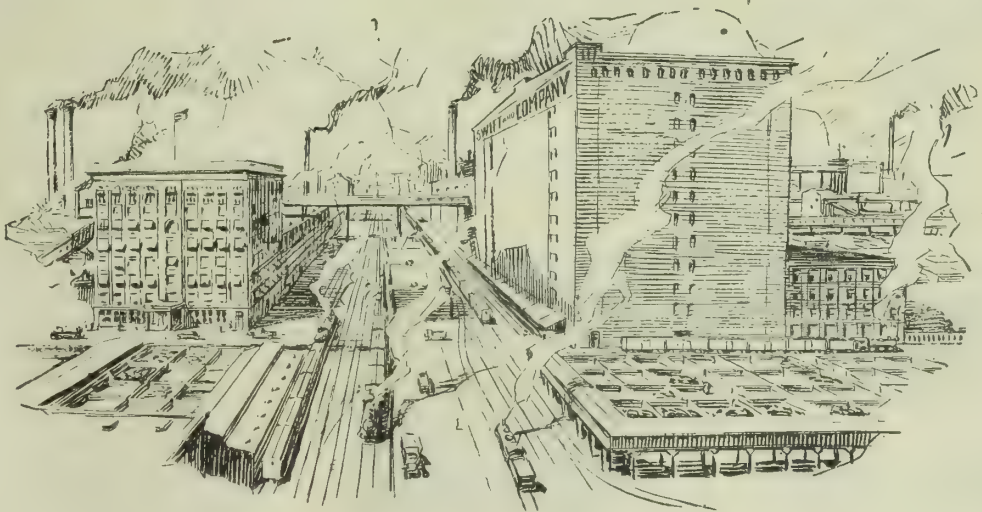
Single or in Carload Lots

T. S. GLIDE, - Davis, Calif.

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EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
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Calf Profits
Are you getting them? Calf profits mean more to you now than ever before.
Blatchford's Calf Meal
has been known since the year 1890 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.
Write for New Data See actual figures showing you how to increase your calf profits.
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CALVES
The ONLY Calf Meal using pure dry milk solids as a base; feed Red Horn Calf Meal Wean calves from milk in four weeks. Send for free literature.
GLOBE MILLS, Los Angeles



Suppose you were managing Swift & Company

Knowledge of the American appetite is one of the requisites of the manager's job.

Suppose you are the manager. You know that more meat is eaten in cold weather. A cold snap begins suddenly, butcher shops enjoy a thriving trade and call for meat. The rush of orders uses up your stocks. Competition among buyers sends the price up.

The next winter, when you are expecting the usual good demand along comes the influenza epidemic and people stop eating meat, leaving a big lot of perishable food on hand!

What would you have done then, if you had been managing Swift & Company? Of course you would have had to reduce prices to get rid of the meat—and taken a loss.

Demand is the queerest thing in the world.

No one ever has put his finger on it. Weather, fashion, business, all control men's appetites, and they buy what they want to eat.

These touches and flurries in different parts of the country cause the price to bob up and down like a cork and bait pulled by an excited fish.

After operating Swift & Company you would see how the public appetite for meat controls the price of live and dressed beef. You would find that the packer doesn't like these fluctuations any better than you do, and that he is powerless to stop them.

You would also find that he has to use the keenest judgment and the best of management to get his profit of a fraction of a cent per pound.

Swift & Company, U. S. A.

Founded 1868

A nation-wide organization owned by more than 25,000 shareholders



PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

Western Meat Company

SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

Poultry and Rabbits for Profit

Conducted by R. H. Whitten.

THE EXTRA PROFIT FROM PURE-BRED STOCK.

It is surprising how many beginners in the poultry business select a location with great care, and plan their buildings and equipment with as much concern as though they were erecting a lifelong home, yet when it comes to the selection of stock they place quality second to quantity and try to get as many birds as possible for their money. They spend lavishly on buildings and equipment and put what is left into stock, yet the quality of stock has ten times more to do with success than the manner of housing.

It is the height of folly to begin with cheap stock, on the theory that it can gradually be improved. It is the tendency of all kinds of livestock to retrograde in breeding, and while an experienced breeder of high-class stock can make each succeeding generation show advancement, this is a hard enough task for the beginner when he has birds of real quality. To do it with birds of an unknown ancestry is a hopeless task, and the idea that it can be done is a delusion that has sent many well-meaning poultry raisers upon the rocks of failure.

I don't mean that a beginner should merely be particular to have all birds

while the latter are simply bred for utility purposes. Their way of putting it is that all standard-bred birds are pure bred, but not all pure-breds are standard bred.

But I take exception to this statement, for barring the exceptional case which proves the rule, every breeder is inclined toward the standard. To illustrate: You start in the poultry business and decide to aim for heavy egg production, so you purchase utility stock. But in selecting the birds you are mighty particular to pick out the best looking ones, and this is your first step toward the standard, for the fancy points are simply those that please the eye.

Then when you get the birds home you take pride in showing them to your friends, and you delight in pointing out certain ones that look particularly good. Second step toward the fancy end.

Then, when you mate up your breeding pens, even though you have trapped and have selected only heavy layers for breeders, you pick out the best looking birds and put them in pen No. 1, put next best in pen No. 2, and so on. And you charge more for eggs from pen No. 1 than those from pen No. 5, even though the hens may not have any better egg-laying records. Another inclination toward standard breeding.

A utility bird is one that answers every practical purpose, and certainly one practical purpose is to please the eye. For if you don't like the looks of your birds you can't love them; without love you will never give them proper care; and without proper care they will never pay for their keep, no matter how well they have been bred for business qualities.

Consequently, as every breeder should—and actually does, either consciously or unconsciously—breed toward the standard, there is no need of these two terms, and I use pure-bred to include birds pure in blood and bred for both show and heavy laying qualities.

Furthermore, the egg-laying contests have proved that the bird of the best show type makes the best layer. At one of the Missouri contests the heavy producing hens of all breeds were put in one group, and the low producing ones in another, and all were scored by a licensed judge. The hens of the first group, which averaged 222 eggs per year, scored 89 1/4 per cent, even though cut heavily on weight, because of the effects of their heavy laying. Those of the second group, with an average of only 101 eggs per year, scored only 62 1/2 per cent. Something to think about if you are starting in the poultry business. It is highly important that you get the right foundation stock, for your success will depend more upon it than upon any other factor.

Just figure it out. Suppose you can buy a utility pen of one male and eight females for \$25, but will have to pay \$75 for a pen of high-class pure-breds. Suppose you hatch for only four months of the year. You will get about 480 eggs, 400 of which will be good enough to use for hatching. Suppose you get only a 50 per cent hatch—200 chicks—and, allowing for losses and culling, you get only 150 mature birds.

The veteran poultry breeder, I. K. Felch, collected data to prove that the difference between pure-bred and common stock averages \$5.75 per bird, but let's be very conservative and put the figure at \$2.50. As you have 150 birds, this means that if they are pure-breds they will be worth \$375 more than if they are common stock. I won't continue to show what the difference will be in the second and third years. This increase of \$375 in profit for one year on an investment of \$50 is enough to convince any man who has enough brains to make a success of the poultry business that it will pay him to start with high-class, pure-bred stock.

It costs no more to raise pure-

breds than it does to raise common stock. In fact, it actually costs less, for statistics show that they produce more eggs per hen per year at a less cost of feed per egg. Furthermore, the eggs are more uniform in size, shape and color, thus commanding the highest market price.

Pure-breds are more hardy and less susceptible to disease, so risk and loss are reduced to the minimum. They are more prepotent; their eggs more fertile; there are fewer weak germs, and more eggs hatch. The chicks are more vigorous; they grow more rapidly, mature more quickly, and begin laying earlier. Pure-breds breed more true to type; consequently, there is less culling, and there are a larger number of birds that may be sold at fancy prices.

So, if you are thinking of taking up poultry raising, plan to buy the best foundation stock obtainable.

Poultry Breeders' Directory

DON'T BE TOO LATE BOOKING fall chicks, reduced. Get ready for high-priced broiler, roaster holiday trade. Seven varieties clearing customers \$5.00 yearly. 200-290 egg strain. Chicks every week in year. 70,000 capacity hatcheries supplying chicks. All booked some weeks. **HUNDREDS LAYING PULLETS**, breeding hens, roosters, reduced July, August. Valuable circular with proof free. J. Beeson, Pasadena, Calif.

WHITE LEGHORNS are the most profitable breed of poultry. If you are in the business for profit, you will eventually have them. Early broilers; early layers; early profits; we sell only White Leghorn Baby Chix from heavy-laying Hoganized hens. Safe delivery of full count live chix guaranteed. Prices per 100: February \$15; March \$14; April \$12.50. The Pioneer Hatchery, 408 Sixth St., Petaluma, California.

S. C. WHITE LEGHORN CHICKS—Any quantity from A-1 Hoganized and trapped stock, winners of 1st, 2nd and special for pullet and 1st cockerel at Pacific Coast Land Show. Orders taken for June 7. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Calif.

ATKINSON'S PEEPLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels, \$5 and up. 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

SULLIVAN'S BUFF ORPINGTONS—Famous for 20 years in show and utility qualities. Line bred for 20 seasons. Bargains now in stock and eggs. Write Mr. and Mrs. W. S. Sullivan, 100 Market Road, Agnew, Cal.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties every week. Only good, strong youngsters shipped. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto.

SURPLUS STOCK SALE—account of moving. Hoganized White Orpingtons and Sicilian Buttercups; trios, pens and singles, at reasonable prices; write for list. M. S. Woodhams, San Mateo, Cal.

EGG BRED—Buff Brown, White Leghorns, Golden Campines, Dark Cornish. Winners wherever shown. Send for circular. Percy Ward, 3142 Ward St., Fruitvale, California.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

BABY CHICKS—We have the large heavy-laying S. C. White Leghorns, severely culled last year. Send for prices. Tupman Poultry Farm, Ceres, California.

FOR SALE OR EXCHANGE—Dozen and half mated and working King and Red Carneaux Pigeons for bees, chickens, incubator or others. T. Holmes Mills, Parlier, Calif.

EASTMAN'S BRED TO LAY Hoganized and trapped Barred Plymouth Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch Rt. 2, Box 144D, Pomona, California.

HIMALAYAN WHITE FUR RABBITS, Mock Ermine. Mrs. Leroy Hackett, 3306 "P" West St., Oakland, Calif.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

RABBITS.

RAISE RABBITS—Most profitable and popular small animal in America. Big demand. Clean, fascinating work. Send 10c for copy of leading rabbit magazine and our Rabbit Books, P N 5. Gilmore's Rabbit Farm, Santa Barbara, Calif.

NEW ZEALAND REDS—First class utility does bred \$5.00 each. Young does, \$2.50 each. F. R. Caldwell, Broadmoor, San Leandro.

RAISE RABBITS FOR US—We supply the breeding stock. Send stamp for particulars. H. E. Gibson Co., Arcadia, Calif.

Try COULSON'S EGG FOOD
FOR GREATER EGG PRODUCTION
FULL PARTICULARS IN FREE BOOK
"CHICKENS FROM
SHELL TO MARKET"

Coulson Co.
PETALUMA, CAL.



The good qualities of a purebred bird like this one become fixed characteristics, and they are transmitted to the offspring with reasonable certainty.

in a pen of the same color and general shape—apparently of the same breed. I give every right-minded person credit for having enough brains to know that nothing can ever be accomplished with a dung-hill flock—with birds of every conceivable color and shape. But there are many to whom all birds of the same general appearance are of equal value.

Yet what a difference in real worth there may be in birds that appear the same to the casual observer! Take two White Rocks, for example—one raised by a breeder who understands proper mating and has line-bred for many generations, and the other raised by an amateur who has simply put "fine specimens" together. Even though they are equally good in type, color and fine points, and lay equally well, the first will be almost worth her weight in gold as a breeder, while the second will be of practically no value. Why? Because the first hen has her good points bred in her, and, if properly mated, can be depended upon to transmit them to her offspring, while the second got her good points by chance and there can be no certainty about the quality of her descendants.

Fowls should be grouped under three classifications: Mongrels, grades and pure-breds. Mongrels are the result of indiscriminate mingling of different breeds—birds of every conceivable color, size and shape. Grades are birds carrying enough of the blood of a certain breed to give them the general color, shape and characteristics of the breed. Pure-breds are the result of years of selective breeding of one particular breed, without the mixing of blood of any other breed.

Some persons make another classification—standard-bred birds. Their distinction between standard-bred and pure-bred fowls is that the former are selected and bred for fancy points

THE HOME CIRCLE

HIS DOG.

I surely sniff excitement in the air—
Perhaps he's coming home! If I
could know!
But up and down the street, and
everywhere
I've watched about a hundred years
or so;
Yet somehow I expect him, any day
With shouts and cheers, as when he
marched away.
And when I hear that whistle! and
you see
A streak of dog, in frenzied hap-
piness—
You'll understand! He'll pat my head
and say:
"Hello, old Pal! you missed me
some, I guess!"
I leap to kiss his hand—and then—
oh, boy—
I wonder if a dog can die of joy?
—Laura Simmons in "Life."

USES OF A FIRELESS COOKER.

How many of our readers realize the advantages of a fireless cooker? Not only the saving of fuel, but the added comfort to the housewife and the greater leisure for other things, are factors to be considered in the economy of the home.

For foods that require long, slow cooking, or where one's personal attention is not necessary, the fireless cooker is invaluable. Particularly pot roasts and the cheaper cuts of meat will be found most tender and delicious, retaining the natural flavor, and are more delicate to the discerning palate when cooked the fireless way. Breakfast cereals, grits, rice, etc., are far more delicate and possess a "nutty" taste when cooked overnight by the fireless. These foods, above all others, cannot be hastily prepared for the table; and the housewife who will rise in the wee sma' hours to start the oatmeal cooking an hour, or so before time to begin the regular breakfast is indeed a rara avis. In fact, it "isn't done," you know. This is where the cooker is of such inestimable value; it cooks while you are doing something else,—either taking the extra forty winks before beginning the day's duties, or busied about other details of house-keeping.

Foods may be roasted, baked, steamed, stewed and boiled in the cooker. The classes of food best adapted to the cooker are cereals, soups, meats, vegetables, dried fruits, steamed breads and puddings. A good plan is to prepare the vegetables the evening before, and then start them cooking on the stove while getting breakfast. When they get to boiling "hard," place them in the fireless cooker with the lid of the container firmly fastened down, as well as the lid of the cooker itself.

The recipes for dishes to be prepared in the fireless cooker differ somewhat from those for foods cooked in the ordinary way, chiefly in the amount of water or other liquids

called for. Less liquid should be put into the food to be prepared in an ordinary fireless cooker, since there is no chance for water to evaporate. The cook must be guided largely by experience in deciding how long the food should be heated before being put into the cooker and how long it should be allowed to remain there.

After a bit of practice, a whole dinner can be prepared and put into the cooker, and the housewife's responsibility concerning the dinner are at an end until it is time to serve the meal on the table. Stirring, basting, turning and watching the dinner are all unnecessary, and there need be no fear of a burned or overdone meal. Indeed, one may go away for the day, shopping or visiting, with the greatest assurance that when she returns home in the evening, there will be a well-cooked, wholesome, hot meal ready for the family to sit down to.

The added comfort of a cool house in the summer time, which is made possible by the use of a fireless cooker, is another of its many advantages, and is a big factor to be taken into consideration when one realizes that a cool house, particularly the kitchen, lessens fatigue and a waste of nervous energy, thus contributing to the better physical being and comfort of the cook, as well as the greater comfort of the entire household. This certainly is not possible with a coal or wood stove.—Z. D. H.

A COVER FOR THE REFRIGERATOR TOP.

The handiest place to set bottles, dishes and other food containers as they are being taken out of the refrigerator is, of course, on top of the refrigerator.

The result is always disastrous to the finish of the top because the articles placed thereon are moist and tend to spot and destroy the varnish.

Every woman knows that a milk bottle left for sometime on a refrigerator top is likely to leave a circular mark where the varnish has become discolored by moisture. The same effect results from various similar causes.

At almost any large department store a piece of good-looking leather substitute or of rubber-coated cloth can be bought with which the refrigerator top can be covered. Either of these materials is perfectly waterproof and will protect the refrigerator top and preserve its original beauty.

Leather substitutes can be had in almost any color and in beautiful leathery grains, so that a cover of this kind is really an ornament to the kitchen or pantry or wherever the refrigerator may be.

FIG FANCIES.

(By permission of the J. C. Forkner Fig Gardens, Fresno.)

Easy Enough Jam.—Six pounds of purple figs (fresh), peeled and cut in half; two pounds of sugar. Cook until thick and seal hot.

Fig Jelly.—Slice the fresh figs into the preserving kettle, covering bottom of kettle with cold water. Add slices of unpeeled lemon, one lemon to one and one-half pints of uncooked figs. Place on back of stove to cook slowly an hour; then strain and boil for fifteen or twenty minutes (according to the state of the syrup), adding three-fourths quantity of sugar to that of the fruit.

Bennett Spices.—One-half gallon of medium-sized Smyrna (Calimyrna) figs; make a syrup of vinegar, one cup to three cups of sugar; add spices of a mixed variety as desired; boil this and drop in the figs whole; let boil gently for a few minutes; then let remain in syrup twenty-four hours; repeat and seal.

Germes which grow in food and cause illness, grow very rapidly, and are de-

stroyed by being well cooked. Warming up is not enough.

Replace Your Old-fashioned Plumbing Fixtures

The added convenience of modern plumbing fixtures will more than compensate you for the slight cost involved in replacing them for your present fixtures.

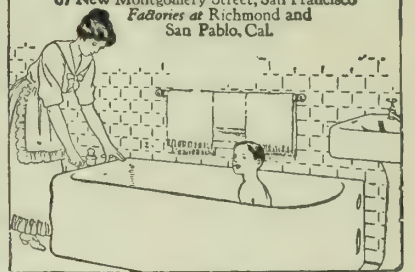
The attractive designs of Pacific Plumbing Fixtures will make you proud of your bathrooms. Pacific Plumbing Fixtures are guaranteed forever against any defects in workmanship or materials, and although their quality is higher, cost no more than any other reputable brand.

Write for a free copy of The Book of Bathrooms. It is a 56 page book, brim full of ideas.

PACIFIC PLUMBING FIXTURES

For sale by all plumbers

Main Offices and Show Room
67 New Montgomery Street, San Francisco
Factories at Richmond and
San Pablo, Cal.



More Light Than 20 Oil Lantern

AT LAST—the light of lights! A lantern that lights with common matches just like the old style oil lantern, but makes and burns its own gas from common gasoline, giving a brilliant, steady, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electric bulb
More light than 20 oil lanterns. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lantern. The



Coleman Quick-Lite

No wicks to trim — No globes to wash. No dirt or grease, no glare or flicker. Absolutely safe. Fuel can't spill — no danger if tipped over. Will last a lifetime. Write our office for Catalog 21-R. P.

COLE LITE & SALES CO.,
216-18-20 East 41st St.
Showrooms, 324 S. Hill St.,
Los Angeles.

DREADNAUGHT

BLAZING AWAY IN COST-DEFENCE!



"EXTRA DRY"

Dry Gas means more heat—more for your money. That is what the little square gas chamber on a Dreadnaught does. The gas is first lifted straight up—compelled to travel farther, hesitate in the drying chamber on account of the smallness of the gas hole, then shoot to complete combustion on top of the base. It is the dryness of the gas that makes possible the smallness of the hole.

Thus the simple little square block does wonders—it makes perfect that which would otherwise be imperfect, for wet gas is an unfinished product, expensive and trouble making.

"Best by Test" is the watchword of Dreadnaught construction and it costs no more to have the best. You can apply the Burner to any stove, cut down expense and labor, have the cleanest of gas fires and forever eliminate all fuel problems. Let us tell you more—write for circular. All questions promptly answered.

Burner and Valve—

Combination Needle Valve and Drain **\$6.50**
Mailed Anywhere

Good Agents Wanted—Burners at Wholesale

SCIENTIFIC SPECIALTIES CO.,

310 South Hill St., Los Angeles, Cal.

Ants in Everything—Not If You Use KELLOGG'S ANT PASTE

MAKES ANTS DISAPPEAR

Unanimously selected
by the
League of Housewives
as the
"Household Sentinel"



25¢ AT ALL DRUGGISTS

Why Burn Coal or Wood

when you can have all the cleanliness and convenience of city gas? An Oliver Oil-Gas Burner will change your range or stove into a gas stove.

Just put it into the firebox, fill the tank with kerosene or coal-oil, and it's ready for use.

There is an Oliver Burner to fit any stove.

Economical. Cooks and bakes quicker and better than coal or



No. 2 Burner, for ranges and cook stoves. Complete with tank and fittings, ... \$21.50.



No. 1 Burner for heating stoves. Complete with tank and fittings, \$16.50

wood. Turns on and off like gas. No fires to start. No kindling, coal, wood, ashes, smoke, dirt, or soot. Saves hours of work daily. Absolutely safe. Oliver Oil-Gas Burners in use eight years ago are in use today.

Thousands sold every year by mail. Don't experiment with cheap articles—buy a Burner that has proved satisfactory for years by thousands of users. Ironclad guarantee. BURNERS SHIPPED UPON RECEIPT OF PRICE.

Oliver Oil-Gas Burner & Machine Co.,

429-433 Market Street, San Francisco

Descriptive literature upon request.

Reliable agents wanted.

Market Comment

Hops Break Recent Records.

A contract was closed at Salem, Ore., last week for 300 bales of 1919 hops at 50 cents a pound. The sale was for export account. Sonoma county hop growers are holding their crop at around the same figure.

Likes Our Apples but Not the Price.

It is reported that Europe balks at paying 21 cents for California's dried apples. As there is practically no carry-over and a strong domestic demand for this article, it looks as though Europe must pay the price or face a fruit famine.

Ban on Wine Not Feared.

Prohibition has no present terrors for the wine grape growers. Around Lodi buyers are freely offering \$25 a ton for black grapes, without reference to prohibition legislation now enacted or pending.

The Butter Market.

Trading in butter locally has been rather quiet the past week, and stocks on hand show some accumulation. There has been a further decline in the important markets of the East, and general weakness prevails. There is little speculative buying.

Barley Futures Strong.

Thirty-eight hundred tons of barley were sold at \$3.06 per hundred-weight in one day this week on the San Francisco Grain Exchange for December delivery. The buyers evidently believe barley will go above that figure in December or thereafter.

Dried Fruit to the Fore.

Following are this week's quotations on dried fruits at New York. Reads like an iridescent dream: Evaporated apples—steady; Western, 20¢@22¢; prunes—California, 9¢@32¢; apricots—choice, 30¢; extra choice, 32¢; fancy, 35¢; Peaches—Standard, 23¢; choice, 24¢; fancy, 26¢; raisins—loose Muscatels, 13½¢@14¢; choice to fancy seeded, 12½¢@16¢; seedless, 15¢@22¢.

Modern Maud Mullers.

Girls are being paid as high as \$4 a day for work in the harvest fields in the Elko (Nev.) district this season. Last year they were paid as high as \$3.50. One farmer employs five girls. They do all kinds of work in the fields except stacking and do it well. But while the public applauds this generous rate of pay for our girls, they scowl repellingly when asked to recognize this payment in meeting advanced prices.

Blackeyes, 4½ Cents.

The price of blackeye beans was opened last week at 4½ cents a pound by the directors of the pool formed to handle the crop near Santa Ana. The 4½-cent price is relied on to stabilize the market. California Small Whites have weakened at shipping points to \$6.25-\$6.40. California Limas are still holding at \$9.00 per cwt. at shipping points and were steady also in consuming markets at \$9.00-\$9.50.

Hog Prices Higher and Still Climbing.

A new record price was established at Chicago this week when hogs sold at \$22.80, and at the same time packers predicted that the price would go to \$23. The important fact in this connection is that prices have not gone up because of a hog shortage, but, in the face of very heavy receipts, the demand has been greater than the supply. Practically all doubts as to the probable future of the pork market have been dispelled since the return from abroad of Thos. E. Wilson, the Chicago packer. "The thing that impressed me most," he says, "was the fact that there is an enormous shortage of fats. Everywhere we went this was evident, and it is the principal reason why Europe is so interested in our hog market." "Argentina is selling beef to Europe cheaper than the quotations in the United States," says Mr. Wilson, "but America has no competition in the export of hog products, and I believe that Europe needs such quantities of hog products, especially fats, that she will be forced to buy heavily from us for some years."

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

Sau Francisco, July 9, 1919.

WHEAT.

Little demand for California wheat this week lowered the price to \$3.67½ and \$3.75. There is very little early Baart and its price is nominally unchanged.

Per bushel—	
No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.18
do, No. 2	2.13
do, No. 3	2.09
Re-cleaned, per cwt.—	
California	\$3.67½ @ 3.75
Early Baart	\$4.15 @ 4.20

BARLEY.

The shipments abroad are rapidly taking care of the barley of the State and the grain continues to gain strength, although the local demand shows no increase.

Feed	\$3.00 @ 3.05
Shipping	\$3.10 @ 3.15

OATS.

The price of oats is governed entirely by the price of barley in the absence of any particular demand. As barley users turn to oats for a substitute the latter grain shows an advance in quotations.

Red feed, per cwt.	\$2.70 @ 2.75
Red for seed	Nominal
Black for seed	Nominal
Re-cleaned Red or Black for seed	Nominal

CORN.

Corn continues to be quiet, with a fair demand at previous quotations.

California	\$3.30 @ 3.50
Egyptian, choice	Nominal
Milo	Nominal

HAY.

The holidays the latter part of last week temporarily held up receipts of hay in this city, and it might be said that there was practically no market at all this week. A few buyers secured some hay for immediate needs, but otherwise the market was quiet.

No. 1 Wheat, per ton	\$15.00 @ 17.00
No. 2 Wheat, per ton	12.00 @ 14.00
Choice Tame Oat, per ton	15.00 @ 17.00
Wild Oat, per ton	10.00 @ 12.00
Barley Hay, per ton	\$11.00 @ 13.00
Alfalfa, per ton	14.00 @ 16.00
do, new, 1st cutting	
Stock Hay, per ton	9.00 @ 11.00
Barley Straw, per bale	.50 @ .80

FEEDSTUFFS.

Feedstuffs follow the hay market to a certain extent with prices modified by changes in whole grain prices. While the market was quiet this week, quotations on rolled barley and rolled oats were materially advanced in sympathy with the advances in the whole grain. The market is practically bare of middlings, with a falling off in the supplies of shorts.

Bran	\$45.00 @ 46.00
Shorts	48.00 @ 50.00

Special Livestock Market Report

San Francisco, July 9, 1919.

CATTLE—The sharp depression in cattle values has become so acute as to seriously threaten the interests of cattle raisers. There is little activity in the beef cattle market here, owing to the wide divergence of opinion between buyers and sellers. The following shows the decline in the prices of cattle on foot from March 1, 1919, to July 1, 1919, on the Chicago market: Prices of medium and good beef steers on foot exhibit a mean decline of 14 per cent between the dates mentioned. Prices on choice and prime beef steers on foot exhibit a mean decline of 23 per cent. While prices here remain unchanged, the quotations are nominal. Record prices prevail in the calf market.

Steers—	
Grass Steers, No. 1, weighing 950 @ 1100 lbs.	10 @ 10½¢
Grass Steers, No. 1, weighing 1100 @ 1300 lbs.	9½ @ 10¢
Grass Steers, thin	6 @ 7¢
Grass Cows & Heifers, No. 1	8 @ 8½¢
Grass Cows & Heifers, No. 1 8 @ 8½¢	
Grass C & H, 2nd quality	6¾ @ 7¼¢
Grass Cows & Heifers, thin	4 @ 5½¢
Bulls and Stage, good	
do, fair	
do, thin	
Calves, light weight	12½ @ 13¢
do, medium	11½ @ 12¢
do, heavy	10 @ 11¢

SHEEP—The sheep and lamb market is but little disturbed. The consuming demand at the prevailing quotations is fairly active, and the high prices of wool, present and prospective, render the sheep-raiser too independent to force his stock on an unfavorable market.

Lambs, yearling	10 @ 10½¢
do, milk	13 @ 13½¢
Sheep, wethers	9¾ @ 10¢
do, ewes	7½ @ 8¢

HOGS—The record and ultra-record prices registered for hard, grain-fed hogs in the Eastern markets of \$22.70 per cwt. is somewhat of a sensation. Local buyers are somewhat averse to recognizing these rapidly rising values, but have been forced to mark up quotations one cent on all grades.

Cracked corn	72.00 @ 73.00
Roller barley	62.00 @ 63.00
Roller oats	56.00 @ 58.00
Alfalfa meal	33.00 @ 35.00
Cocunut meal	48.00
Oil cake meal	71.00 @ 72.00

POTATOES, ONIONS, ETC.

Potatoes were heavy and somewhat lower this week, the market being adversely affected by the holidays. Onions, however, remained firm at last week's figures. New sweet potatoes are now coming on the market. Bay cucumbers are becoming plentiful. Summer squash from Alameda is also on the market and brings about twice the price of the southern product. Besides the southern tomatoes Merced tomatoes are now coming in. They are of good quality.

String beans	5 @ 6¢
do, Garden	10¢
Peas	7 @ 9¢
Carrots, per sack	\$1.50 @ 1.75
Rhubarb, Strawberry, box	\$1.50 @ 2.00
Cucumbers, hothouse, box of 30	\$1.50 @ 2.00
do, Los Angeles	50 @ 75¢
do, Bay	\$1.00 @ 1.25
Eggplant, box	\$1.50 @ 1.75
Lettuce, per crate	75¢ @ 1.25
Celery, crate	Nominal
Tomatoes, Southern, per crate	.75 @ 1.25
do, Merced	\$1.00 @ 1.25
Sprouts	.50 @ 60¢
Summer squash	\$1.00 @ 1.25
do, Alameda	\$1.00 @ 1.25
Green Corn, Alameda, sack	\$4.00 @ 4.50

Potatoes—	
Oregon	2.25 @ 2.50
Idaho	\$2.10 @ 2.35
Garnets, new on street	\$2.25 @ 3.25
Other new on street	\$2.75 @ 3.25
Sweets, new, lb.	6 @ 7¢

Onions, Warehouse Stock—	
Australian Browns	Nominal
Onions, new red	\$3.50 @ 4.00
yellow	\$3.75 @ 4.25
Green Alameda	\$1.50 @ 1.75
Garlic	.15 @ 16¢

BEANS.

The demand for blackeyes continued this week and some demand for large whites was added to it. The bean men are anxiously watching the bean bag market, which is showing unusual strength. Prices for large bean bags advanced from 14 to 15 cents this week, and the small bags advanced from 11½ to 12½. Bagging material is said to be scarce, and may go higher.

Bayos, per cwt.	\$5.90 @ 6.10
Blackeyes	\$4.25 @ 4.50
Cranberry beans	5.75 @ 6.00
Limas (south, re-cleaned)	\$9.00
Pinks	\$5.50 @ 5.75
Mexican Reds	4.50 @ 5.00
Tepary beans	2.50 @ 2.75
Garbanzos	11.75 @ 12.00
Large whites	\$5.85 @ 6.00
Small whites	6.75 @ 6.90

POULTRY.

While the poultry dealers remained open on last Saturday, the holiday the previous day took the vim out of the market and but little was done. This week the market opens up somewhat stronger, although there are but

few changes in prices. Small broilers show an advance, as do Belgian hares, while young roosters and jack rabbits are off in their quotations. While the rest of the list is unchanged it is expected that there may be slight advances in several descriptions in the near future. This gives a tone of strength to the entire market.

Turkeys, live, young spring, lb.	Nominal
Broilers, 1½ lbs. and under	33 @ 34¢
do, 1½ to 2 lbs.	32 @ 34¢
Fryers, 2 to 3 lbs.	35 @ 38¢
Hens, extra, per lb. colored	10 @ 32¢
do, Leghorn	10 @ 28¢
Smooth young roosters, per lb. (3 lbs. and over)	22 @ 45¢
Old roosters, colored per lb.	22 @ 23¢
Geese, young, per lb.	20 @ 25¢
do, old, per lb.	20 @ 25¢
Squabs, per lb.	30 @ 48¢
Ducks, young	25¢
do, old, per lb.	25¢
Belgian hares	13 @ 15¢
Jack rabbits	\$1.50 @ 3.00

BUTTER.

The local exchange remained closed over Friday and Saturday last week and this week opened up with a decline of 1½ cents for extras. Yesterday showed a gain of a cent but today the market again touched 51½ for extras. The receipts at San Francisco have been normal for the past week.

	Thurs	Fri	Sat	Sun	Tu	Wed
Extras	53		51½	52½	51½	51½
Prime firsts						None
Firsts	49½		48½	48½	48½	48½

EGGS.

The local receipts of eggs taking the average of the holiday arrivals were just about normal. However extras have shown a certain amount of weakness, and while the close was strong on Wednesday, the price was at a lower figure than for any day during the previous week. On the other hand, extra pullets showed good strength and close at the highest price for the two weeks. The warm weather sent more eggs into storage during the past week than would normally have gone to the ice houses, but even at that the amount in storage is less at this time than a year by nearly 12,500 cases.

	Thurs	Fri	Sat	Sun	Tu	Wed
Extras	47		47½	48	48	48
Firsts						Nominal
Ex. pullets	40		41½	43	43	43

CHEESE.

Trading in cheese continues to be light and the only change in quotation is a gain of half a cent in fancy California flats. There have been receipts of cheese from several outside States during the week.

Fancy California flats, per lb.	20¢
do, Firsts	27¢
California Y. A., fancy	31½¢
Oregon Y. A.	31½¢
Oregon Triplets	34¢
Monterey cheese	22½ @ 24¢

FRESH FRUITS.

New Red Astrakhan apples are becoming plentiful, selling at 75 cents to \$1.25 for lug boxes and \$1.50 to \$2 for California boxes. The berry market is firm with slight fluctuations in prices. Cherries are getting more expensive as their season draws to a close. A considerable shipment of cantaloupes has arrived.

California apples	\$3.00 @ 4.00
Northwest apples	3.00 @ 4.00
do, New Red Astrakhan, lugs	75¢ @ 1.25
do, California, boxes	\$1.50 @ 2.00
Peaches	.40 @ .75
Apricots	\$1.00 @ 1.50
Plums	1.25 @ 1.75
Figs	.50 @ 65¢
Strawberries, chest	\$11.00 @ 14.00
Raspberries	\$12.00 @ 15.00
Loganberries	\$8.00 @ 10.00
Blackberries	\$8.00 @ 12.00
Currants, chest	10.00 @ 13.00
Gooseberries	6 @ 8¢
Cherries—	
Royal Anne	10 @ 15¢
Black, bulk	15 @ 18¢
White, bulk	9 @ 14¢
Cantaloupe, Standards	\$2.50 @ 3.00
do, Ponies	2.00 @ 2.50
do, flats	1.00 @ 1.25
Watermelon, lb.	2 @ 2½¢

CITRUS FRUITS.

The entire list is showing great strength, lemons being especially in demand. Some fancy are said to have sold up to \$8. Oranges are 25 cents higher for the fancy, while grapefruit is strong at last week's prices.

Oranges, Valencia	\$3.50 @ 5.25
Lemons, fancy	\$7.00 @ 7.50
do, choice	6.00 @ 7.00
do, standard	5.00 @ 6.00
Lemonettes	4.00 @ 5.00
Grapefruit	3.50 @ 4.25

DRIED FRUITS.

The market for dried fruits continues strong. The apple growers are demanding higher prices for their crop and the dealers have advanced the price a half-cent.

Apples	18 @ 18½¢
Pears	18 @ 20¢
Peaches	14 @ 15¢
Apricots	23 @ 29¢
Prunes	13 @ 15¢
Figs, Adriatic	14 @ 18¢
do, Calimyrna	15 @ 20¢

RICE.

The advances in the price of rice are expected, although this week's quotations for Paddy and 12c for fancy Japan, are the same as last week. When the mills were through milling the undamaged portions of the crop and possession of better grades of rice had passed into the hands of dealers, prices immediately advanced. There has been a great activity on rice at the advanced prices.

HONEY.

Some small lots of sage honey have been shipped to this city and the dealers paid as high as 18 cents for it. The demand at this price, however, is small.

Water White, Orange Blossom	18¢
White to Water White, sage (Subject to production)	18¢
Light Amber Mountain (Sage-Buckwheat)	14¢
Light Amber Alfalfa	11¢

LOS ANGELES.

Los Angeles, July 8, 1919.

BUTTER.

This market is still showing a slight decline. A drop of 1c is noted since last, but reported selling fair. Demand is holding up well. Receipts for the week, 327,700 lbs. California extra creamery 54c
do. extra first 52c
do. first 51c

EGGS.

Case unit drops 1c but other prices remain unchanged since quoted a week ago. The market is active and firm. Receipts for the week, 1411 cases.

We quote:

Fresh ranch, extra 51c
do. case count 49c
do. pullets 44c

POULTRY.

The demand is good for broilers, fryers and heavy hens, and market is quoted higher. Light hens dull and lots coming in. Turkeys and ducks reported slow sale, but unchanged.

Broilers, 1 to 1½ lbs. 25c
Broilers, 1½ to 1¾ lbs. 29c
Fryers, 2 to 3 lbs. 32c
Roosters (soft bone), 3 lbs. and up 30c
Stags and old roosters, per lb. 14c
Turkeys 27@33c
Hens 22@28c
Ducks 23@26c
Geese 25c

FRUITS.

Cherries advance while gooseberries decline in price. Apricots higher. Strawberries quoted cheaper and Loganberries mark sharp advance. Blackberries also higher. Grapes now coming in and quoted on the local markets. There is a good demand for all fruits and receipts are normal.

We quote from growers:

Cherries, lb. 15@25c
Gooseberries, lb. 7@9c
Apricots, lb. 5@6c
Strawberries—
30 basket crates, fancy \$3.50@4.00
Poor to choice 2.75@3.00
Blackberries, case 30 boxes 2.75@3.00
Raspberries, case 30 boxes 3.50@3.75
Loganberries, case, 30 boxes 3.25@3.50
Plums, Beauty, lb. 5@6c
do. Climax 4@7c
do. Santa Rosa 8@10c
do. Tragedy 7@8c
Grapes, Thompson's Seedless, lb. 10@14c
do. Malaga, lb. 12@15c

VEGETABLES.

Potatoes are higher and in good demand. Onions are slow sale and market weak. Cantaloupes coming in less freely and higher, but demand is good. Watermelons coming in freely and lower. The demand is good for all fresh vegetables but stale stuffs are very hard to dispose of.

We quote from growers:

Potatoes, new, per cwt. \$2.00@2.25
Onions, New Red, per cwt. \$4.00@4.25
do. Stockton yellows, per cwt. 4.00@4.25
White silver wax, qwt. \$5.00
Cabbage, per 100 lbs.75c@1.00
Rhubarb, per 30-lb. box75c@1.25
Summer squash, lug.35@40c
Peas, per lb.8@10c
Kentucky Wonders 6@7c
String Beans, Wax 6@7c
do. Green 5@6c
Tomatoes, 4 basket crate \$1.75@2.00
Cucumbers, local, lug box50@.75c
Lima Beans, local, lb.14@.16c
Cantaloupes, Stand. & Pony crates \$2.50@3.25
Watermelons, 100 lbs. 1.00@1.25
Lettuce, crate70@90c

DRIED CHILE PEPPERS.

This market is reported to be very dull.
California 12@14c

CALIFORNIA PORKERS AT AUCTION

The following table gives prices, weight and buyers at recent sales held by the California Farm Bureau Marketing Association:

TULARE—JUNE 24, 1919.					Buyer	
Gross Wt.	Dock	Av. Wt.	Per 100 lbs.			
68 hogs	14520	210	\$18.00		Wilson & Co.	
74 hogs	15560	200	17.70		Wilson & Co.	
72 hogs	14305	200	17.60		Wilson & Co.	
22 hogs	6915	314	15.50		Cudahy Packing Co.	
46 hogs	7480	162	16.00		Cudahy Packing Co.	
VISALIA—JUNE 25TH.						
53 hogs	13660	258	17.80		Cudahy Packing Co.	
26 hogs	5420	210	17.50		Cudahy Packing Co.	
12 hogs	1990	165	17.25		Cudahy Packing Co.	
10 hogs	1610	160	17.00		Cudahy Packing Co.	
7 hogs	1860	266	16.50		Cudahy Packing Co.	
MODESTO—JUNE 27TH.						
72 hogs	14640	203	17.60		Wilson & Co.	
23 hogs	3435	150	16.60		Wilson & Co.	
9 hogs	1390	154	16.60		Wilson & Co.	
2 hogs	680	330	16.60		Wilson & Co.	
36 sheep	2590	72	11.00		Western Meat Co.	
10 sheep	840	84	10.00		Western Meat Co.	
HANFORD—JULY 2D.						
20 hogs	4250	212	18.40		Wilson & Co.	
73 hogs	15170	207	18.15		Wilson & Co.	
37 hogs	6875	190	17.65		Wilson & Co.	
11 hogs	2175	196	17.15		Wilson & Co.	
4 hogs	665	146	17.25		Wilson & Co.	
1 hog	310	310	17.15		Wilson & Co.	
WASCO—JULY 5TH.						
95 hogs	18500	200	18.00		Wilson & Co.	
24 hogs	4765	200	17.00		Wilson & Co.	
17 hogs	2875	169	17.00		Wilson & Co.	
2 hogs	640	320	16.50		Wilson & Co.	
1 hog	450	450	16.00		Wilson & Co.	

do. Mexican 20@22c
Bell peppers 17@18c
Chile peppers 10@15c

BEANS.

This market is still very dull, but all prices remain as quoted last week. Even limas are neglected in movement.

Limas, per cwt. \$8.00
Large white, per cwt. 6.25
Pink, per cwt. 6.50
Small white 6.25
Blackeyes, per cwt. \$3.50@3.75
Tepary, per cwt. \$2.00@2.50

HAY.

All prices in this market unchanged from a week ago. It is dull, but some light activity in alfalfa. Grain hay reported not wanted, but receipts are fairly good.

We quote f. o. b. Los Angeles.
Barley hay, per ton \$18.00@21.00
Oat hay, per ton \$20.00@22.00
Alfalfa, Northern, per ton \$20.00@22.00
Alfalfa, local, per ton \$21.00@23.00
Straw, per ton 9@10.00

ALFALFA GROWERS OF CALIFORNIA, INC.

The following quotations are furnished by the Alfalfa Growers of California, Inc., 525 Central Building, Los Angeles, Cal., for the week ending July 8, f. o. b. cars Los Angeles.
No. 1 Dairy, ton \$26.00
Standard Dairy \$22.00@23.00
Standard Alfalfa 18.00@19.00
Stock Alfalfa \$12.00@16.00

Barley and bean stocks are almost four-fold greater this year than they were a year ago in California. There has been a substantial reduction in the amount of barley in the State, however. On December 1, 1918, there were 7,719,320 centals, compared with 1,632,180 on hand in June 1, 1919. The decrease in the bean holdings were not so great, and there are still more than 2,000,000 sacks of this commodity in California.

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All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weisbaum Pipe Works, 160 Eleventh street, San Francisco.

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CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

FOR SALE AT A BARGAIN—75 h.p. Holt Caterpillar tractor, used six (6) months; 3 Caterpillar light disc engine plows; 1 10-foot Holt leveler. All in excellent condition. Write Simon Newman Company, Newman, Cal.

BEEES FOR SALE—Golden Italians in patent hives. John G. Mee, St. Helena, Cal.

FOR SALE—One fruit-cutting machine, in first-class order. R. R. Beard, Vacaville.

WANTED.

SHORTHAND COURSE given free in exchange for home work. M., 112 Turk, San Francisco.

COUNTRY LANDS.

\$35,000—85 acres, 50 yards from school; county road on two sides. 10 room house (hot and cold water), 3 wells, windmill and tank, new gas engine and pump; barn, chicken and brooder houses; 2 horses, 1 cow, 350 chickens; 300 fruit boxes, 200 trays; complete set of implements to run place, including 4 wagons, \$250 power spray pump, cider press, etc.; garage and work shop. Average income \$5,000 per annum. Will guarantee \$7,000 crop this year. 2 miles from Windsor station between Santa Rosa and Healdsburg, Sonoma county. 30 acres prunes, of which 18 acres bearing, balance 3 to 5 years; 1 acre peaches; 10 acres apples; 2 acres pears; 14 acres resistant vines; plenty of berries, beans, corn, potatoes, etc. About 30 acres of this is deep, rich bottom land with plenty of water to irrigate, if necessary. Mortgage, \$12,000 5%, can remain. Umben, Kerner & Eisert, 20 Montgomery St., San Francisco.

\$16,000.00—80 acres on Honey Lake Valley, Lassen county. All under cultivation. Alfalfa seed, hay, and grain; under good irrigation system. Good improvements. 2 miles from postoffice and bank. School, 1½ mile; high school, 15 miles; S. P. depot, 3 miles. Daily trains. A good buy. Cash only. Have other business prospects. Write to Box 280, Standish, Lassen Co., Cal.

WANT TO RENT RANCH for 1920 or longer. Amador or Calaveras county preferred, others considered. Well fenced. Habitable buildings. Give location, distance from town and full description. If satisfactory after one year's trial might buy. Box 1590, Pacific Rural Press.

FOR SALE—10 acres of fine land, containing a well-equipped chicken hatchery. Good house and improvements. 7 acres in young prune trees. For particulars, inquire of Box 693, Hollister.

WANTED—To rent 100 to 200 acre grain land for 1920 crop. I have tractor outfit and seed. R. W. Stratton, Calistoga, Cal.

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30x3½	11.50	13.50	2.50
32x3½	12.85	15.85	2.70
31x4	16.30	20.65	3.15
32x4	16.60	21.15	3.25
33x4	17.30	22.00	3.35
34x4	17.80	22.50	3.45
36x4		26.60	
34x4½	24.00	30.35	4.20
35x4½	25.00	31.65	4.30
36x4½	25.45	32.20	4.45
37x4½		35.75	5.10
35x5	28.70	36.15	5.25
37x5	30.25	38.30	5.40

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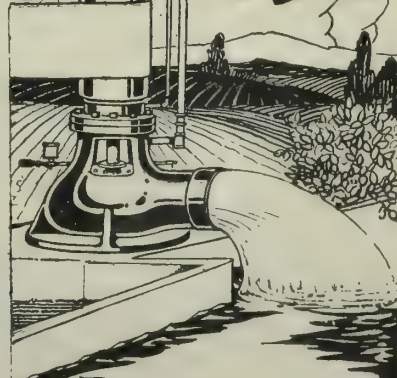
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900 Santa Fe Ave., Los Angeles

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, July 8, 1919.

With an unusual pre-holiday demand last week, we anticipated a lower market after the Fourth, but trading continued active on all varieties except peaches, the market on which in nearly every instance was affected by shipments from Georgia, Texas, Oklahoma, and other local home-grown varieties. Eastern fruits, with the exception of late shipments from Georgia, are not arriving in good condition or giving satisfaction, and there has been a noticeable advance in the California peach market during the past few days.

Plums are holding firm, despite heavy receipts. Fruit is arriving in good condition and the quality is exceptional this season.

Cherry and apricot shipments are completed and the sales gradually cleaning up.

Bartlett Pears are moving under heavy supply, the warm weather during the past week having a tendency to advance the crop. The trade seems to be eager for Bartletts, and despite the fact that the shipments will continue heavy for the next three weeks, we look for all markets to remain firm and the Eastern prices will equalize those offered by the canners.

Early Thompsons and Malagas from the Imperial and Coachella Valleys are arriving; in the East and selling at the highest prices in the history of the industry. The market on grapes will, naturally, be affected by increased offerings but regardless of this, we anticipate a very strong demand for Tokays and Malagas throughout the season.

There is some discussion as to the movement of wine grapes and inquiries are numerous, at prices considerably higher than a week ago, for Zinfandels and Missions. A few actual sales have been closed at \$50.00 a ton, but growers

are holding for higher prices, anticipating Congressional action in favor of the manufacture of wine. It is conceded, however, that even if permission to ship wine grapes is granted, but less than half of the crop will be marketed on account of the scarcity of shooks and the inability of the carriers to furnish equipment in view of the heavy demand for refrigerator cars for other varieties.

We cannot see at this time any reason why all markets should not remain firm on practically all varieties, for the balance of the season, and we anticipate an advancing market on peaches, beginning about the 20th of July. On account of the unprecedented demand for canned goods throughout Europe and South America, a large proportion of the California peach crop will be canned by consumers, which will force an active demand, in preference to Eastern peaches. Inquiries in this connection are becoming numerous.

Averages for the week:

NEW YORK: Formosa Plums, \$2.91; Beauty, \$2.14; Climax, \$2.38; Clyman, \$1.70; Tragedy, \$3.12; Burbank, \$2.16; Santa Rosa, \$2.55; Comet Pears, H-B, \$3.60; Wilders, H-B, \$2.37; Lawsons, H-B, \$3.75; Thompson Seedless, \$4.17; Peach Apricots, \$2.45; Royals, \$1.81; do, lugc, \$2.38; Alexander Peaches, 96c.

CHICAGO—Eulatis Peaches 80c; Hales, 80c; Alexanders, 87c; Triumphs, 96c; Thompson Seedless, \$4.60; Royal Apricots, \$2.17; Climax Plums, \$2.07; Beauty, \$1.75; Burbank, \$1.90; Tragedy, \$2.75; Clyman, \$1.59; Santa Rosa, \$2.46; Formosa, \$2.04; Red June, \$1.69; Calif. Blue, \$1.90; Abundance, \$1.57.

BOSTON: Royal Apricots, \$1.34; Triumph Peaches, \$1.00; Alexanders, 95c; Climax Plums, \$2.60; Beauty Plums, \$2.26; Clyman, \$1.72; Formosa, \$3.05; Burbank, \$1.90.

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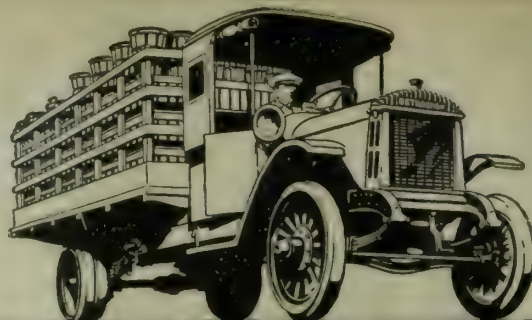
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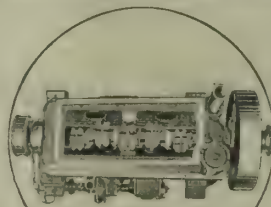
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THE PACIFIC RURAL PRESS

SAN FRANCISCO

JULY 19, '9

LOS ANGELES

Source of Profichi Figs For Caprification

Written for Pacific Rural Press by John J. Fox.



REMARKABLE CLUSTER OF CAPRI FIGS was brought to our office last week by G. P. Rixford of the U. S. Department of Agriculture from the famous Maslin orchard. The death last week of E. W. Maslin, formerly of Loomis (Placer county) of recent years employed in the San Francisco Custom House, recalls the early controversy about caprification.

In 1885 Dr. Gustav Eisen was the only man in California who recognized the need of caprification of the Smyrna fig. In 1886 Mr. Maslin sent to New York for a box of imported figs of the best quality—Imperials—and the seed from these figs, by arrangement, were sown by the gardener at the State Capitol and raised in a hot-house. In 1887 the young trees from these seeds were set out in orchard form, 25 feet apart, hexagon style, on Mr. Maslin's ranch at Loomis. Of these seedlings, 147 are still alive and 139 are bearing trees.

The Blastophaga Needed

These seedlings turned out, as might naturally be expected with our later knowledge, to be one-half Capri and one-half Smyrna (female type). In 1891 Mr. Maslin's experiments and research being without results, he disposed of the ranch as unprofitable, and for more than ten years the orchard was given no care. Professor Walter T. Swingle sent the Blastophaga to Geo. C. Roeding in 1899 from Algiers, who introduced them into this orchard, sending the profichi full of the insects from his ranch at Fresno. From this time on the Smyrnas bore regularly and there were plenty of Capri figs to colonize and carry over the insects. The orchard was rented for two years by George C. Roeding for this purpose.

Growers of Smyrna Figs Encouraged.

The U. S. Bureau of Plant Industry leased the Maslin orchard in 1908 to place the Capri figs at the disposal of Smyrna fig growers. The orchard has been controlled by the department since that time and each year the figs are distributed to growers who are not provided. Practically all the trees are different in the Maslin orchard, which contains many valuable varieties of the Capri, especially those producing mammas—the overwintering ones. They are furnished by the Department at actual cost of picking, packing and shipping.

Figs Distributed This Year.

This year they have been distributed by G. P. Rixford at a cost of about 60 cents for a box containing from 150-160 figs. These profichi (now distributed) ran up to 2½ inches in diameter and carried a correspondingly large number of insects and good staminate clusters.

Co-operative Orchards.

It will be seen then that the Maslin orchard has played an important part in the Smyrna fig industry of the State. The Department has been

giving away cuttings of the best Capri figs for over ten years—gratis. There are 65 varieties in the Loomis orchard. No varieties have been distributed in the ten years, that failed to carry the overwinter or mammas crop. The department, Mr. Rixford says, has advised growers for years to plant a co-operative orchard of different varieties of Capri figs—from the earliest to the latest—in some frostless section for the reason that the crop is frequently curtailed by frosts. Such an undertaking would give a number of men their annual supply of Caprifying figs at a nominal figure.

The demand for Capri figs this year has been abnormal. Ten dollars a

thousand seemed to be the most reasonable price for good figs; \$12.50 was not uncommon, while early in the season the writer heard one provider mention \$25 a thousand. This seems to be due to these factors: (1) A large acreage of Smyrnas is coming into bearing for which an inadequate supply of Capris have been provided, many owners relying on some mysterious source for a supply when they might become necessary. (2) The phenomenal price of figs has created an extra demand for Capris, so that the Smyrna growers may be supplied with an adequate number beyond all question. (3) Some growers are now Caprifying their Adriatics to see if the quality and weight are not improved thereby.

G. P. Rixford of the Bureau of Plant Industry, and who first introduced the Smyrna fig into the United States, said he had never seen such a large cluster of Capris as the one he showed us—thirteen, and all large figs. He pointed out that the time had come in the new large development of the fig industry when every grower should be interested in providing in some definite way for his own requirements in Caprification. Every grower of Smyrna trees knows his needs perfectly well, but not all of them, especially those whose young orchards are coming into bearing have made anything like adequate provision to meet their requirements. Some men are grafting over a few of their old trees to Capris to do this. To others—especially new men, a Capri is a Capri, and its seasonal qualities are not considered. A commercial

orchard should be provided with Capri trees from the earliest to the latest to obtain the best results.

And the larger the Capri figs are the more insects they contain. We find that a number of people are figuring on Caprification to improve the set or quality of their Adriatic, Kadota and Mission Figs, although these are not at all dependent on it for maturing heavy crops. W. Sam Clarke of Sultana, the well-known Kadota fig grower, caprifies the second crop of Kadotas, which he says produce a dried article second only to the choicest of Smyrnas. Upon the activities of the tiny insect, Blastophaga psenes, the Smyrna fig industry depends; and the Blastophaga in turn is dependent on the Capri crop of mammas and profichi figs. Much remains to be learned about handling and Caprifying figs.



This cluster of Capri figs is remarkable for the number and size of the fruit. Such a number (13) has never been observed before in one cluster on any Capri tree.

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EDITORIAL.

CAN THE FARMER STOP THE CLOCK?

It is not much of a job to stop a clock. If it is a clock of the old pendulum variety, it can be done by a very slight shake of the shelf on which it rests, and if it is of the new main-spring kind, which will still keep ticking even if it is kicked around until the face is knocked to pieces, it can be stopped by letting it alone for a few hours or days. And yet although these things are true, one of the uppermost questions in Congress last week was whether forty million farmers can stop a clock, whether it be of the tick-tock or the ticky-tacky variety. As with other things at Washington, it is simply a question of votes—the very same thing which will start or stop the league of nations, is doing the same business for the clock, and the question really is whether the farmers of the United States have votes enough to shake the shelf or to frighten the politicians into letting the clock alone.

WHAT IS THE MATTER WITH THE CLOCK?

We are not surprised that the reader should ask this question, for the legislative monkeying with the clock at Washington has not excited the same interest in California as it has in the states east of the Rocky Mountains. At this moment we cannot remember that any assembly of farmers in this state has been sufficiently offended by turning the clock ahead in March and pushing it back in October to take action on the subject. "Watching the clock" has not been attributed to California farmers, and they have perhaps not been appreciative enough of the immortality of making the clock tell lies for half the year. Some of our handlers of dairy cattle have told us they found it inconvenient and objectionable to arbitrarily disarrange milking and household arrangements so that neither cows nor cooks are allowed to wake and work by the dawn of daylight, even in summer, and that the new arrangement makes them begin work in the dark all the year instead of half of it—which was bad enough in all conscience. Milking an hour earlier in the morning and afternoon for half of the year occasions two arbitrary changes at both ends of the day, disconcerts the bovine complacency at both ends of the cow and upsets the human composure which ministers to, and is ministered, by such complacency. There has not been, so far as we have observed, such wide dissatisfaction with the clock-meddling in this state as at the east where nearly all farms are either largely or partly involved in cow-handling, and where most of the work is done by the dwellers in the household of the farm-owner—and yet probably more discomfort than has been publicly complained of has been experienced. East of the Rocky Mountains, however, there has been outspoken protest against the new order, great pecuniary losses have been cited, and great mental and bodily rebellion has resulted, especially among housewives robbed of their rest-giving morning naps because the clock lied about

the dawn and added a full hour to their working day. Farmers' wives, it is claimed, have lost the roses from their cheeks—the color having mounted to their temples, where the fountains of anger are reputed to be playing. From their point of view the claim is that changing the clock is done for the purpose of giving the farmers another hour of work in order that the city person can have another hour of play!

Nor is the trouble confined to the arbitrary beginning of the long summer day before the sun sets things right for it. To add a morning hour when things in field and orchard are not right for work is no gain when compared with the loss of an hour of an 8-hour schedule by quitting in the afternoon when all conditions are right for carrying-on. From their point of view the title of the enactment: "the daylight-saving law" has been changed in current comments to the "daylight-wasting law."

THE ALARM GOES OFF!

There must be a real issue involved, for otherwise it would not be possible to arouse farming people to such outcry as they have made in all the eastern states. For it is an interesting fact that much as we have complained during the last few months of discord among those claiming to represent farmers at the national capital, there has been one subject upon which they have earnestly and energetically agreed. For instance, the Temple-Builders at their Washington conference in January last, took this action:

Whereas, the farmers of the United States lost thousands and possibly millions of dollars by the daylight-saving law last summer, especially in the harvest and spraying season; therefore be it

Resolved, that the National Board of Farm Organizations hereby petitions the Congress of the United States to repeal the existing law that sets the clock ahead one hour the last of March each year.

And representative of the Temple-Deplorers also favor it, for we have read this:

The secretary of the Farmers' National Council suggested that in view of the changed conditions from last year and the large crops the repeal of the daylight-saving law was in order this year. The manufacturers who are responsible for the enactment of the law are practically asking the farmers to pay their help for one hour's less work each day than is customary—just at the time of the year when farmers suffer most from a short day.

And the National Grange, which apparently is keeping on good terms with both the associations just mentioned, has been making also its own campaign against national clock-mending and announced with much satisfaction under date of May 3:

The effort which The Grange made to secure the repeal of the so-called Daylight-Saving Law, in the closing days of the 65th Congress, is bearing great fruit. Dozens of agricultural papers have taken up the fight, and Senator Arthur Capper of Kansas already has hundreds of thousands of signatures to petitions, and states that he will introduce a repeal bill as his first official act.

And again in its public announcement of July 1, the National Grange sang this paean of victory:

Congress listened to the farmers long enough to do as they asked, and kill the so-called Daylight-Saving Law. This was by a vote of 56 to 6 in the Senate, and 232 to 122 in the House.

It was of course no surprise that when the farmers set off the alarm by sending in hundreds of thousands of voters' names demanding the return to setting clocks by the sun, the congress should do as they were asked by an overwhelming majority. Nor was it surprising that the announcement was made that saving daylight by losing it would disappear henceforward from the Acts of Congress. It was in fact everywhere supposed that the legislative clock which was set up in Washington last year to misrepresent the time of day was stopped because the farmers demanded it.

THE PRESIDENT RE-WINDS THE CLOCK.

But there are wheels within wheels in political clock-work in Washington as in all other political centers. Instead of approving the agricultural appropriation bill, which with the true-time-rider passed congress triumphantly, as cited above, President Wilson vetoed the bill and thus killed the rider. Here we are again, then, with the clock still booked for its summer cir-

cuit which has no truth to the sun's pathway. President Wilson in his veto message said this:

The act to save daylight was intended to place the chief business activities of the country as nearly as might be within the limits of daylight throughout the year. It resulted in very great economies of fuel and in substantial economies of energy, because of the very different effect of work done in daylight and work done by artificial light. It, moreover, served the daily convenience of the many communities of the country in a way which gave all but universal satisfaction, and the overwhelming testimonies of its value which have come to me convince me that I should not be justified in acquiescing in its repeal."

And that, we take it is the epitaph of Solomon Grundy. Some offense is being taken by congressmen who voted largely as the official representatives of the farmers demanded that they should, and they claim that they would two-thirds the measure over the president's veto, but they failed to do so, though they did advertise the claim that they have done their duty to the farming industry. It is more than probable that they have believed all along that the easiest way to kill the farmers' movement for true time was to let George do it, and George has done it because it is politically safer for him to do it than it might be for any senator or representative from the rural districts of the country. All politics consists of wheels within wheels, and no cogs have been slipped in carrying through this urban amendment of the good old summer time to please laboring, commercial and manufacturing voting classes. The farming interests will have to adapt themselves to it.

THE MISFORTUNE OF IT.

We have stated the matter with some detail because it has aroused much feeling among farmers in other parts of the country and all should know the steps by which a movement, which our constituted agricultural representatives at Washington agreed upon, came to naught. On its face it seems to contradict the claim that if farmers will act together they can secure what they desire in governmental policies. It does not, however, appeal to us as significant at all in that way. It seems to us rather unfortunate that any issue was raised upon it. It is not a question of fundamental and wide-reaching importance to farmers nor to farming; in fact it runs counter to fundamental matters as the President claims in vetoing it. It is unquestionably inconvenient and works some hardship to large numbers of farmers, as their claims for return to solar time allege, but the trouble with it is largely adjustable or avoidable by changing some other things which do not affect people generally. There is no insurmountable objection to having rural time true to the sun and city time conventional. We grew up in a rural neighborhood in which things went by solar time and railway trains ran through by New York time, which was 15 minutes faster, and yet no one lost his head or lost a train because of the double standard. It is, of course, more convenient to have standard time, and if cows have to be milked or produce gathered an hour earlier than the sun to make shipments to centers which require service by false local time, it will work hardship, of course, unless local time tables are changed to suit rural possibilities and economies and the towns are compelled to share inconveniences with the country. On the whole it seems to us that this issue over the clock is not of a character to warrant agricultural organizations in making a test-question of it, and that the eastern organizations did so seems to us unfortunate. When agriculture stands for a thing in the national eye, it should be something of fundamental importance which can be shown to be involved in fairness to other classes who are interested as well as farmers. Financial, commercial, labor and other interests, which have their way in national policy and operation, succeed in getting their way because they can point out to other interests that the same measures affect the welfare of several or of all of them. The farmer can do this more broadly and effectively than any other man because his interests really support them all. The farmer or his representatives will never get anything of much account by simply bewailing his own unhappy lot. All that will be credited up to farm-

ers' growling, which is generally conceded to be constitutional privilege of their kind. There are plenty of things which are fundamentally wrong to farming, and upon the correction of which the highest welfare of large fractions of every community depends. It is, therefore, unfortunate that organized farmers should have made so much fuss about the clock and that they were so badly beaten at it also. They should choose a better objective next time.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Probably Alkali Trouble.

To the Editor: I am enclosing specimens of vine and fern leaves from my yard. I have fertilized, watered and sulphured twice, still there is no improvement. The Virginia creeper is turning to autumn colors and does not grow. The grape vine grows, but slowly—also the ferns. It should be glad to know the cause of trouble and remedy. All the vines and other plants are not affected. They are all planted in same kind of soil and the vines are not far apart.—M. T. D., Fresno.

There is no specific disease on the leaves which you send. Their browning on the edges and other discolorations, and your description of the behavior of the plants, indicate clearly that the trouble is in the soil. As you have probably watered and fertilized sufficiently, the probability is that the soil has too much alkali for your garden plants. The fact that some plants show injury and some do not may be explained by the two facts: (1) that some plants can stand more alkali than others; (2) that some places may have more alkali than others—though they may be very near together. Getting out the alkali is difficult and expensive, and perhaps you will have to be content with having the plants which do well in the places where they do well.

Cucumbers Going by Nematodes.

To the Editor: I have a lot of nice cucumber vines which have been well cared for and suddenly they commence having dead leaves on them; later the stems become yellow and the plants die. I send a sample of the dead roots—all the rootlets turning to swellings or hard knots. Is there anything I can do at once to save the rest of the plants?—C. H. W., Hemet.

The roots show a complete infestation by nematodes—commonly called "eel-worms." They are too small to be seen without a magnifier and they are ensconced inside the swellings or knots which you describe. There is no way to reach them by treatments: the plants seriously invaded are gone beyond saving. It is not probable that all your plants will fail this year, but you must give up growing vegetables on that particular piece of land. As soon as you get off what you can, dig or plow up the land deeply, raking out and burning all roots you can—leaving the land rough to be dried and heated by the fall sunshine. After the rains come work the land down and put on grain or clean the soil by a full year's bare fallow. These pests must be sun-burned out and starved out before the soil will be safe for vegetables.

About Plum Varieties.

To the Editor: Do shipping plums such as the Formosa, Santa Rosa, Climax, Wickson and other Burbank varieties bear regularly if planted by themselves, or must I plant hardy sorts among them for pollinizing purposes? Has the Italian prune any advantages as a producer over the French or the Imperial? Do you think the above named varieties would do well in the foothill districts near Healdsburg?—P. H. A., Albion.

The Japanese plums you mention do not need association with European or American strains for pollinization. Some of them may be shy when planted each by itself, but they help each other so that it is not necessary to seek pollinizers out of their class. The Climax is especially noted for helping other Japanese varieties in this way. It is, of course, very fortunate that the Japanese varieties serve each other, for the average blooming date of Europeans and Americans is so much later that their service would be doubtful. The Italian or Fellenberg has nowhere in California any advantage over other prunes in bearing: it has in fact been practically abandoned for many years

for shy bearing. As for the commercial desirability of growing shipping plums in the Healdsburg foothills, only local experience in orchard and market can answer that question. Before planting for that purpose you should make careful inquiry among local wise men.

Starting Walnut Orchard.

To the Editor: I have been making enquiries in several counties regarding the best practice of planting out a walnut orchard. The several nurseries advise planting trees grafted on black walnut root. Yet I find the most successful orchards are this where the black seedlings were planted and the tree grafted when five or six years old. Can you give me any light on this subject?—N. J. C., San Francisco.

We doubt if one-tenth of one percent of the trees now making our walnut crop was grown as you describe. There is therefore no proper opportunity for comparison, which in breath and duration would justify your conclusion that such orchards are most successful—unless you desire to substitute a prognostication for a demonstration. The large areas of transplanted seedlings in Southern California do not apply because they have not been in very large proportion grafted. We do not, however, doubt that good trees can be had by grafting or budding seedlings in place, and we would begin it when they are three years old instead of six. Still we prefer starting with grafted trees because the greater cost of starting that way will be more than covered by the cost of field grafting, re-grafting and caring for the growth on the scions, the cost of cultivating trees so long for bearing, the delay in bearing and the intellectual anguish of having in all probability an orchard of trees lacking uniformity in form and development.

Nitrate for Die-back.

To the Editor: This cure for sour sap in trees has been recommended: Make a slit in the bark where not reached by sun and insert a small quantity of nitrate of soda. I wish to ask if it would not be as effective or better to dig it into the soil around the tree. If so, how much would it be safe to use not to injure the tree? We have cherry trees that are 12 years old with dead limbs full of cherries and apple trees two years old that are dying. Of the 160 cherry trees set 12 years ago and reset, we have 40 partly dead ones left.—W. H., Sebastopol.

Slitting-in nitrate for such root-failure as your description indicates is as irrational as it would be to scratch a match on your nose to cure varicose veins in your legs. Your idea that it would be more rational to dig the nitrate into the soil is correct because if the tree has any strength to repair its roots a nitrate-broth where the now active rootlets can reach it would help them to get stronger. You can dig in from one to five pounds to the tree (according to its size), providing you scatter it well and providing also that you put on plenty of water to dissolve and distribute it. But we have no idea that any such tonic will avail anything where growing conditions in the soil are so bad that tree-failure, such as you describe, occurs. The land on which trees fail that way is either too full of water in the winter or too dry in the summer. You probably know which, but of course we do not. For winter standing-water the cure is under drainage; for summer root-failure through drying out, the cure is irrigation. You must X-ray your land with a spade winter and summer to find out which condition you have—and you may have both.

Ungrateful Strawberries.

To the Editor: I have some ever-bearing strawberries. They are prolific bearers, but very imperfect in shape. They came from somewhere in the East, and were said to be very fine. Can you tell me what would improve them? They were new plants in the spring of 1918. I took off runners and bunches of berries, for they bear in bunches. For some time the plants looked fine and bore well until late last October. This spring I had the plants divided and reset, for they were so large. I still pull off the bunches of blossoms to give the plants a chance. I water them well and have them cultivated between rows once a week. What more can I do?—M. E. M., Los Angeles.

Very little has yet been learned by California experience of the new Eastern ever-bearing varieties of strawberries and the probability is that they will not serve any particular purpose here because the varieties we commonly grow are practically in bearing all through the growing season if well

WHY NOT YOU, TOO?

During the last few months several of our readers have taken up our work of attending to renewals and securing new subscriptions. They have done remarkably well—many making more money than they had ever earned before.

We can use a few more ambitious, energetic men. Experience not necessary, as we give you proper training. But you must have an automobile and should be able to devote your entire time to the work. Straight salary; permanent work. Write for particulars and tell us a little about yourself. You'll be glad you investigated this money-making opportunity.

cared for. We cannot definitely tell what is the matter with yours. It may be that they are seedlings, or from a seedling which has the bad habit of bearing imperfect fruits. Many seedlings have to be abandoned because of that defect. As, however, they were commended to you as good in this respect, it is possible that you are pushing the growth of the plants so hard that they cannot settle down to orderly fruiting. We would let them taste mild hardship. Give them less water and stop cultivation for a while; also stop removing fruit stems and stop dividing plants. Let them make as large bunches as they desire and try for all the fruit they can carry, giving only water enough to prevent evident distress, as shown by the foliage. If they do not then bear well-shaped fruits, throw the plants over the fence.

Roses on the Mountains.

To the Editor: I am at an altitude of 5,000 feet and my roses look most miserable. I have killed all of the aphids with tobacco solution, but now something else is wrong with them. The blooms look rusty and fall off before they are fully developed. My ramblers were affected with mildew, but I used sulphur, and they are getting better now. May be it is too high here for roses. I have been a gardener for 30 years, both in this country and in Denmark, and this is the first time that I have had trouble with roses under my care.—J. J., Big Creek.

You are up against natural conditions which, in their relations to rose growing, are little understood. As an experienced rose-grower you have doubtless done everything in the way of culture which any one could do. The trouble probably lies in the ill-adaptation of the varieties you are growing to the natural conditions which determine their behavior. Probably these conditions are incident to your elevation. The roses which are so splendid in California valleys and for a certain elevation in the foothills, do not act as well in the mountains nor on the adjacent high plateaux. It is possible that what are called "hardy classes" of roses in the Eastern States may be the ones upon which we must rely in our mountain districts, and the teas and hybrid teas, which do so well in our valleys and foothills, may have to be kept under glass, as in other wintry parts of the country. But even this surmise has not been demonstrated by fully convincing trial.

If you have a collection including different classes of roses, do you not observe that some do better than others? If there are other persons near you who have been trying to grow roses for some time, cannot you visit them and see if they have varieties which bloom well and get cuttings of them, and at the same time see if they are not of a class of which you can secure better varieties than you succeed in finding in the hands of local growers. It would be of advantage to all who are trying to grow roses at high elevations to have this matter intelligently looked into and the results published. Your training and experience qualify you to do a public service in this way. Meantime what can other readers of the Rural Press who have undertaken to grow roses at 5,000 feet elevation tell us of their experience?

California Weather Record.

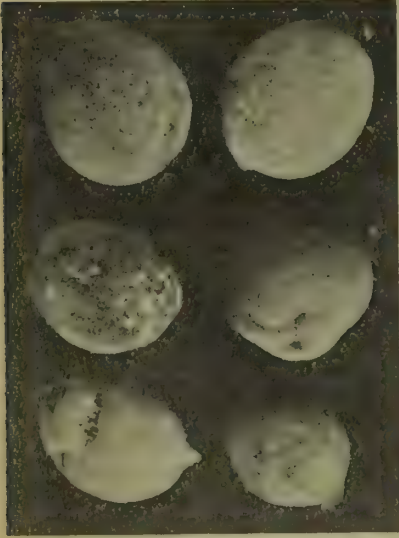
The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending July 15, 1919.

Stations—	Rainfall		Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest Lowest
Eureka	.00	.00	.11	62 50
Red Bluff	.00	.00	.00	104 60
Sacramento	.00	.00	.00	98 56
San Francisco	.00	.01	.00	69 51
San Jose	.00	.00	.00	86 50
Fresno	.00	.00	.00	106 68
San Luis Obispo	.00	.00	.01	90 52
Los Angeles	.00	.00	.00	86 62
San Diego	.00	.00	.00	78 62
Reno, Nev.	.00	.00	.04	98 68
Winnemucca, Nev.	.00	.00	.14	100 54
Tonopah, Nev.	.10	.10	.15	90 64

Losses from Thrips-Scarred Peaches

(Written for Pacific Rural Press by Jno. J. Fox.)

In the fall of 1915 C. V. Freed, near Newcastle found that the number of peaches showing scars and skin-abrasions was increasing. In the early part of the year many were scarred so badly that they either dropped off or were ruined for packing. He estimates that he has lost \$10,000 worth of fruit in the last few years from



Typical abrasions and scarring of peaches by thrips larvae. The lower right and the center left hand ones will never develop while the others will be spoiled and could never be included in a pack.

this cause. R. B. Sherman of Long Valley has had the same experience, according to Farm Advisor E. O. Amundsen of Placer county, who recently showed us some of these thrips-scarred peaches.

Where They Come From.

On investigation he found this con-

dition generally prevailed along a ditch or fence or wherever weeds were allowed to grow rank and mature. He found the little insect burrowing among the fuzz on the peaches. These he sent to the University to determine their family and they were pronounced to be the larvae of pear thrips. They seemed to breed on miner's lettuce and other weeds. Mr. Amundsen says they have found that these thrips larvae can be controlled by one spraying with the nicotine spray as used on prunes, but that it is better to spray twice for a clean job. That thrips are now suspected as being responsible for scarring on plums and apples is true in several regions. We have mentioned one man having sprayed his apples this year because of the russetting produced. This is a matter which will receive much more attention and closer inspection than it has in the past.

Other Reasons for Scarring.

We do not mean to imply that all scarring or distorting of peaches are due to thrips damage. But it is easy, especially in its earlier stages, to distinguish this injury from the corrugations and irregularities produced by curled leaf fungus, from the gnawing of a worm or from abrasions caused by whipping twigs. The importance of guarding against such injury is obvious.

In the case of freestone peaches, they can be cut. Clings, unless used for canning, will be spoiled for shipping green and many of them entirely too shrunken to use at all, even if they do not drop off. We mentioned in the spring the amount of bud injury that thrips were doing to peaches and plums, as well as prunes and cherries, and the illustration herewith presented will help to impress the importance of the matter on the minds of those growers whose wood and fruit have been affected.

Fruit-Tree Conditions in July

(Written for Pacific Rural Press.)

The condition of trees in the semi-dry, as well as the irrigated sections of Northern California are very different from that of a year ago. Cherry, apricot and plum trees are green and vigorous; peaches, prunes and walnuts are a good color and carrying their loads well as are almonds, excepting where the mites have been bad.

In some prune orchards where the work of the thrips larvae showed up in the spring, a lot of naked twigs or little leaves are still apparent—some dead. In some instances the mites have completed the deadly work on limbs and twigs weakened by thrips. If one had the time or labor, this would be a good time to cut back all weak or moribund growth to sound, healthy tissue. A lot of vitality would be saved to the tree this way and such wood is not so easy to distinguish when the trees are dormant. Nevertheless all prune trees look a lot stronger than they did this time last year; new growth is showing up even on trees that are carrying very heavy loads of fruit.

Almonds show more instances of what our soldier boys call "Lazy Ally" than any other orchards. We have noticed in different sections serious damage to foliage on almond trees from red spider and mites, some even losing leaves and other leaves already a light grey in color. In mentioning this to George P. Weldon of the State Commission of Horticulture yesterday, he said: "Many men

do not realize the gravity of the injury to trees when the foliage is so damaged at this time of year. It is nothing short of disastrous. I believe that one thorough application of sulphur when the pests first begin to show up will control them. The damage is not only to the current year's crop; the vitality of the tree is so impaired as to affect the setting of the next year's crop. Our perennial shortness of supply of almonds may be largely attributed to this fact."

Almonds are injured by the ravages of mites to a greater degree than any other tree, yet there are a larger number of almond growers who see but do not perceive the injury they sustain. It is only fair to state that quite a number of almond producers only have avenues or fence rows of almonds—it is a sort of side-line or pick-up with them. However, each year more men are taking pains because all the big growers are doing it. The smaller men figure that their bigger brethren are not the kind of men to throw away money for nothing. These tiny mites are not by any means insignificant. Collectively they do almost as much damage as an infestation of army worm. Their presence is a dominating factor in the almond industry to the extent that they may be called the boundary line between success and failure to any man whose sole livelihood is the production of almonds—taking a ten year average on selling value of property.

GIVES SULPHUR A LITTLE AIR.

Albert Glazer of Hillsborough near Dry Creek (Sonoma county) came to see us the other day about an evaporator. He thinks that all late ripening sections will have to instal evaporators for prunes in time and for pears in late sections where rain is early. He says that he gets better results in sulphuring his pears by running a two-inch pipe into his sul-

phur container and then out again. When the sulphur house was hermetically sealed he used more sulphur, got poorer results and there was always a clinker of sulphur left. Now, by admitting a little air to the sulphur-box he uses less material, sulphurs twice, every bit of sulphur is consumed, and a whiter pear results. He leaves the fruit in about two hours. Seems to be worth trying out.

WATER ADDS VALUE TO PRUNE CROP.

How can you compute the value added to a prune crop by judicious irrigation? It is, of course, an estimate, but here is a definite estimate by a successful prune grower who has raised prunes without irrigation and only put in an irrigation plant last year.

"I estimate that I have increased the size of my prunes in the old orchard ten points," by irrigation, said Henry Wheatley of Napa county, "and that this will give me 15% increase in weight. The increase in weight and higher base will, at present prices, give me \$4,000 more gross on an 80-ton crop and net \$3,000. For the cost of irrigation (inclusive) was well under \$1,000."

In addition to the increased value of the crop the added vitality to the trees should be considered and this is no small item. For it is difficult to get a real heavy crop and new growth too; that new growth that is essential to the production of sizable prunes. The longer a tree can be made to hold its foliage in the fall, the stronger it starts out in the spring.

Canners are picking up apricots on the San Francisco market (July 11) \$140 a ton as they were unable to contract for enough to fill their requirements. They are taking other fruits like plums, etc., in the same way.

The table grape crop around Lodi looks fine. No injury is apparent from the hot spell and the future never looked more promising as they are now practically safe from scald. Shipping will commence on Tokays about the second week in August.

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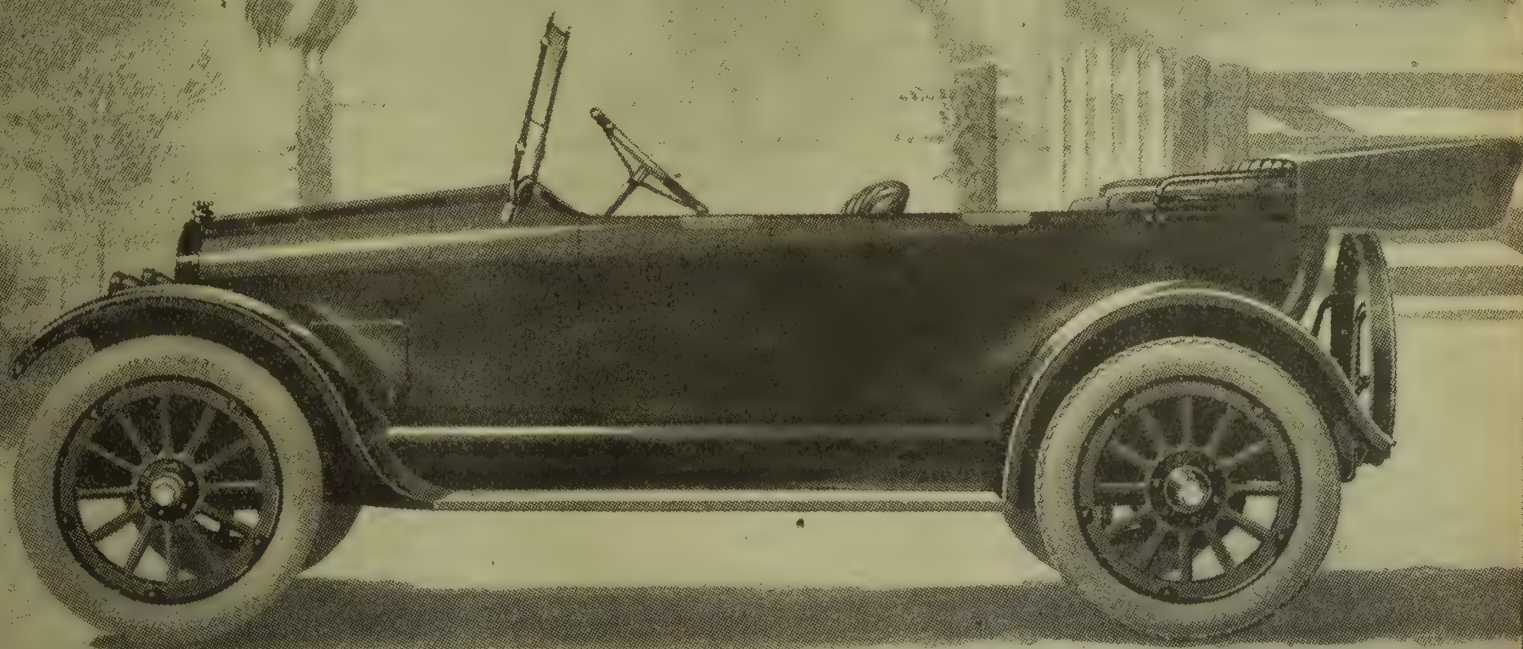
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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Doubling the Life of Trays and Rinsing Prunes.

Two dressed lath strips at the back of the prune trays instead of only one in the center will actually double the life of the tray without adding noticeably to its weight, according to R. P. Van Orden of Mountain View (Santa Clara Co.). His trays are well built this way with a light dressed sugar pine lathing strip. Between his prune dipper and grader he has built in a rinsing tank with a draper attachment driven from the grader which conveys the rinsed prunes on to the grader. They are said to cure more rapidly after this process in which Mr. Van Orden has eliminated any extra expense beyond installing this home-made tank and draper.

Record Season in Tulare and Fresno.

"Apricot harvest is about half over with us, says Alfred Gunnarson of Kingsburg (June 28), and the crop is better than 100 per cent. Overloaded trees and shortness of water makes for small sizes and a little lower quality, but the tonnage and the market are there. Our ditch water was closed off about June 10, but I don't think that the water shortage will materially decrease the peach or raisin crop. For most own or are installing pumping plants. No mildew has been reported on the grapes yet, and red spiders and mites have not appeared in any great numbers, so there is no doubt that this locality will have the biggest crop of its varied fruits and the best prices in its history."

The California Co-operative Canneries.

New plant at San Jose is nearing completion. It will cover (with cottages and all) 18 acres of ground. They "got a move on" to take care of the cherries for local growers. Cherries dropped to 6 cents, so the C. C. C. rushed some machinery and pay cherry men 8 cents as first payment and as much more as the market affords after deducting overhead and 8 per cent on stock.

This huge cannery will handle 20,000 tons of fresh fruit and tomatoes this year as a starter. It is a stock company with the stock all trusted paying 8 per cent max. They have plenty of money and plenty of trade. The San Jose plant alone will employ from 500 to 1,000 hands. It will be completed in time to start on apricots the first week in July.

The Coast Will Furnish Flower Bulbs.

The quarantine against the importation into this country of all bulbs except tulips, hyacinths, narcissus and lilies went into effect June 1. This is likely to lead to a rapid development in the growing of bulbs and other ornamentals on the coast. Already in the last five years bulbs have risen to a stage of commercial importance in State production, and it has been proved that they can be grown as successfully in California as in Europe. The \$8,000,000 worth of bulbs heretofore imported each year will henceforth be raised on the coast. As to other ornamentals, we have azaleas and rhododendrons growing wild—they belong here as do many other cultivated varieties. The new Quarantine laws will benefit California in more ways than one.

The Nursery Business in '57.

Ethan Allen Chase, the well-known veteran nurseryman, was asked to address the assembly at the Nurserymen's Convention. In rising to the honor he said that he embarked in the nursery business in California as far back as 1857. As a contrast to present scientific methods demanded from nurserymen, Mr. Chase said that at that time there was no recognition of types of bearing qualities of trees propagated. Varieties only were considered. Nurserymen thought it was all right to select buds from the robust trees and those showing the strongest growth, usually an indication that its fruit-bearing quality was lacking. Baldwin apple

was a Baldwin apple and variations were not recognized. Since that day so much had been learned in the nursery business until today only trained men were entrusted to cut bud-wood by responsible nurserymen. The suggestion offered at that meeting for co-operative bud selection of the best types was the culmination of years of thought and observation on the part of practical men. Its adoption must be of incalculable benefit to the fruit industry.

A Precocious Walnut.

F. B. Cunningham of Exeter (Tulare county) has a 6-year-old walnut tree on black standing in an alfalfa patch that is 25 feet high and over a foot in diameter at the butt. It is grafted on California black and has a fine load of nuts on.

Figs Interplanted with Nurse Crop.

H. A. Vaughn, near Merced, has 160 acres planted to figs, interplanted with peaches and apricots, which will pay dividends on the ground they occupy till the figs need more space. He irrigates early in the year—a good, thorough wetting, and then again in July. A power-pumping plant furnishes the water here. Sixty acres of the figs are Calimyrna and the whole orchard looks in the pink of condition now (May 20).

New Prices for Dried Peaches Good.

The California Peach Growers' Association announced that members of the association will reap a harvest of many thousands of dollars this season in excess of last for their crop. General Manager of the Peach Growers' Association announced the prices for export "yellows" as follows: Standard, 15¢; choice 16, fancy, 17¢. The same grades brought for the 1918 season the following opening prices: Standard 12¢, choice 13, fancy 13½. Fifty per cent of each order will consist of practically peeled fruit at 1½ cents per pound higher than the prices given.

BERRY GROWERS SUFFER FROM SUN.

At Sebastopol the continued steady sunshine during the past month culminated in a couple of real "scorchers" on the 11th and 12th of July. The heat has cooked the Loganberries and Mammoths—burnt them up. Only the blacks are left and they are quite badly burnt. They will need cooler weather from now on to get through, according to D. M. Searby of Occidental.

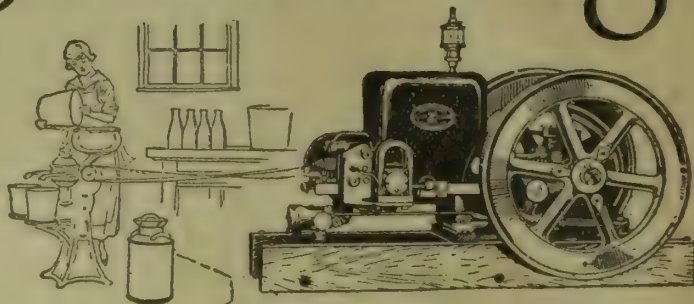
On one ranch of 55 acres of berries—mostly logans and mammoths—only 15 tons had been picked up to Saturday night. About one and a half tons more were left to pick and that ends that. The 75 pickers left Saturday night. Another man picked one-third of a ton to the acre and then quit—all the rest of his berries were burnt up by the sun. These are only two examples of this district, but it is all alike. There have only been two fogs this season.

The silver lining is that many of these growers have good crops of apples growing among the berries and prices are "right." Jonathans and Newtowns are a little light, but Spitzenbergs, Baldwins and Wagners are fine, and Gravensteins—the main crop—will yield 600 carloads in the Sebastopol district. Apples are winners in this section.

THE PRUNE MARKET IN CANADA.

Canada will consume double the amount of dried prunes and apricots next winter she has ever taken before, and if prices are held within reason will continue to buy in increasing quantities, according to a report from the Canadian representative of the California Prune and Apricot Growers' Association. An almost untouched market lies open to our dried fruit men in Canada with the return to peace, he says. The Canadian govern-

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ment has removed the 7½% war tax on dried prunes, the two-thirds of a cent a pound pre-war import duty only remaining. An Association representative has been placed in every Canadian city of more than 20,000 inhabitants in the drive for new prune and apricot markets. This will permit direct selling to Canadian buyers instead of through New York and Chicago brokers, thus saving them the half-cent a pound brokerage. Such drives for new business would be impossible for individual growers or packers. Co-operation on the most extensive scale renders such action feasible.

The farmers around Modesto are planning to run a telephone exchange of their own to connect the eight independent lines owned by them. The Farmers' Union of Stanislaus county is back of the movement.

The estimate on the coming olive crop is 66 per cent of normal compared to 75 per cent one year ago and a ten-year average of 84 per cent, according to E. E. Kaufman of the Bureau of Crop Estimates.

Eighty acres of wine grapes at Lodi have been sold at \$62.50 a ton f. o. b., it is announced.

SECURITY KANT-WOBBLE LADDER

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There are a few fruit districts where the SECURITY Ladder is not handled by a dealer. If your dealer is not among the 65 listed in Pacific Rural Press, May 24, page 798, I will ship you two or more ladders, subject to your examination and approval. Prices, 8 ft. \$5.00; 10 ft. \$6.00; 12 ft. \$7.50, freight prepaid.

Write for new Booklet.

J. B. PATTERSON
78 Franklin St., Oakland, Cal.

Carlot shipment of cantaloupes Imperial Valley to July 1 amounted to 6,768 cars this season. Melons were still moving and prices maintained.

MADERA COUNTY HAS FINE PEACHES AND PLUMS.

Recently, we went into "probably the finest peach orchard in Madera county," as Horticultural Commissioner March banks called it. One hundred and forty acres of deep sandy loam belonging to D. B. Harris, President of the Madera Fruit Growers' Association, is really a model of training and management. The peaches are McKeivitt's, McDevitt's and Tuscan's; Lovells, Fosters and Elbertas. They are about 30 acres of plums and some apricots and the rest are peaches. Six and seven years old, but already in their prime. The trees are headed about a foot high, trained on the approved vase shape with fruit wood clear to the ground. The foliage is dark rich green and the trees carry a fair crop of fruit inside and out. The limbs are wired up. The whole orchard is piped for irrigation from highest points, an ample supply being furnished by the pumping plant. Thinning of peaches was going on (third week in May), and more men would have been welcome to thin apricots, but help is scarce.

They have no curled leaf here because no spraying operation is ever omitted. On the plums we noticed a fair crop of Santa Rosas, poor pollenization showing in heavy drop. The Tragedys were poor but the Climax showed a heavy crop, even allowing for a considerable drop.

DRY OR WET SPIDERS?

To the Editor: Kindly allow me space to correct a misunderstanding on the part of Mr. J. L. Sweet, of Arbuckle, as expressed in his article in your issue of June 21st.

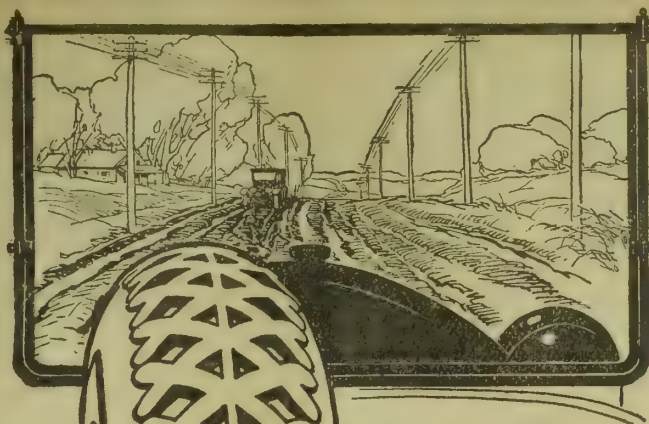
It is quite true that sulphur—either wet or dry—will continue to fume for some weeks after application; but, there are fumes and fumes; and, as I attempted to state in my article in your issue of May 31st, the toxic value of the fume is lost after about six days' exposure to the atmosphere. True, the fume remains, but it does not kill the spider. I have seen spiders traveling about, plowing their way through the sulphur, entirely unharmed. I have seen them traveling about on leaves holding the deposit of lime-sulphur, unharmed. Mr. Sweet says "four weeks after application the fumes are strong enough to give his neighbor the asthma." Unfortunately, spiders do not seem to be afflicted with asthma, and cavort around through the fumes quite happily. My four-application dry sulphur system is proving successful for a number of people, killing the spider, preventing the fall attack, and leaving a clean grove for the coming spring, besides cutting the cost.

As to cost, Mr. Sweet says that it requires two men and a boy to spray his 50 acres in five days. Evidently he forgot to mention a team of horses and a gasoline engine as well as a \$300 outfit. I will take my \$18 outfit and give his 50 acres the most thorough treatment they ever had, and do it in three days. If the trees are very large, or spreading, it may take a half day more, but ordinarily three days will do the job.—John S. Davis, Los Angeles.

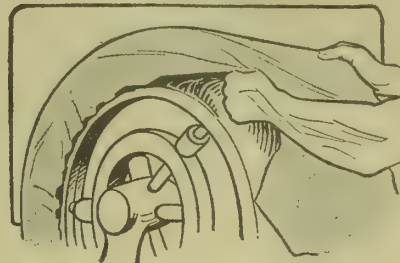
The acreage of California cotton planted and standing as of July 1, is approximately 169,000, having a condition of 99 per cent normal and indicating a probable production of 114,000 bales, says E. E. Kaufman, field agent in the United States Bureau of Crop Estimates. This is compared with last year's acreage of 192,000, with a production of 97,700 bales. In the San Joaquin valley this year 8,000 acres are planted to cotton, as against 2500 last year.

Short rain and scarcity of fog has reduced the lima bean crop to about one-third what it ought to be according to C. A. Storke, who has a large acreage in Santa Barbara county.

It is reported that wheat from southern Tulare county sold in small lots has brought 40 cents per cental above the Government price.



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And it is *actual* value that gives better *actual* mileage.

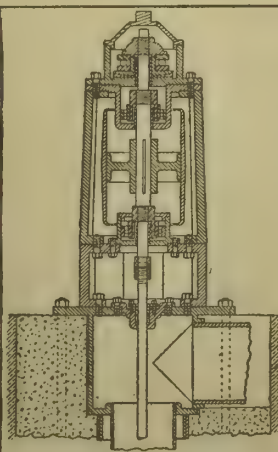
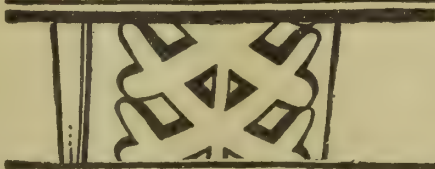
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QUESTIONS ANSWERED.

To the Editor: What will keep cut worms from eating young grapes? Will oil drawn from a crank case of auto do for mowing machine, if filtered?—Porterville Subscriber.

The University formula to poison cut worms is 25 pounds of brain, one pound of white arsenic, and two quarts of cheap molasses. Mix the arsenic and bran dry, and add the molasses,

which has been diluted with water. Add enough water and mix thoroughly to a dry mash that you can sprinkle under the vine easily. If only a few vines are affected you can tie some cotton batting round the vines or apply tree tanglefoot.

Our "Power" editor says that if you are quite sure the oil is properly filtered it will be all right, but the chances are that it would be safer not to use it on internal bearings

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A New Era in the Fruit Business

(Written for Pacific Rural Press.)

From time immemorial contracts have been held as absolutely binding, and are still so held.

Sacredness of Contracts.

Contractors engage to build concrete highways for the State. If conditions change, and labor costs soar, the contractor "goes broke." There was one serious case where the contractor lost everything he had in the world—landslides and unforeseen complications doubled the cost; the contractor died, leaving a wife and family. A bill was introduced in the Legislature in 1919 for an appropriation that would cover the loss caused by the landslides. It would have helped the family make a new start. The State of California declined to appropriate a single dollar. "A contract was a contract, and the contractor took his chances of bankruptcy"—"The State could not afford to set a precedent."

But different men do things in different ways, according to their breadth of vision and sense of innate fairness.

A Case of Stress.

In 1916 and 1917 some two-score farmers contracted their pear crops for a term of years to a number of canneries, at a price satisfactory at that time, \$30 to \$35. The war came on and costs doubled—the growers were in distress. A conference was held. The canners said, "All right, the country is at war. It's up to all of us to do what we can to be of mutual helpfulness." "We'll raise you ten dollars a ton." So, in 1918, the grower was saved from bankruptcy.

Now the war is over, and costs of labor are still higher.

IRRIGATION DISTRICT IN CONTRA COSTA COUNTY.

A meeting of landowners, numbering about 100, was held at Concord last Saturday to discuss the feasibility of a plan to irrigate about 25,000 acres in Contra Costa county. The discussion brought out the following facts: land to be irrigated lies around Antioch, Pittsburg, Concord, Walnut Creek and in the Ignacio valley; the water was to be secured from the Sacramento river above Antioch, and a system of canals, reservoirs, pumping plants, etc., sufficient to cover the land with 1½-acre feet of water would cost about \$80 per acre, and the annual cost would be \$11 per acre. A vote taken showed that the majority did not favor the project at this time, though we understand about 10,000 acres around Antioch will at once proceed to form an irrigation district.

PRICES ON THE 1919 RAISIN CROP.

Some raisin growers in the North have heard of high prices paid by competing packers. We have reports of growers receiving 10 cents from independents while the growers' organization has refused to intimate yet what prices will be paid for the 1919 crop. It looks like a flank movement on the part of the "interests" to undermine the association by doing a little ferreting. We have even heard of men enquiring if they could get released from their contract for the season by paying an indemnity of \$40 a ton so as to sell at the price named.

It is certain that the Association will pay growers at least as high as any of the competing companies average. We sent in one rather rambling statement to the California Associated Raisin Co. for elucidation and received the following reply:

"In response to your letter of July 1st, I am giving you the following information as to prices paid growers for Northern Bleached Thompsons by this Company:

	1916 Crop	1917 Crop
Extra Fancy	\$152.65 ton	\$194.67 ton
Fancy	144.01 "	184.14 "
Choice	133.68 "	173.83 "
Soda Dipped	104.27 "	162.01 "

Final settlement will not be made for 1918 crop until next November. We have paid 7½ cents on each grade so far. There will be a further payment, but I cannot say at this time how much it will be.

The growers, through Frank T. Swett of the Cal. Pear Growers' Association asked for a conference. A meeting was held at which six canneries were represented and thirty growers.

Canners Come to the Relief.

The increasing costs were discussed. "All right," said the canners; "we'll go even further than last year. We will advance the price \$20 a ton!"

So the \$30 pear will bring \$50, the \$35 pear \$55, and the \$40 pear an advance of \$17.50 or \$57.50.

It took some nerve and breadth of mind to appropriate \$120,000 as a relief fund, but the canners did it cheerfully and generously.

The growers went home with the feeling that it's a pretty good world to live in, and that all business men are not sordid and grasping, and with deep appreciation of the fact that one of California's greatest industries, the canning of food, is in the hands of men of broad human sympathies, and generous outlook for the good of the industry as a whole.

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QUICKER hauling of bigger loads is the money-saving problem of the progressive farmer. The Nash Quad, which drives and brakes on all four wheels, is solving this problem for farmers throughout the country. Its ability to travel over bad roads, ploughed ground and stubble fields, loaded to capacity, makes it the logical hauling unit for farmers.

The fact that it drives and brakes on all four wheels enables it to pull these heavy loads over rough ground and stubble fields where ordinary trucks would meet with difficulty.

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1529 VAN NESS AVE.,
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NASH TRUCKS

One-Ton Chassis, \$1875

Two-Ton Chassis, \$2440

Nash Quad Chassis, \$3600

HORTICULTURAL JOTTINGS

The pruning of apricot trees is in progress in the Vaca Valley (July 10). The foliage is in fine condition.

Shipping of pears began at Acampo July 7. Shipping of pears is now on. Winters is also shipping out figs and peaches.

A few wormy apples are being held up in packed shipments, but only a very few. Those unfit for packing are shipped to the cider and vinegar works marked "juice" apples in loose lugs.

Congress has increased the appropriation to aid the nut industry by \$30,000, and the bill carries also \$20,000 to study the utilization of wine grapes in California following "prohibition."

Wine grapes are being bought in Joaquin county at from \$50 to \$250 per acre on the vine, according to variety and yield, it is stated. A. L. Smith at Lodi sold the grapes from 30 acres for \$8,000.

The Wyandotte (Butte county) Farm Center wants the Department of Agriculture to send an expert to that section in an endeavor to control or eradicate "citrus blast," a generic name for a condition that is self-explanatory.

Placerville (El Dorado county) is reported short of fruit packers. The Board of Education may be asked to allow the schools to remain closed a month longer than usual—up to Sept. 1, to help solve the problem of pickers and packers.

Mrs. R. Day, manager of the Overman's Nursery Company of Spokane, was unanimously elected President of the Pacific Coast Association of Nurserymen at the recent (seventeenth) annual convention. "Overman" is an appropriate name.

The earlier apricot districts are about through with harvesting now and the Santa Clara and Santa Cruz sections are now hard at it. The fruit is of splendid quality and the yield will exceed early estimates. Prices stiffen, though most of the fruit is sold.

"I believe we shall have two tons of almonds from one acre of trees this year," said Professor Warren P. Tufts at the University Farm, last week. We went with him to view the trees and think so too. The I. X. L. and Nonpareils are loaded and all varieties are well furnished.

Peach cutting and drying has already started on Crawfords in the earlier sections. Probably more of this variety will be cut than usual as growers know what they are going to get for them and the high price dried appeals to many more than taking a chance.

A systematic campaign against weeds is being carried out by A. L. Rutherford, Horticultural Commissioner of Stanislaus county. Burning of grass and weed patches in cultivated sections is gaining in favor. More of it was done than usual this year on account of grasshoppers.

Various farmers are concerned over the large amount of labor that will be required on the new highways projects. As labor is scarce now they are wondering already about next year. From present appearances more tractors will be sold this year than ever before and more owners driving them.

A number of young fruit trees in the Wyandotte-Palermo district have been injured by field mice, which gnaw the bark off around the surface of the ground. Earle Mills, the County Horticultural Commissioner, is warning growers to guard their trees against such injury by poisoning and other methods.

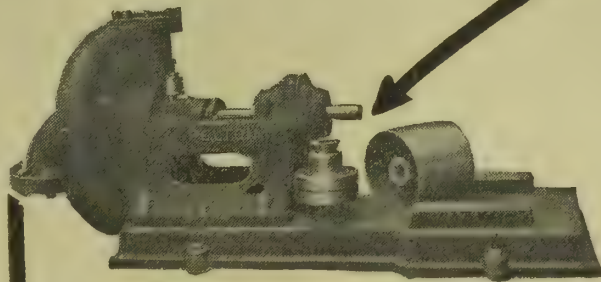
The Chino Walnut Growers' Association is a new local organization just formed, to affiliate with the California Walnut Growers' Association. They have now developed a sufficient acreage of bearing trees to warrant the establishment of this unit. The Walnut Fruit Growers' Association of Walnut has offered to handle the nuts at cost this year, pending the erection of a local modern walnut house.

More prunes will be produced in the Santa Clara valley this year than ever before in its history, according to E. N. Richmond, who assisted in Government purchases here last year, and who is a leading authority on prunes. One particular reason he attributes is that a very extensive new acreage is bearing its first crop this year that should have borne last year and the year before but didn't. He puts the Santa Clara Valley yield at not less than 35,000,000 pounds, which may be very materially increased if favorable development conditions hold.

Ashley and Brown of Lodi have bought 5,000 tons of wine grapes at \$25 without any proviso—no strings to the contract, it is understood.



GOLDEN GATE WEED CUTTER
Kills the Weeds and Cultivates the Soil
Greatest weed killer on the market. Cuts them off clean, under the surface, close down to the roots. Besides, it breaks up the ground so thoroughly that one user says he saved \$200 in a single season because after cutting the weeds he did not have to plow. Cuts seven feet or less. Weighs but 230 pounds. Cut adjustable to any depth. Constructed of steel throughout. No other implement like it.
WRITE FOR CIRCULARS which illustrate and describes the Sigurd Weed Cutter and contains letters from many users.
C. G. SIGURD, Manufacturer
Capital Ave. and McKee Road, San Jose, Cal



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The PELTON Interchangeable Irrigation pump, the efficient, money-saving crop protector, is ready for prompt shipment from our shops.

The PELTON Interchangeable pump may be belted and driven with any kind of a gasoline engine, tractor or motor, now, when water is urgently needed. Later, it may be direct-connected to an electric motor in a permanent plant.

See your PELTON dealer.

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Commercial Electric Co., Stockton.
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---or a little of your time

You know that if you change your REAR tires to the FRONT wheels when the non-skid is almost worn off YOU CAN GET FROM 500 TO 1000 MILES PER TIRE MORE. Local garage cost per change is 25 cents each—4 for \$1.00; if you do the work yourself it costs your time only.

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(the Non-Skid that bites the road)
are fully interchangeable

Equip with Braender

front and rear, then by switching your tires you will not only secure the greatest possible mileage with a corresponding cut on your tire bills, but always have non-skids on your rear wheels that can be depended upon to HOLD when you apply the brakes.

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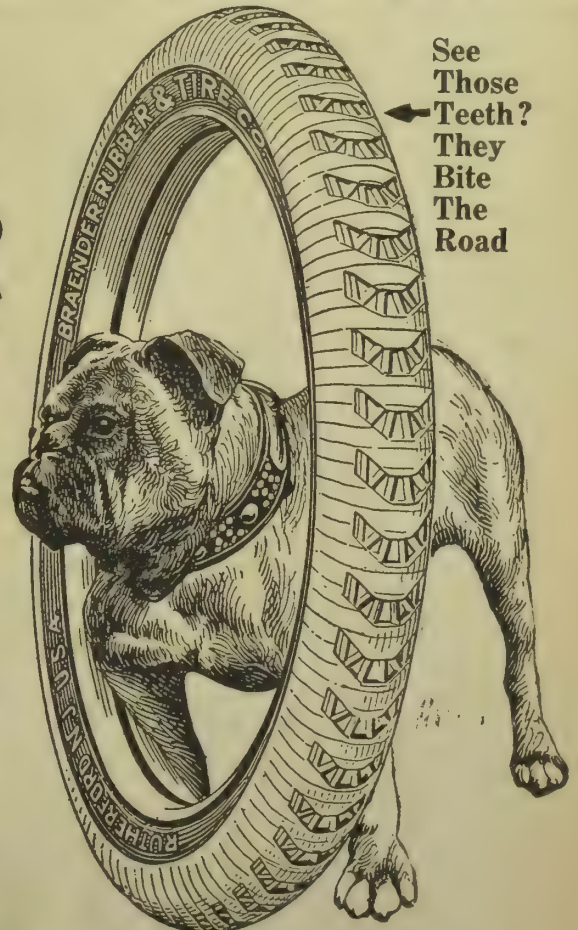
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See Those Teeth? They Bite The Road

Registered Trademarks



Distributors in practically all sections

Why We Have the Best Rice Conditions in the World

(Written for Pacific Rural Press by E. E. Hodges.)

"I feel safe in predicting that there will be no country in the world so desirable or so successful for rice-growing as California, when we get into the system of rotating rice with other crops," says S. Christensen, who was a leader in the bunch of men

alkali areas. The rice water either distributes the alkali all through the soil, reducing its proportion to a harmless percentage at any particular place, or dissolves the alkali and drains it off as the irrigation water flows to fields below and finally into the rivers.

manent place for this crop in California agriculture. No individual and no county can solve the problem successfully. Mr. Christensen points out that Sacramento Valley rice growers now would be drowned like rats in a trap if we should get a winter like some of those we have had. Private

Sutter Basin people last winter after two dry winters and a small storm in the third.

A comprehensive survey of the maximum floods of the Sacramento and San Joaquin rivers and their tributaries, together with an effective scheme of reclamation in the lowlands and reservoir flood control in the mountains must be completed before much of the rice land will be safe.

Solution Making Slow Progress.

Our readers are aware that such a scheme has been in progress many years. In reporting a recommendation that Congress approve a bill appropriating \$5,800,000 as the Government's share in a \$33,000,000 project to control Sacramento and Feather river floods, the Rivers and Harbors Committee in 1914 pointed out that "the plans and the report indicate that the project has received the most thorough consideration that engineering skill could bring to bear, and that nothing has been left indefinite that it was possible to make certain." The State Reclamation Board had already at that date been in operation some years and has had charge of the State's part of superintending and carrying out the plan. Not all has run smoothly with the Board and great dissatisfaction has been generated, so that the chief business for which it has existed has lagged while property damage by floods has continued. A great deal of work has been done on the Sacramento river, however, and it remains for valley inhabitants to insist on completion of the project there and in the San Joaquin on an honest, impartial, efficient, and speedy basis. Then it will be up to the counties and individual growers to provide drains to the Sacramento and San Joaquin rivers which will enable them to dry off their fields most speedily for harvest and for rotation of crops.



Early Baart Wheat following Rice and yielding an estimated twelve sacks per acre.

who grew what is claimed to be the first commercial 12 acres of rice in the State and who is now raising 2000 acres in Glenn county in partnership with C. Burmester.

Dry-Kill Water Weeds.

To wet-kill ordinary weeds by a year or two of submersion with a rice crop and then to dry-kill the water weeds with grain or other crops is California's fundamental and distinctive advantage. Rain comes most any time in most rice countries. Mr. Christensen does not worry about his water-grass, and he thinks he can't afford to pay for the common practice of hand-pulling, because he has a cheaper way. Much of his rice is irrigated from pumps anyway, but he has a 400-acre field where gyp corn and cowpeas are growing now because water grass seed came from his neighbors by the millions and so befouled this field in two years that it would have made rice unprofitable.

Other Advantages of Rotation.

Anyway, the land needs aeration after growing rice awhile; though Mr. Christensen mentions one field which produced well in its fifth successive year in rice. On the other hand, rice improves worn-out grain soil, not only by softening and penetrating the plow pan, but by leaving a great amount of humus there, and by washing out the alkali or distributing it to harmless percentages.

Since grain following rice must be sown in late winter or spring, according to how soon the field can be drained dry enough to work, the rice irrigation facilities are available for the grain, which is often likely to need some water. We do not know of second-crops following the grain, but there is no lack of water for such in most places where rice has been grown.

A soil type which is quickly workable after draining is of course quite desirable but not indispensable for a grain rotation. Such soils are abundant in the Sacramento and San Joaquin valleys. Where it does not become workable soon enough for wheat, barley, or oats, there are numerous summer crops that can take their place in the rotation.

Rice Growing Reduces Alkali.

The effect of rice irrigation on alkali spots is noticeable on the grain crops following. Such a crop generally has a uniformly good stand, while a grain field where no rice has been grown is generally spotted, due to

Inexperienced Men Best Rice Growers.

The main feature of the rice-growing business, according to Mr. Christensen, is to understand that California conditions are different from other rice-growing countries, and the methods of handling the crop from seedbed preparation to harvest must be different. A number of wealthy Chinese rice growers have gone broke trying to apply Chinese methods in California. Louisiana rice growers have also broken fortunes trying to apply their methods here. We had already been told by H. O. Jacobsen of Butte county, whose four years in the Philippines and several years with the Dodge Rice and Land Co. in Butte county enable him to speak with authority, that men from Kansas, Nebraska, and other non-rice-growing States make much greater success in California than Louisianians or Oriental rice growers. The Hindu, says Mr. Jacobsen, is the poorest rice growers we have, and the Japanese are too eager to get water off early in the fall to produce a plump grade of rice.

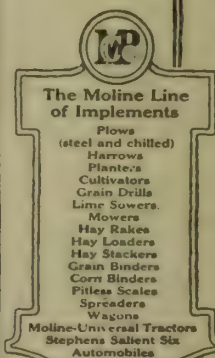
Mr. Christensen himself was a bookkeeper before he started rice growing. His associates in the first 12-acre project comprised two sailors, four carpenters, a real estate man, and a blacksmith. All of them are still growing rice and prospering. It is chiefly a matter of willingness to adapt cultural methods to California conditions.

The Big Problem Needs Solution.

But while rice weeds are not worrying these big rice growers, there is a problem of State-wide importance which can be solved only by the State. Unless rice lands can be readily drained without drowning lands below them, there can be no great per-

reclamations have so obstructed the flow of the river floods that there would be colossal devastation of a worse nature than that which overtook

MOLINE RICE BINDER



Conditions under which rice is cut demand a binder that has strength throughout, one whose working qualities are positive and dependable, one that insures a maximum of traction at all times and one that provides protection against the inroads of dampness and mud. Rice growers can make no bigger mistake than to go into the field at cutting time with an inferior machine that causes costly delays at harvest. The Moline Rice Binder will measure up to the most exacting requirements. It is quality built throughout and overcomes the hindrance of actual field conditions.

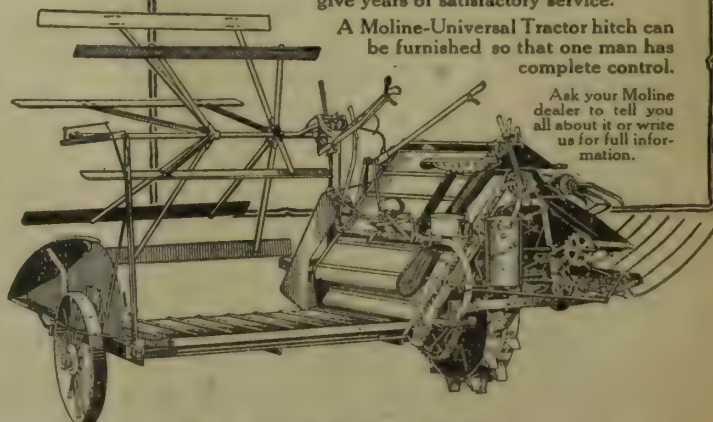
For this convenience the driver will find that every adjustment necessary for the best work can be accomplished with the least time and exertion on his part.

The utility of the Moline Rice Binder is a big feature. Its outstanding mechanical superiority will be found in shafts and bearings, gear driven reel, open end elevator, clearance roller, elevator aprons, top drive, apron tighteners, aprons, anti-winding washers, butt adjuster, and tried and true binding attachments. Simplicity and positive action is the feature of each working part.

The Moline Rice Binder will grip the ground under the wettest conditions and because of its ample protection to affected parts it will withstand the rotting and corroding action of water and mud to give years of satisfactory service.

A Moline-Universal Tractor hitch can be furnished so that one man has complete control.

Ask your Moline dealer to tell you all about it or write us for full information.



MOLINE PLOW CO., MOLINE, ILL.
MANUFACTURERS OF QUALITY FARM IMPLEMENTS SINCE 1865

PUMP CHEAP WATER
LAYNE & BOWLER PUMPS
produce 180 to 4500 Gallons per minute

Ask for Folder No. 25
Layne & Bowler Corp.,
900 Santa Fe Ave.,
Los Angeles

AGRICULTURAL ITEMS.

Beans Helped Sweet Corn.

Alameda sweet corn was fed by Kentucky Wonder beans which in turn used the corn for bean poles and both thrived better than either would alone on an acre in Oakland grown by Wesley Adams. Mr. Adams had a friend who was selling bacteria for inoculation of beans. He followed his friends suggestion by planting the corn and inoculated beans together in the same hill. The beans twined around the corn but never constricted its leaves, and their crop was matured about two weeks before the corn was ready for market. These ears were sold locally at about 50 cents per dozen, and to the produce dealers around 25 cents per dozen. The corn grew much higher than usual, yielded much heavier than common, and had a vigorous dark green color, in marked contrast to a patch adjoining in which beans had not been planted.

Rice Stubble Valuable Pasture.

Turkey men, in the fall of 1917, paid \$2,750 for the use of 1560 acres of rice stubble, in which J. V. Biard of Glenn county was interested. They fattened about 3,000 turkeys and some hogs on it. The turkeys roosted too much in the trees at headquarters; so last fall the stubble was sold for \$2,500 to a stockman. The latter put 800 cattle and 600 hogs on it. The cattle ate much of the straw and the hogs fattened on shattered rice. After this stock was off about 1500 sheep were put on to eat the green stuff. They were there late in January when Mr. Biard said that if warm weather should come, it would make grass grow enough to support 5000 sheep.

Organization and Wild-fire.

Under the State and County Councils of Defense, fire-fighting corps, signalling stations and convenient apparatus all over the State served to save us through a most perilous year from many a disastrous fire. For forest fires were fewer in 1918 than for several years previous, although many of them were doubtless of incendiary origin. Now that these county fire corps have been organized and their value demonstrated, their efficiency should not be allowed to lapse, but rather increased. Uncle Sam will see that the Forestry Department is allowed enough to keep their end up and the officials will see that it is done thoroughly. It is up to the various counties to do their bit.

Swift Farmstead Building.

Geo. E. Pearl has shown what can be done with a Durham stead. In six months he has fourteen acres of alfalfa ready for the second cutting; seven acres of red kidney beans, and the balance of his forty-acre tract ready to be planted to corn. In odd moments he has put up a good set of buildings.

Agricultural Notes

Cotton pickers are expected to be scarce in Imperial and Palo Verde Valleys.

The Stovall-Wilcoxson Co. of Colusa county sold 30,000 sacks of barley at \$3.10 July 9.

Grasshoppers practically ruined a 250-acre rice crop for D. A. Middlecamp of Colusa county.

Wheat fires destroyed a 300-acre crop for Feeney Bros. and 100 acres for Frank Covington of Glenn county.

The price of honey in France rose from 12 and 16 cents per pound to 64 and 70 cents during the 1918 sugar shortage.

A Japanese firm has leased 6,000 acres in Sutter county for rice at \$32 per acre for three years, and they want more acreage.

A sailing vessel recently brought 2,853 tons of Australian wheat to San Francisco. It took 118 days to make the voyage, due to calm seas.

Twelve to fourteen sacks of wheat per acre on one of the Contra Costa

county farms of C. A. Hooper & Co. is reported by William Silviera.

A new company is being formed to irrigate 40,000 acres of the old Solano Irrigated Farms project, which included 90,000 acres. About 6,000 acres here are planted to rice.

A bigger crop of asparagus and higher prices per pound than last year are reported from the Delta section. Growers received four or five cents at the canneries and paid 1½ cents for cutting it.

Forty-eight hundred sacks of barley from 158 acres is the crop harvested by Henry Garrison of Stanislaus county. It was of the Improved Beldi variety and it commanded three cents in Modesto.

The California State Rice Milling Co. plans to double the storage capacity of their Sacramento mills and increase their milling capacity to 6,000 bags of cleaned rice per day.

Sugar cane acreage in U. S. decreased from 527,000 acres last year to 509,000 acres this year, according

to the U. S. Bureau of Crop Estimates.

Rice growers have to pay two years' storage charges on one season's crop under the present system of dating the storage season from June 1 to May 31, according to a complaint of the Pacific Rice Growers' Association before the State Railroad Commission against 85 warehouse

firms. September 1 to August 31 are preferable dates, which give more time to sell the crop through spring and summer.

The British Food Controller has extended a general license for importation of fresh fruits except grapes and pears which are classed as luxuries. This will be welcome to our apple

"GROZ-IT BRAND" Pulverized Sheep Manure

Cheapest and most efficient fertilizer — Highly concentrated — Dry, Odorless — No weed seed or foreign matter—a natural fertilizer.

Contains plant food as follows:

2.50% Ammonia
1.25% Phosphoric Acid
4.00% Potash Water Soluble
15.00% Available Humus

PACKED IN BAGS OR BULK

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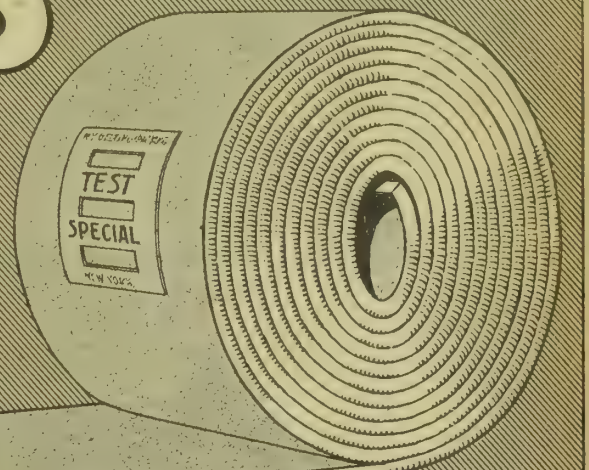
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BELTS

That Wear



Test Special

For Farm or Factory

With the average man, the purchase of a Belt for his machinery is merely "hit or miss" guess work. But not so with the factory owner. Experience has taught him that it does not pay to even consider the placing of a Belt upon his machinery that will not stand the strain. He has learned that the loss in production, while his machinery is idle, is due to inefficient Belting and is greater than the cost of several Belts. Therefore, he buys with his eyes open. He examines and tests his belt and does not purchase until he knows he is right.

TEST YOUR BELTS BEFORE BUYING

Before investing good money in Belting, test it. Be sure you know what you are getting. Examine the cotton duck, see that it is heavy, yet pliable, then note the quality of Rubber Friction used to cement the plies together. If the plies separate easily, it is a poor belt and a mighty poor investment—in fact, the most expensive belt you can buy.

TEST SPECIAL is the one Belt that will stand every test. It is made of high grade

material, specially woven and securely vulcanized with elastic Rubber Friction.

All Plies of a Test Special pull as one. It is a solid Belt. The plies are so vulcanized as to make the Belt practically one strong ply. No chance for them to separate as is the common fault.

The TEST SPECIAL RUBBER BELT is guaranteed to give longer and better service than any other Rubber Belt made and never to separate between plies.

Mail the coupon today for our samples and guarantee on Belting we will guarantee for your special work. "Seeing is believing." Mail the coupon.

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Send me samples of Belting that you will guarantee to give satisfactory service on my work, and quote prices delivered at

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Horse Power Diameter in Inches
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HOME OFFICE: NEW YORK CITY

Branches in all principal cities.

Fertilizers and Fertilization--V

(Written for Pacific Rural Press by Dr. C. B. Lipman, Professor of Soil Chemistry and Bacteriology, University of California.)

The Potash Question.

The following paragraph is from a statement of Robert S. Bradley, of The American Agricultural Chemical Company:

"Since 1914 the United States has been unable to import potash from Germany, and as we have produced but a small fraction of the amount normally used for agricultural purposes, fertilizers have contained little or no potash. This is especially true of the last two years, and yet this country has in sight today the largest crops ever produced in her history, while Germany's crops are, from all accounts, far below their normal yields before the war, though she has doubtless used excessive quantities of potash in an effort to minimize the effects of the dearth of phosphates. Other countries also have grown normal crops since the war without the use of potash."

(1) The fact that we have produced the largest crops in this country's history without the use of potash during the last two years is no proof whatever that the lack of potash has not deleteriously influenced the yields of lands needing potash.

Anyone, upon a moment's thought, will readily appreciate the fact that we have never before had so large an acreage in crops as we have had during the war period, hence it is natural that the total crop should be large without in any way indicating that all crops in this country are absolutely independent of the potash supply for their welfare.

(2) The statement is made by Mr. Bradley that "little or no" potash has been used in our fertilizers. He overlooks the fact that small quantities of potash, where potash is at all needed, are likely to be of just as much use as the larger quantities applied, since very little definite information is at hand from experimental work, which gives us leave to be at all dogmatic regarding what constitutes a proper application of potash fertilizer.

(3) In making his statement, Mr. Bradley evidently overlooks the fact that where potash has been used for many years, a very considerable residue of it will remain in the soil to which it is applied, as has been amply substantiated in the analyses of the soils of the Rothamsted Experimental Station, in England, and in many other places. The fact, therefore, that crops continue to be large on lands hitherto treated with potash but not receiving any during the last three or four years, is not proof whatever that potash on similar soil, which has not been receiving it in the past, is not a limiting element in crop production.

(4) Mr. Bradley's comments on Germany's crops can certainly not be taken seriously. We have very little reliable data on the crop yields of Germany, for reasons that are too obvious to expatiate on here. Moreover, any decrease in the yield of German lands might be accounted for in many ways which have no necessary relation to the potash which they have used in excess, presumably.

For example, they have not had sufficient labor; they have not had sufficient farm machinery; they have not had the most skillful labor; they have been obliged to use much less nitrogen, owing to the fact that nitrogenous compounds have entered so largely into the manufacture of munitions, and, finally, an excess of potash may actually be detrimental, as it is actually known that an excess of any salt may be detrimental to crop production.

It seems clear to me, therefore, that any deductions which are drawn from Germany's crops and intended to be used as arguments against the use of potash by farmers in this country are not only specious but probably dangerous in sections where potash may actually be a limiting factor in crop growth, however we may delimit such areas.

Minerals in the Soil Solution.

From the investigations of Burd,

Stewart, and Hoagland, it would seem that too low a concentration of the soil solution makes it impossible for the plant growing in it to obtain the supply of mineral elements necessary for its growth. This seems to be true despite the presence of enough of these minerals in actual solution in the soil moisture. If this be true, it might follow that the mere increase in concentration of the soil solution by the addition of any easily soluble material would render any of the minerals available to the plant which, without such increase in concentration, would not be so available.

This leads logically to the consideration that minerals in the soil solution which are unavailable to the plant because of the low total concentration of the soil solution could be rendered available by the addition of any electrolyte, and perhaps even of some non-electrolyte, and almost wholly regardless of the nature thereof.

To illustrate: a soil solution may become so dilute, owing to the draft by plant roots, that the minerals in

it, though present in sufficient quantity for the needs of the crop, are unavailable. This is due to the low concentration of the soil solution which affects the operation or inoperation of certain physical and physical-chemical forces necessary to the absorption of nutrients by the plant. Under such circumstances, the usual empirical procedure is followed, by which a number of different kinds of materials is applied to determine

which of the so-called essential elements is deficient in the soil solution.

Let us assume that such empirical procedure, like that followed in the ordinary fertilizer experiments for example, results in showing marked stimulation to the crop where potash salts are applied. The conclusion drawn from such an observation up to now, and one which would in nearly all cases be drawn now, is that the soil solution is deficient in potash.

Tractor and Truck (12-24)

For the Price of One



THE WHEAT TRACTOR
Equipped with Road Wheels.

Write for descriptive printed matter.

THE HESSON SALES CORPORATION

California Distributors

235 South Los Angeles St., Los Angeles

The WHEAT TRACTOR handles three 14-inch plow bottoms under all normal conditions. It will furnish power for any hay baler or silo filler, also plenty of power for a medium sized grain separator, with weigher, wind stacker and self feeder. As it is equipped with a governor like a stationary engine, the WHEAT TRACTOR will furnish steady power for pumping water, running an ensilage cutter or doing any similar farm work.

With the WHEAT TRACTORS interchangeable road wheel attachment it can be converted in less than an hour into a road truck with rubber tired wheels and will do anything that a 3500-pound truck will do with trailers. Some good territory still open for dealers.



The Tractor to Buy

ARE you one of the many farmers who need more power to handle the farm work properly? Do you have to work with less help than you need?

If so, you need an International kerosene tractor. The size that gives you power for your heaviest load will handle all the work. Internationals use only as much fuel as the load requires. They are made to work with farm machines—the kind you are now using—and special hitches are provided for all kinds of field and road work. Their belt pulleys are large enough to prevent slippage, run at correct speed, and are set high enough to keep the belt off the ground. They all use kerosene or other low-grade fuels which means a big saving in operating expense.

The Company to Buy From

You know that we have supplied farmers with high-grade machines for nearly 88 years. You know that our tractors have furnished satisfactory farm power for more than 12 years. We have far too much at stake to market machines of any but the highest standards of quality. We expect to

come back some day and sell you some other machines in the long list you see in this advertisement. In every sale we try to build for the future.

Tractor Service Whenever Needed

In line with this policy, we have developed a service organization which now consists of 89 branch houses and many thousands of loyal local dealers, wide awake and attentive to the needs of their customers. Service is a very essential part of any tractor sale. When you buy an International kerosene tractor you buy with it the assistance of an organization that brings a well stocked branch house or a live, local dealer within telephone call, fully equipped to keep your tractor working steadily.

International Tractor Sizes

International tractors, all using kerosene for fuel, are made in 8-16, 10-20, and 15-30 H. P. sizes. A line to the address below will bring you full information about all our tractors and about any other machines you mention in the list shown in this advertisement.

The Full Line of International Harvester Quality Machines

Grain Harvesting Machines Binders Push Binders Headers Rice Binders Harvester-Threshers Reapers Shockers Threshers	Haying Machines Mowers Tedders Side Delivery Rakes Loaders (All Types) Rakes Combination Side Rakes and Tedders Sweep Rakes Stackers Combination Sweep Rakes and Stackers Baling Presses Bunchers	Belt Machines—Cont. Cream Separators Feed Grinders	Dairy Equipment Cream Separators (Hand) Cream Separators (Belted) Kerosene Engines Gasoline Engines Motor Trucks
Tillage Implements Disk Harrows Cultivators Tractor Harrows Spring-Tooth Harrows Peg-Tooth Harrows Orchard Harrows	Planting & Seeding Machines Corn Planters Corn Drills Grain Drills Broadcast Seeders Alfalfa & Grass Seed Drills Fertilizer & Lime Sowers	Power Machines Kerosene Engines Gasoline Engines Kerosene Tractors Motor Trucks Motor Cultivators	Other Farm Equipment Manure Spreaders Straw Spreading Attach. Farm Wagons Farm Trucks Stalk Cutters Knife Grinders Tractor Hitches Binder Twine
Corn Machines Planters Drills Cultivators Motor Cultivators Binders Pickers Ensilage Cutters Shellers Huskings and Shredders	Belt Machines Ensilage Cutters Huskings and Shredders Corn Shellers Threshers Hay Presses Stone Burr Mills		

International Harvester Company of America

(Incorporated)

Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont.
Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah
San Francisco, Cal. Spokane, Wash.





UTILITY TRAILERS

2 and 4 Wheel Models: All sizes

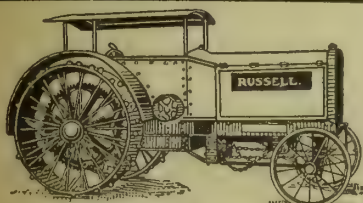
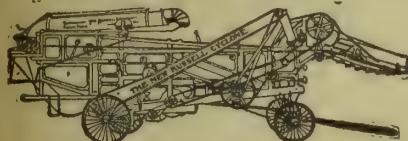
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Los Angeles Trailer Co.

1328 Palmetto Street
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THE RUSSELL TRACTOR
BUILT IN ALL SIZESTHE RUSSELL THRESHER
BUILT IN ALL SIZES

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BEEMAN GARDEN TRACTOR

It plows, harrows, cultivates, runs any 4-h.p. stationary machinery

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Distributors
Agricultural Implements of All Kinds.
724 Van Ness Ave., San Francisco.

Dealers in
PAPER
BLAKE, MOFFITT & TOWNE
37-45 First St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

Deficiency in Volume or in Form? Is It Total or Kind of Mineral?

Viewing the same observation in the light of the foregoing consideration, however, we are compelled to recognize that what seems like the obvious conclusion is not necessarily the correct one; it being entirely possible that the application of the potash salt brought about the improvement in crop growth not through the addition of potassium, but through the increase in the total concentration of the soil solution which it induced.

An objection to this argument may be raised to the effect that the results noted may be obtained by potash applications but not by the application of some other substances—phosphates for example. This might easily be explained, however, on the ground that phosphates are relatively so insoluble and are so firmly fixed by the soil that their application does not appreciably alter the total concentration of the soil solutions, and hence may be without effect under the conditions in which potash salts may be very effective.

On the other hand, we should expect sodium salts, for obvious reasons, though carrying no potassium, to be as effective under the circumstances in question as potassium salts, and the literature contains some evidence to prove that that is indeed so. Similarly, magnesium salts and any other readily soluble substances might be expected to act in place of potash, provided they are not toxic.

With all this in view, it must never be forgotten that the situation is complicated by the phenomenon of the exchange of bases. In accordance with this, the concentration of the soil solution would, of course, be increased by the application to a soil of a sodium or magnesium salt, but simultaneously, more potash would be introduced into the solution, owing to the chemical interaction of the salt applied with the potash minerals in the soil. This makes it difficult to ascribe the changes in a crop brought about through the application of a salt to a soil on which the crop is growing, either to the increased concentration of the soil solution alone, or to the increase in the actual potassium supply in the soil solution.

Demonstration Required.

However, we cannot well question the probability of a far-reaching importance attaching to the determination by experiment of the matters just stated and such determination may affect profoundly our current ideas respecting the potash fertilizer industry. These reflections are reinforced by two other facts, as follows:

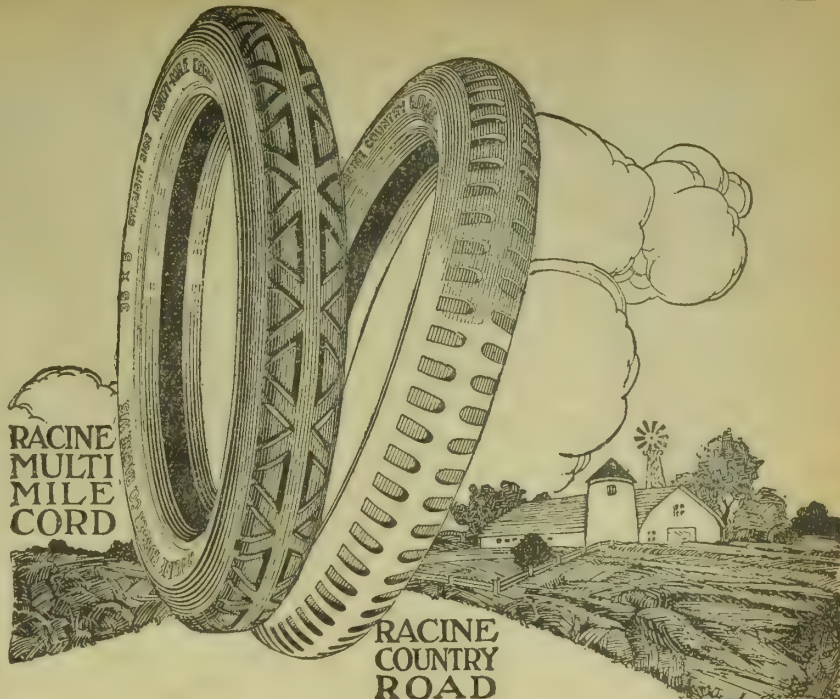
First—The potash fertilizers made in this country today contain from small to large quantities of sodium salts, and usually other salts besides.

Second—Practically all soils contain a goodly quantity of potassium minerals, which depend for the availability of the potassium in them, not only upon organic matter and the products of its decomposition, but also upon the chemical reactions which take place in the soil solution and soil system when soluble salts are introduced. In the past, we have not accorded sufficient importance to the latter, by neglecting, under field laboratory conditions, the study of phenomena induced by salts in soils.

UNEVEN GERMINATION TESTS IN MELILOTUS.

We have been notified that, for some inexplicable reason, much of the best appearing Melilotus Indica seed, though fully developed, shows a very low germination this year. In some instances as low as 28 per cent. A great many tests show germination ranging from 30 per cent to 40 per cent and some as high as 60 per cent while other seed, seemingly no better in appearance germinates as high as 90 per cent and sometimes better. It would appear safer to growers of cover crops under these conditions, get assurance that the seed is good or try it out for themselves before planting.

Lodi is booming along with her fruit shipments. Up to July 12, 2,085 cars were shipped East, as compared with 1,497 to the same date last year.



EXTRA-TESTED Your Bond of Tire Quality

QUALITY is the first thing to consider in tires. Buy them on the basis of their yield—in mileage—just as you buy seeds on the basis of their yield—in crops.

Racine Multi-Mile Cord Tires and Racine Country Road Tires are quality-bonded by the Extra Tests to which they are subjected in Racine Rubber Company factories.

Racine Multi-Mile Cord Tires

Racine Multi-Mile Cord Tires are featured by the Racine Absorbing Shock Strip—an extra strip of blended rubber, welding tread and carcass, and so compounded that it completely absorbs the jars and jolts of the road. They are mileage wonders—leaders of the whole cord tire field.

Racine Country Road Tires

Racine Country Road Tires—5000-mile guarantee—are specially designed for country road use. They are rugged, wear-resisting tires—built to stand hard knocks.

Use Racine Extra Tested Tires and save money.

For your own protection be certain every
Racine Tire you buy bears the name

Racine Rubber Company

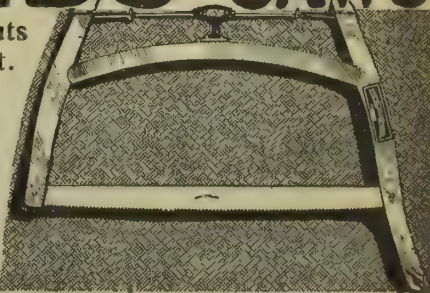
Racine, Wisconsin

RACINE TIRES

SIMONDS SAWS

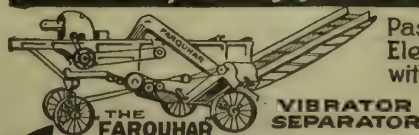
A Simonds buck saw cuts faster and with less effort. Frames are rigid and blades the keenest.

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Fitchburg, Mass. New York
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BEAN THRESHERS THE TWO STANDARDS

Built Especially for California Conditions



THE FARQUHAR
Guaranteed by "The House of ARNOTT"
Ask The Grower Who Owns One
Write for Folder, Specifications, Prices Etc.



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BEAN THRESHER HEADQUARTERS
112-118 So. Los Angeles St. Los Angeles

Past the Experimental Stage
Eleven different models, with or
without Engine, mounted complete
Ranging in Price from
\$190. to \$2175.
All Repair Parts Carried.



THE AMERICAN

FIELD CROPS BIGGER THAN EVER BEFORE

Field crops in the United States and California promise the production of more food than ever before, as revealed in the report of the U. S. Bureau of Crop Estimates July 10, based on conditions of July 1. J. E. Rickards is the chief reporter for California on cereals. E. E. Kaufman reports on potatoes, beans and cotton.

BUSHELS PRODUCED IN 1918 AND FORECASTED JULY 1 FOR 1919.

Crop	1919 Forecast		1918 Yields	
	United States	California	United States	California
Winter wheat	839,000,000	13,916,000	558,449,000	7,590,000
Spring wheat	322,000,000	.....	358,651,000	.....
Corn (Indian)	2,815,000,000	2,500,000	2,582,814,000	2,975,000
Barley	231,000,000	31,546,548	256,375,000	34,320,000
Oats	1,403,000,000	5,712,000	1,538,359,000	5,600,000
Rye	103,000,000	.....	89,103,000	.....
Rice	42,500,000	8,685,600	40,424,000	7,011,000
White potatoes	391,000,000	12,252,240	400,106,000	12,870,000
Sweet potatoes	102,000,000	968,000	86,334,000	1,020,000
Cotton (bales)	10,986,000	114,000	11,700,000	97,700
Hay (tons)	116,000,000	4,530,480	75,459,000	2,970,000
Beans (Six States)	5,600,000	.....	17,733,000	8,584,000
Total, except hay & cotton	6,248,500,000*	81,180,388	5,928,348,000	79,970,000

*Beans not included.

"Weather during June was favorable for harvesting grain and curing hay," says Mr. Rickards. "In some parts of the State a few days of drying north winds did some damage to all field crops, especially cereals, though the latter, except corn, had been benefited and filled out by cool weather during the early part of June. It is worthy of note that the irrigation supply is exceedingly low in some parts of the San Joaquin valley and there can be no hope for improvement in the condition of crops."

Both Indian corn and wheat in the U. S. will exceed all records unless unfavorable conditions arise between July 1 and the end of harvest. Rice is planted on 140,000 acres this year as against 108,000 last year. Although the general condition is favorable, a considerable acreage was sown so late that it may not mature. Yolo acreage decreased, but Colusa, Glenn, and Butte counties increased. Acreage of potatoes in the Delta was increased, but in the State as a whole it has decreased 2,000 acres from the total of 93,000 last year. The condition of hay has dropped one point since a month ago, and another drop is likely due to shortage of water for alfalfa. Pastures are short, but stubble grazing is relieving them. The area planted to sugar beets this year is about 131,000 acres as compared with 100,000 acres harvested in 1918. Owing to deficient rainfall in March and April, the condition of the crop is only 75 per cent of normal as against a ten-year average condition of 91 per cent.

TO THIS SALE HANGS A TALE.

Many farmers hesitate to go into the purebred game because they carry the idea that it is necessary to have a big bank roll for the purchase of expensive foundation stock, and for expensive buildings, equipment, feed, etc. But here is a true story, which proves that the cheapest can be developed into the best and that brains are more necessary than bank bills.

At the recent Moyer National Holstein sale at Philadelphia, the world's champion butterfat producer, Rolo Mercena DeKol, was sold for \$26,000. She was developed by J. B. Hanmer, a Canadian farm boy only 22 years old, who was severely handicapped by lack of capital and labor, yet he persisted with almost unbelievable tenacity of purpose until he reached his goal—a goal which other men with unlimited capital and everything in their favor have failed to reach.

Get this: Rolo Mercena De Kol was purchased by young Hanmer for only \$320, and he then gave her a record of 51.93 pounds of butter in 7 days. Furthermore, her sire, was purchased for an insignificant sum, was considered a commonplace bull, and was sold to the butcher before any of his daughters had been tested.

Young Hanmer has done well with other low-priced cows. Last fall he purchased the 3-year-old heifer, Alva Spofford, for \$170, and gave her a record of 30.33 pounds of fat, which is the Canadian record for that age. Then he bought her dam, Alva Lassie, with a two-months-old heifer calf, for \$280, and made a record of 25.34 pounds of fat without any preparation.

What young Hanmer has done should serve as an inspiration to every dairy farmer, no matter how badly handicapped he may be. It shows what can be accomplished when good judgment is backed by boundless enthusiasm, energy and persistence.

Let's go out in the barnyard and look over the cows. Perhaps there's a diamond in the rough out there—a future world's champion cow, simply waiting for the chance to prove herself. Let's give the cows every possible chance and see what they will do.

Treat your hogs kindly. It is not only humane in principle but a practical policy. Beating, kicking, and whipping hogs not only is cruel and unnecessary, but the bruises show on the carcass and many otherwise per-

fect cuts must be ruled out of fancy grade on account of them. Blood scars invisible on the freshly selected ham often come out distinctly in the process of smoking and thus make a second grade ham out of what should have been a perfect one.

A dairyman should know—
Which is the most profitable cow in the herd and why;
Which is the poorest cow in the herd and why;

How many boarders there are in the herd;
How much feed each cow will consume during the feeding period;
Which is the best and cheapest feed.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresno to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners' time, labor and money.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

A GREAT ROAD MACHINE

Every road district should own one of these machines for constructing roads. They will cut down the high places and make fills quicker and cheaper than by any other known method.

YOU SHOULD

send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

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Southern California Agent,

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Schmeiser Manufacturing Co.

12 Mechanic Street,

DAVIS, CAL.

Dairymen and STOCKMEN TAKE NOTICE!

A Valuable Demonstration Plot

Aggeler & Musser Seed Co.

have a demonstration plot in the 1500 block on West Sixteenth St., Los Angeles. The following diagram shows what may now be seen growing there:

CORN AND MILLET		GRASSES		SORGHUMS		
PATH	Monstrous Lima Beans	Red Cob Ensilage Corn	PATH	Fara	PATH	Dwarf Broom
		Eureka Ensilage Corn		Napier		Tall Broom
		Orange Co. Prolific Corn		Napier		Benedict Forage
		Orange Co. Prolific Corn		Napier		Wonder Forage
		Hickory King Corn		Napier		Wonder Forage
		Pima Corn		Napier		Wonder Forage
		Pearl Millet		Guinea		Wonder Forage
		Italian Millet		Guinea		Jap. Sugar Cane — Sudan
		Hog Millet		Cocksfoot—Wild Eye		Jap. Sugar Cane — Kaollangs
		Whip-poor-will—Velvet Bean		Fog — Paspalum Dilatatum		Amber Sorghum
		Red Millet		Billion Dollar Grass		Silver Tip Sorghum
		Japanese Millet		Rhodes		Elbbon Cane
		Biloxi Soy Beans		Natal — Sesame		Honey Sorghum
		Golden Millet		Bromus Enermis		Shallu
		Brown-top Millet		Marker		Peterita
Chinese Millet	Red Top	White Milo				
Indian Millet	Perennial Eye	Egyptian Corn				
White Wonder Millet	Italian Eye	Schrock Kaffir Sorghum				
Large Headed Millet	Chewings Fescue	Dwarf Milo				
PATH		PATH		PATH		
San Jose Canner Tomato	SMILO GRASS					
	Pennsylvania Broad Leaf Tobacco					
	TEFF GRASS					
	DWARF SUNFLOWER					

Cream of the Dairy Council Speeches

(Written for Pacific Rural Press.)

Peter Piper, in picking his peck of pickled peaches, did no better job than did Manger Sam Greene when he picked the speakers for the first annual meeting of the California Dairy Council. Every talk was filled with magnetic messages. To give them all would require a book, but here are a few facts that every dairyman ought to know, and suggestions that will put money into the pocket of every farmer who heeds them:

The dairy situation in California is critical. Because of the high prices of dairy products and the heavy advertising of substitutes, people are using as little dairy products as possible.

In San Francisco only 240,000 pints of milk are being used daily, while the consumption should be 600,000 pints to keep the people in proper health.

Over 1,500,000 pounds of oleomargarine are now being consumed monthly in this State and the consumption is increasing at an alarming rate. In Los Angeles and suburbs over 500,000 pounds are used each month.

For everything said in favor of a substitute, a dozen things can be said in favor of dairy products. Advertising should not be confined to the names and brands of dairy products, but should emphasize their food values.

Wipe out the orange, prune, or almost any other industry and the world will go right on, but not so with the dairy industry. Take away cow's milk and not more than one-half of the babies can be raised.

It requires 60 readings to stencil a message on a man's mind. The advertising of dairy products must be persistent as well as consistent.

A profit-sharing plan of paying milkers is being tried out on some dairy farms with most encouraging results so far.

There are no longer enough foreigners to do the milking in California. Young American boys must take their places, but they will not put up with the treatment given Portuguese and Swiss. It is up to dairymen to better the living and working conditions.

The young American would rather use a milking machine than milk by hand. Consequently, this change from foreign to American milkers will mean the installing of many new outfits.

Dairymen themselves are largely to blame for the high prices being paid milkers. They compete with each other too much; they try to get milkers away from each other by offering more money. Wages and conditions should be standardized.

More heifer calves should be raised. Arrangements should be made to take them from sections of the State where they cannot be raised and place them in sections where they can be raised.

Several banks in this State will not loan money to dairymen for the purchase of dairy cattle unless they have purebred bulls or will buy them with part of the money loaned. A good rule for all to adopt.

All dairymen are urged to get behind the new Department of Agriculture created by the State Legislature. In all probability Dr. J. P. Iverson will have charge of the Division of Animal Husbandry, which will supervise the dairy industry. A better selection could hardly be made.

The new feed inspection law, which goes into effect November 1, will be a boon to dairymen. Those who were

working for this bill found that one feed manufacturer in San Francisco was making a profit of \$1,000 per month from ground nut shells put into the feeds he sold. Poor nut! He'll get his due pretty soon.

Cleanliness will increase profits. Small-top pails are most essential in producing clean milk. In one dairy, when regular pails were used, from 60,000 to 4,000,000 bacteria per cubic centimeter were found in the milk, and under the same conditions but with small-top pails there were only from 800 to 16,000. Throw out the old-fashioned pails.

But don't stop there. Keep the udders clipped; clean the udders and hind parts before each milking; wash the hands; milk the first few streams onto the floor. Cement barns and smooth walls are secondary to the cleanliness of the milker and the cows.

The dairy barn is the factory; the cow is the machine; the crops are the raw material; the milk is the finished product. If you expect to succeed you must have a modern factory, the best of raw material and a most efficient machine. The volume of business and the expenses regulate the profit, so keep a cost system and know where you are at.

Cut the Cost with Silage

RIGHT NOW is the time you need an Ideal Green Feed Silo. Mill feed is high and likely to remain so. The farmer or dairyman who owns a silo is not only saving money on his feed bill, but is getting one-fourth more milk from his cows than the man who has to use dry feed altogether.

Summer or winter you will find this silo a profitable investment. It maintains an unfailing supply of juicy, succulent feed at the lowest possible cost. No other one item of farm equipment will return so much profit on the money invested.

The Ideal Green Feed Silo

will make your farm or dairy one hundred per cent efficient. It eliminates all waste and enables you to produce six to eight times more feed per acre than could be raised without a silo to preserve it.

The choicest California Redwood is used in the construction of the Ideal Green Feed Silo. Tongue and groove staves of

selected tank stock insure a perfectly joined, airtight container. Heavy round hoops of soft steel, set 30 inches apart, bind the staves into a rigid circle. Long cold-rolled upset threads, provided with heavy hexagon nuts and our heavy malleable iron straight-pull lugs, permit easy adjustment and add to the life of the silo.

Refrigerator Doors

The doors on the Ideal are of the refrigerator type, interchangeable, and held in place by strong oak locking bars. No other silo has doors like them. They fit in the frames like the doors of a safe or a refrigerator, only they have no hinges. Three points of contact make them airtight and leakproof. Inside they are flush with the walls of silo, thus doing away with all danger of air pockets.

Many special features of the Ideal, together with high-grade material and skilled workmanship, make it the most perfect silo ever built. Our silo catalog, giving full particulars and prices, is yours for the asking.

Water Brings Wealth

It is just as foolish to try to get along without a water tank as it is to do without a kitchen stove. A Pacific Redwood Tank will provide water for all your needs—for your household as well as your stock. Used for irrigation purposes, it will pay for itself many times over through increased production.

Pacific Redwood Tanks are equipped with patent non-shrinking system, which absolutely prevents leakage. Let us tell you more about them.

We also manufacture Pacific Wood Stave Pipe, in various sizes, for every purpose. Ask for our pipe catalog.

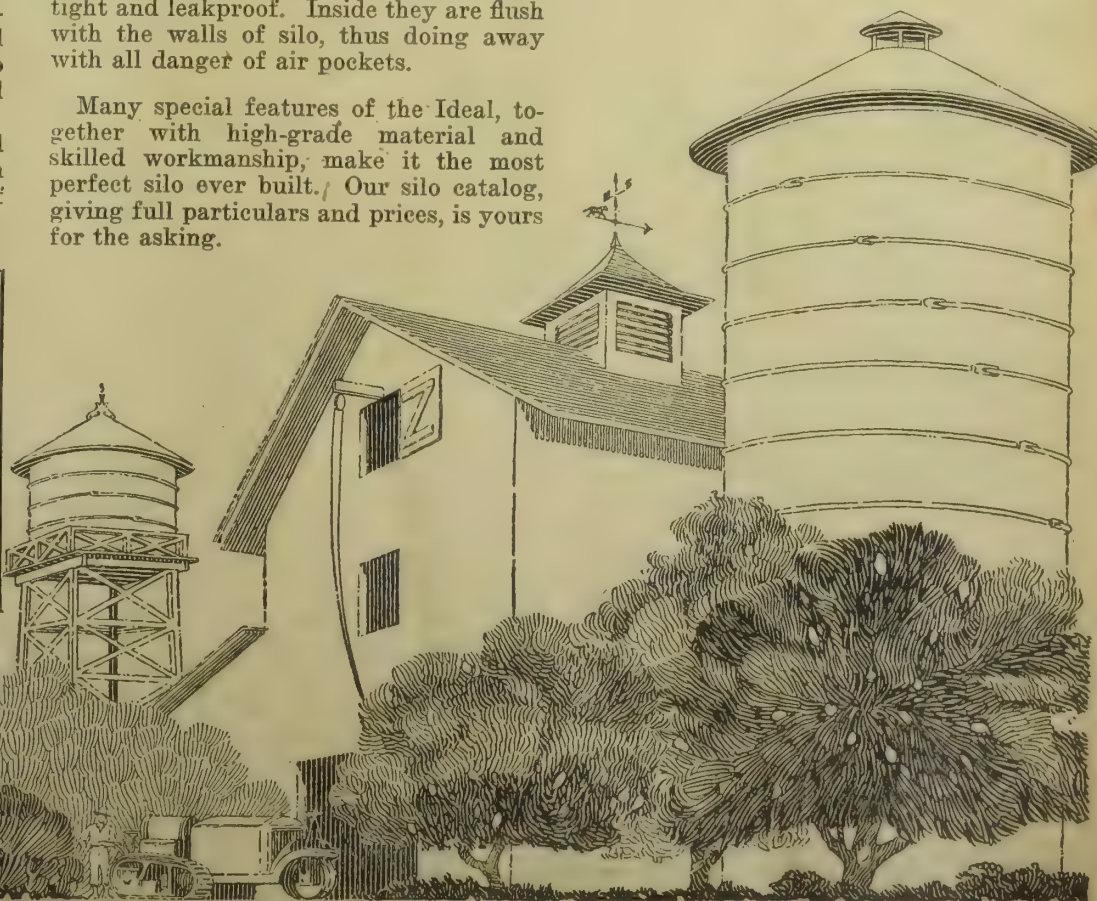
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PACIFIC TANK & PIPE CO.
15 Pine Street,
SAN FRANCISCO.
911 Trust & Savings Bank Bldg.,
LOS ANGELES.

Send me descriptive matter and complete information. Silos — Tanks — Wood Pipe—
(Check the one in which you are interested).

Address

Name





Great Endurance of the Ajax Road King

Confidence with which farmers keep on using the Ajax Road King, we regard as the supreme tribute to Ajax endurance.

The Road King is as good as it looks—and note how its massive tread is braced on both sides by Ajax Shoulders of Strength.

More Tread On The Road

This exclusive Ajax feature is the buttress principle applied to tire construction. Shoulders of Strength buttress the Road King tread—give a wider wearing surface—more tread on the road.

No stronger endorsement of Ajax Tires can be cited than the fact that they are 97% Owner's Choice. This means that Ajax Tires are never forced on users when they buy their cars. Instead, this big percentage is singled out to replace other tires originally on the cars.

Buy Ajax Tires, Ajax Tubes, and Ajax H. Q. Tire Accessories from your nearest Ajax Tire Supply Depot.

Ajax Tires Are Guaranteed In Writing 5000 Miles

AJAX RUBBER COMPANY, Inc.

New York

Factories: Trenton, N. J.

Branches in Leading Cities

AJAX TIRES

PUMPS--ENGINES--PUMPS



Pyramid Pumps.

Centrifugal Pumps.

Hercules Gas Engines—1½ to 12 H. P.

WE CARRY A STOCK OF PUMPS FOR EVERY SERVICE AND USE.

For Irrigation—Power, Belt, Electricity, Air, Vacuum, Ship, Spray, Wine, Oil, Mines, Steam, Water Works, Wind Mills, Road Sprinkling, Rams, Hand, Deep and Shallow Well Pumps, Gould's Celebrated Triplex Pumps, W. & L. Pneumatic Water Supply Systems, Pipe, Pipe Fittings, Brass Goods, Tanks, Gasoline Engines. Catalogue mailed free.

WOODIN & LITTLE, PUMP HOUSE, 33 FREMONT STREET, SAN FRANCISCO, CAL.

Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

BIG GRAIN WITH LITTLE RAIN.

A time when some of our grain growers are still smarting under the loss of crops, due to late planting or incomplete preparation of the seed bed, may be most opportune to remind them by relation of actual experience that such loss could in many cases have been avoided.

We were driving among the foothills of Yuba county wondering why so many fields were uncultivated, covered with a short thin growth of weeds that reminded one of the last hairs on a florid man's bald pate.

Across the road from an empire of such waste land was the finest wheat field we saw on our trip in the foothills—the same land, the same rainfall, the same sunshine, and for 20 years previous, about the same crop as distressed the uncultivated fields. The crop belonged to E. E. Kuster.

It was May 12. The wheat in many parts of the field was even with the writer's chin—over five feet tall. There was a fine stand and the heads averaged about three inches long. Kernels were in the heavy milk and dough stage so there was pretty good chance for them to finish plump and heavy, although many of the leaves were rusted.

We turned in to ask Mr. Kuster why it was in such good shape in such an apparently thirsty land. Significantly, we passed a big tractor with implements near the house.

That tractor had enabled him to plow in the middle of April, 1918, after the last rain, seven inches deep, and to disk the land before it dried out. While the late plowing may have permitted a great loss of winter rain by surface runoff, it was certainly better to get it done in a few days in April than to leave the field to bake all summer. At that season, however, a few days' delay after plowing would have dried out the clods so that they could not have been made useful as a mulch during the summer. Again the tractor ran over the field, this time pulling thirty-four feet of single disks angled to the limit and weighted so they cut into that soil almost to the spoils. It didn't take a lot of time to do both the plowing and the harrowing, nor a lot of men nor a lot of grain feed to get this big job done pronto. The winter's moisture was pretty well held below that disk mulch all through the summer.

In the middle of last October, before any rain came, Mr. Kuster disked it again, broadcasted about 90 pounds of seed per acre and harrowed it with the tractor and without delay. Without such a large unit of power under control of one man, the job might have looked too big to tackle.

NO HORSES NEEDED FOR LAST ROUND IN ORCHARD PLOWING.

One man on the tractor and one on the plow can cut out between the trees clean with the Knapp power-lift disk plow, to which is hitched a twelve-inch walking plow, as suggested by H. G. Knapp himself. His power-lift plow is so designed that the outside disk runs almost in the center mark of the wheel. In cutting away from trees the distance between plow disk and tree is only a trifle more than the distance the hub extends plus whatever margin of safety is desired to avoid barking the tree. With ordinary care on account of the steady pull of a tractor, the tractor plow takes away dirt within seven inches of the tree. Allowing ten inches of tree width and seven inches on the other side, it leaves a strip 24 inches wide. By hooking the twelve-inch plow on the last round, a man can clean out this entire strip.

WHEAT TRACTOR CROSSING CONTINENT "A-FOOT."

A Wheat tractor, made by the Hession Tiller and Tractor Corporation of Buffalo, New York, is now on its way

from New York to Los Angeles under its own power. The trip started at New York City, May 29th, following a send-off luncheon at the Automobile Club of America, after which a short field demonstration was given. Speakers at the luncheon were L. B. Cravath, General Manager of the Hession Company, and James Oliver, Vice-President of Oliver Chilled Plow Works.

One object of the trip is to emphasize the possibility of using tractors for road transportation. The tractor is equipped with road wheels and solid tires. Regular tractor wheels are carried and will be used for field demonstrations and also for demonstrating the quick changing possibilities. The tractor wheels and the three-bottom plow are carried on a trailer which is pulled by the tractor.

POWER DEVELOPMENTS.

The Willows district is developing considerable water according to reports of pump installers and pump manufacturers. One of the latest series of installations are the four pumping plants on the Culver ranch. Four Layne & Bowler pumps are throwing an average of 2,000 gallons per minute and are furnishing water for more than 1,200 acres of rice. The pumps are the 18-inch type and are lifting from depths of 50 feet. The installation of an 18-inch Layne & Bowler pump has also been completed for John Rosenfeld's Sons and is considered the best running pump in the valley, according to observers. This pump is delivering over 2,000 gallons of water from a 510 foot well on the Eucalyptus Farm, leased by John Rosenfeld's Sons to Christensen & Burmester. The latter are well-known rice growers in the Sacramento Valley and are well pleased with their pumping plant.

Samuel Russell, Jr., of Philadelphia, representing the Crocker-Wheeler Co., manufacturers of electric motors and generators, is in California aiding the local district manager, C. E. Ingalls, in laying plans to handle the demand for motors for irrigation and other purposes.

The Avery Co. of the Pacific Coast has just shipped seven of their 5-10 h.p. tractors to Japan, along with two of the one-man grain-and-rice threshers which are built to be run by the small tractors. The threshers have 22-inch cylinders, 32-inch separators, weigh 2200 pounds, require 8 horsepower to run them, thresh 30 to 50 bushels of wheat per hour, and proportionate amounts of other grains and rice.

"Having used a Cleveland tractor in service overseas, and seeing many others in use with the Engineers' Division in France, I have made up my mind that it is just what I need for use in my orchard in California, as soon as I receive my discharge from the army," writes Chas. E. Carter of Antelope Valley, Los Angeles county.

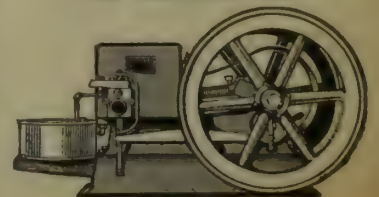
WITTE Engines

2 to 30 H. P.

Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

A. H. SIMPSON CO.

129 FREMONT ST.
SAN FRANCISCO, CAL.



MOTOR CAR ROLLER BEARINGS EXPANSION.

The present rate of increase in automobile and motor truck production, as well as the certain growth of the farm tractor and implement industries have served notice on the Timken Roller Bearing Co. that even their increased facilities at Canton, Ohio, where they are employing over 3,500 people, will not long enable them to keep up with the demand for their tapered roller bearings. They have, therefore bought land in Columbus, Ohio, and ordered machinery for an additional factory to employ 1,000 additional persons and to include at the start one building 600x300 feet and two buildings 60x150 and 80x120. This new factory is being built with a view to periodical enlargement without disarranging the economical handling of their work. The new plant will cost over \$1,500,000.

SECOND-HAND LUBRICATING OIL.

To the Editor: To what use can oil be put after taking it out of a tractor crank case? Could it be used in making soap?—S. E. J., Hollister.

It can be used on exposed gears of any machinery where soft lubrication would be desirable, but we do not know of any other uses. Some people warm it and strain all but the last pint or so through several thicknesses of cheesecloth and use it again in the crankcase; but this is doubtful economy.

FARMERS INCREASE PROFITS BY SHARING THEM.

In the manufacturing world, employers are one by one showing substantial recognition that by giving their workers a voice in the management and a share in the profits, enough more work is done and with a spirit so much better that it really does not handicap the industry, but gives it a boost. One of the biggest events in this line which has recently been accomplished is the election by over 28,000 employees in nineteen plants of the International Harvester Co. to accept the "Harvester Industrial Council Plan." It provides for election by secret ballot of employees' representatives to a "Works Council" for each plant and a "General Council" to consider the complaints and suggestions of individual workmen and to recommend officially to the company management whatever seems desirable in the way of wages, working conditions, improvements, etc. Other large plants have adopted ways of sharing profits directly with their employees and getting the benefit of their suggestions as well as their added interest.

Applies to Farmers Too.

Now, this policy which is becoming quite generally recognized by big business men is applicable to farmers also. It tends to solve the most perplexing labor problem in rural life. A man with a financial interest in the crop and with at least a considerate hearing for his suggestions is not in so much of a hurry to migrate, and he does not loaf on the job. Men with families are attracted to such propositions, and they are generally the steadiest kind of help.

Irrigators Get Share of Crop.

A well-known rice grower, S. M. Joslin, of Placer county, gave us a pointed lesson recently. He, like many others, is giving a bunch of Koreans ten per cent of his rice crop in return for their watchfulness and labor in irrigation and harvest.

"If I paid them wages, they would quit on the hour, and if a levee should break at night I might lose big money before they would move to save it," says he. "I would have to pay them \$4.25 per day of nine hours, and furnish a cook besides paying the head man \$150 per month.

"Under our crop-sharing agreement, it is seldom during the summer that a man is not out on the levees day and night. They shovel up low places on the levees, set the irrigation boxes, do all the irrigating, pull the water-grass, drain the fields, and help during harvest. They cut by hand the nar-

row parts of checks where binders do not work or low parts which do not drain well. One of them came to me today wanting seed rice to sow by hand where he thought a strip had been washed out. They sow places by hand which have been missed or scraped off. Altogether, I figure that they will grow a ten per cent greater crop than I could grow by hired labor, and thus the irrigation will cost me nothing. They can be depended on to take an interest in my crop."

Another well-known grower of large acreages of rice has other interests which would prevent continual personal supervision. He hires none but Americans and so soon as they show ability to use their heads and hearts as well as their hands on the rice crop, they are given charge of certain acreages and a share in the crop additional to their wages. We saw him hire a man for stipulated pay. Afterward, he told us that this man would be given a share of what he produces, but the man does not yet know it. This rancher has proved his system of profitable profit-sharing by several seasons' experience.

A WADE does 10 mens work Saws 25 cords a day!

A money-maker and hard work saver for land clearers and wood-cutting contractors. One man can move it from cut to cut. Simple and reliable. Hundreds in use all over the U. S. When not in use for wood cutting, the 4 H. P. motor will run mills, feed mills, feed cutters, pumps, etc.

"My Wade Saw is cutting wood for less than 3 cents a cord."—F. J. Williams, Burns, Ore.

"I have sawed through five-foot solid oak logs at the rate of one foot a minute."—N. P. Myers, Linn, Calif.

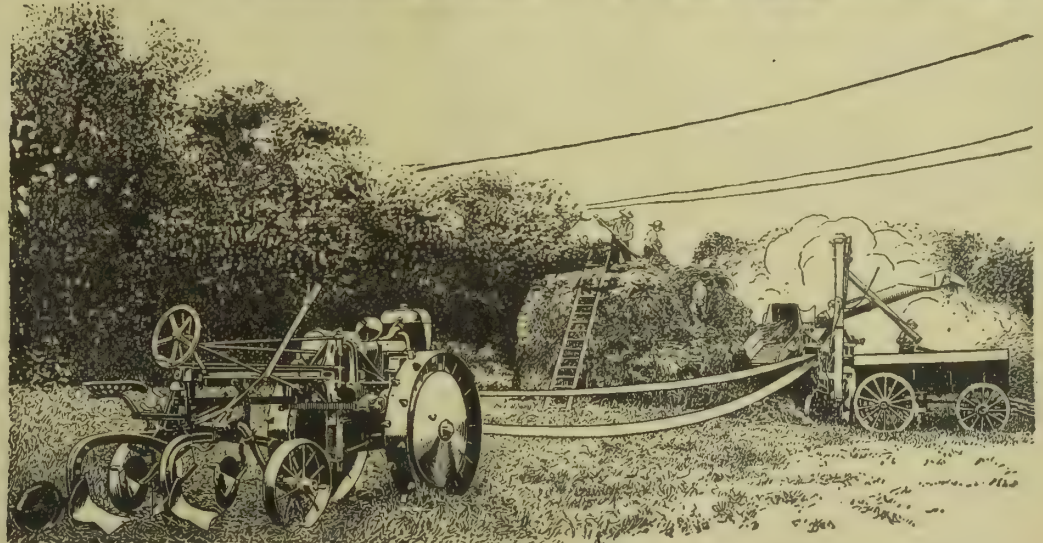
Quick deliveries from over 100 points throughout the United States.

America must burn more wood for fuel. One Wade will do 10 men's work at one-tenth the cost. Write for free Book, "How Dan Ross cuts 40 cords a day," full details and special price.



349 Hawthorne Ave., Portland, Ore.

MOLINE UNIVERSAL TRACTOR



Saves 1 1/3 Men and 5 Horses Per Farm

Through the most comprehensive tractor survey yet attempted, we have found by figures from Moline-Universal Tractor owners—not by guess work—that the Moline-Universal actually saves an average of one and one-third men and five horses per farm.

Over 200 farmers in 37 states from Maine to California and North Dakota to Texas were closely questioned, and their farms ranged in size from 40 to 800 acres. Every one of the Moline-Universal owners whose data forms a basis for these conclusions was selected at random from our list of owners, so that these results are average—not exceptional.

That the Moline is really a Universal Tractor and fits any size farm is proven by the fact that the farms reporting ranged in size as follows: 8%, 100 acres and under; 37%, 100 acres to 200 acres; 21%, from 200 to 300 acres; 13%, from 300 to 400 acres, and 19% above 400 acres. In their report 76% agreed that they could use the Moline-Universal wherever they used horses, and 83% said they could

do better work—and thereby make more money.

Owners are positive in their statement that the Moline-Universal is a good investment, and 73% of the Moline owners state that they wouldn't farm again without the Moline-Universal Tractor, while the rest say that they would dislike to go back to horses.

In reply to the question, "Can you operate and maintain the Moline-Universal Tractor for what it would cost you to keep three or four horses?" Ninety-two per cent replied "yes." Many reported they could do so for less.

Space does not permit a complete report, but surely these figures must convince farmers and business men who believe in facts instead of theory that the Moline System of Power Farming is the most economical and efficient, and this is the reason why thousands of Moline Power Farmers are making more money with less hard work. Complete report of this tractor investigation will be gladly furnished on request.

Moline Plow Company, Moline, Illinois



PLOWING



CULTIVATING



HARVESTING

Rubbing Elbows with Other Breeders

(Written for Pacific Rural Press by Thos. F. McConnell.)

Anderson Expanding.

Frank B. Anderson, erstwhile newspaper man but now breeder of blue-ribbon Berkshires in the Natomas district north of Sacramento, has achieved success in the face of almost unsurmountable difficulties. Others have succeeded on larger acreages but they had great resources behind them. Mr. Anderson has succeeded largely through his own individual effort under circumstances that would have forced nine out of ten to give up. He has developed a nice alfalfa farm on which is found a beautiful herd of Berkshires—the blue-blooded, stretchy, arch-backed, deep-sided kind that look good anyway or anywhere you find them.

To make Berkshire raising a greater success; to grow the youngsters as rapidly as possible and give them plenty of bone and muscle-building food, Mr. Anderson has started a dairy so that he will have skimmilk and buttermilk. He finds that nothing will quite take the place of these feeds for growing young pigs.

Ayrshires at Norabel Farms.

This herd of blue-blooded registered cattle, located on the hills and rolling land at Valley Ford, Sonoma county, could not be placed in a better section, as it is there possible to grow all kinds of grains and grasses which give the best results for milk production.

There are 60 head of registered Ayrshires in this herd, owned by the Le Baron Estate Co., and under the management of Wm. F. Owens they are showing wonderful results. This is due largely to modern methods introduced by Mr. Owens, who has demonstrated that Indian corn can be grown in abundance for silage. Also, all hay is run through feed cutters and blown into the barns. In this way double the quantity is stored and the hay is eaten better. In fact, Mr. Owens claims that barley cut for hay at the proper stage and put into the barn at the right time is much liked by the cattle and produces a good flow of milk with entire elimination of any trouble from the beads.

Rambouillets at Spears'.

An aged ewe that raises a pair of good twin lambs is certainly doing something to bring down the H. C. L., but when she also clips a fleece of 365 days' growth that weighs 24 pounds, she deserves special mention. This ewe, however, is not the only one that is doing well at the E. C. Spear Estate ranch, St. Helena, as 8 yearling ewes averaged 13 pounds 14 ounces each for an 8 months' growth. Such animals are very profitable when the price of wool is around the half-dollar mark.

Mrs. Spear and her son have most of the ranch in full-bearing prune trees, and at some seasons of the year this orchard furnishes pasture for their Rambouillet sheep. One piece in French prunes had never done very well under ordinary methods of cultivation, but when seeded down to rye grass, alsike clover and alfalfa, and pastured except during a short

period at harvest time, has produced better crops of prunes. There is an unusual condition of sub-irrigation existing that makes this practice not only possible but actually beneficial to the trees.

Yorkshires at Callstoga.

This means the A. L. Tubbs Co., with a beautiful ranch about 2½ miles from town on the Lake county road. Some of the best specimens of the breed on the Pacific Coast are to be found here, and Montelena Prince 2nd is a wonderful hog, both as to conformation and size. He looks as though it would be a very easy matter to make him weigh 1,000 pounds or better.

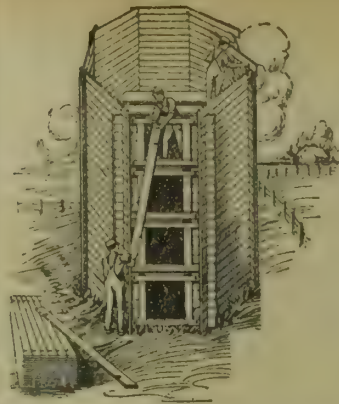
To those not familiar with this breed it might be well to say that they are white hogs of large size and extreme length, with very strong arched backs, deep sides, compact firm flesh, and furnish a very fine quality of pork and bacon. They are an active breed; they farrow very large litters and the sows are good mothers.

Innisfail Dairy Shorthorns

Dairy or Milking Shorthorns, or Dual-Purpose Shorthorns, as they are sometimes called, are found in all their glory at Innisfail Farm, Suisun, owned by Alexander and Kellogg.

From the young calves up to the aged matrons and bulls are found the very highest types of this great breed. The three herd sires, Glenside Royal, Kelmscott Viscount 19th and Westward Ho, are all of the type desired and strong in the blood lines of the milking strain. Among the matrons Rose of Fairfield 2nd is a beautiful individual; Imp. Lady Beatrice, seemingly somewhat beefy but milking 40 pounds per day; Belleview Daisy, a large red cow with a very straight top, looks good, and there are others too numerous to mention. However, Greenhill Caroline, with a 3-year-old yearly production of 11,636 pounds milk and 429.5 pounds fat, holds the record for the breed at that age and should not be left out of the mention.

When all improvements have been made that are planned this ranch, located on Grisley Island, will be a veritable Paradise for the Dairy Shorthorn. Alfalfa, corn and sorghum for silage, root crops, oats, peas—in fact, almost everything that has ever been grown for cattle feed flourishes here.



Monro Perfect Silo

Ends your silo troubles. Stays round. Stays tight—wet or dry. Easy to build. Absolutely smooth inside. No hoops or bolts to need adjusting or rust away. No upkeep cost. Easy to take apart and remove. Quickly and cheaply enlarged or reduced.

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THE LEWIS CO.

Dept. "C"

1st Nat. Bank Bldg., San Jose, Cal.
LIVE DEALERS WANTED.

Duroc Jersey Hogs

250 - Spring Pigs - 250

That have been mated with extreme care and properly raised and fed. The big, tall, rangy, high-backed, big-framed kind that can carry an awful load of pork and walk off with it. We have on our Orland ranch, the sires and dams of the \$1100 sow and \$1000 boar recently sold at San Jose sale.

WHEN YOU NEED GOOD DUROCS—WRITE US

F. D. Burr Company

235 Montgomery Street,

San Francisco

GOLDEN STATE HERD

Modesto, California

Offers for sale

HOLSTEIN BULL CALF—Golden State Rag Apple Korndyke
Born March 15, 1919

Sired by a son of Adirondac Wietske Dairy Maid. Butter, 7 days, 41.013 lbs.; milk 831.7 lbs. Butter, 30 days, 158.30 lbs.; milk 3584.1 lbs. Calf's dam is a 22-lb. cow, sired by a son of Ignaro De Kol. This calf is well grown and a good individual.

E. K. KELLERAN,

Route 1, Box 248, Modesto, Calif.

HAVE SOME NICE YOUNG BULLS

Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.

"Money-Maker" Cutters Reduce Your Silo-filling Costs



These are the best all around silage cutters made. They have a shock-proof cushion drive protecting the machine; auxiliary feed roll for feeding uncut bundles of corn from the wagon; springless compression force feed rolls; angle steel frame, plate steel housing, solid base—free from vibration. These are essential features for successful cutting. All machines ought to have them—few do.

Safe
Silage
Cutters



Safe
Silage
Cutters

Own your own cutter and save your crops against frost, drought and seasonal losses. Don't wait for a neighbor's machine and lose your crops.

Light running. Cuts dry feed. Fills any silo. Will make you real money.

Chas. K. Spaulding Logging Co.

Pacific Coast Distributors

Salem,
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Money-Maker Cutter Book—FREE
Chas. K. Spaulding Logging Co.,
Salem, Oregon.
Gentlemen:
Please send me your free Cutter Book.

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Machines and repairs carried in stock at San Francisco and Salem.

Write Spaulding Logging Co. for Cutter Book—It's FREE.



SAVE LABOR BY USING HOLSTEINS

Whatever the amount of milk or butterfat you wish to produce, it is not better policy to use large yield cows than to feed and shelter the necessarily greater number of small yield cows.

Use Holsteins and you save labor, feed, stabling, equipment and risk. They are always healthy and ready for work.

Choose cows according to their capacity for converting coarse feed into milk. That is the function of a dairy cow and that is where the big Black and White Holstein excels.

Send for our booklets—they contain much valuable information.

The Holstein-Friesian Assn. of America
Box 141 BRATTLEBORO, VT.

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 84-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.

R. D. "A," Box 437.

Two miles out North First Street.

Humboldt Dairying Methods

(Written for Pacific Rural Press.)

"You can preach fall freshening all you want to," said Hon. F. J. Cummings of Ferndale, at the recent annual meeting of the California Dairy Council, "but it doesn't work with us up in Humboldt county. We want our cows dry during the winter months because the weather is then too rough for milking."

Humboldt county is a little empire by itself, and the greatest dairying empire in the United States, having more cows to the square mile than any other section. Also, the dairy-men have made greater progress than those in other parts of California, and Mr. Cummings particularly emphasized the liberal feeding of dry cows to put them in good condition for calving and for a subsequent period of heavy milk production.

Quite a little barley is fed, and it has been found that barley has no tendency to decrease the flow of milk. For succulent feed, silos are gradually finding a place, but at present the

chief feed during the months when grass is short is root crops; in fact, there is no other section of the United States where root crops are so extensively used for dairy cattle as Humboldt county. Carrots are fed heavily in the fall and early winter—often 150 to 175 lbs. per cow daily, and later in the season similar quantities of beets are used.

W. A. Beer, secretary of the Chamber of Commerce at Arcata, said that a large number of milking machines are being used in Humboldt county. Some have been in operation two years or longer and are giving good satisfaction, although they are generally operated by the owners with one or two men following to take care of the milk. Over 100 new machines were installed in the county last year, milking 6,000 cows and supplanting nearly 200 men. "The milking machine is all right," declares Mr. Beer. "Keep it in a sanitary condition and you will get good results."

BIG IMPORTATION OF AYRSHIRES.

The largest express shipment of registered Ayrshires ever brought into the United States from Canada was unloaded at Auburn, California, last Saturday. It consisted of 90 head, purchased by E. B. McFarland of Steybrae Ranch, San Mateo, for division equally between himself and the Penobscot Farm of Cool, Eldorado county.

The Penobscot Farm is the new dairy established by the purchase and combining of the 640-acre Trainor tract and the 160-acre Sharp ranch by Geo. H. Eberhard, F. D. Wilson and associates of San Francisco and Chas. R. Sharp of Cool, who is acting as farm manager. The Ayrshire was se-

lected as being the best for that locality and the existing conditions.

Prof. Gordon H. True of the University Farm, and Geo. E. Platt, D. M. Dorman and G. M. Brown of Los Angeles drove to Cool to view the shipment and to assist Mr. McFarland and Mr. Eberhard in dividing the shipment.

The addition to Mr. McFarland's herd will make it the largest and finest of the breed on the coast. Mr. McFarland has been a consistent winner at the leading coast shows for several years, and is largely responsible for the popularity of the breed in this section.

SAN FRANCISCO LIVESTOCK SHOW FORMALLY LAUNCHED.

A final meeting to launch the San Francisco Livestock Show was held last Tuesday, at which time it was voted to work under the old organization incorporated last year as the California International Livestock Show Corporation. President W. T. Sesnon was continued in office; the selection of Prof. G. H. True as secretary and manager was ratified. The dates of the show will be November 1 to 8, inclusive, and the place for holding the show will be the California Building on the old Panama-Pacific Exposition grounds. The directors are to be the same as last year, with a few changes caused by deaths and resignations. The executive committee named by President Sesnon is as follows: M. H. Esberg, T. W. Diblee, Chas. McIntosh, A. W. Foster, Frank Honeywell, B. F. Schlessinger, R. B. Hale, F. L. Washburn. About \$60,000 has already been raised as a guarantee fund. Now for the big show!

LAKE VIEW FARM SHROPSHIRE SHEEP

Hardy northern grown. Woolled from nose to toes. Ship on approval.

Our First Offering:

20 RAM LAMBS.

25 EWE LAMBS.

Apply to or Address

Wilson E. Elliott

Box 73,

Loleta, Cal.

Shropshire Rams

Pure blood yearling rams—singles and carload lots. Also pure-blood lamb bucks, ready for service by Sept. 1st. These bucks and rams are from pure-blood ewes (formerly registered) and the best registered rams to be purchased in the United States.

J. R. BLOOM, DIXON.



GRAND CHAMPION RAM P. P. I. E. 1915

SAN RAMON SHROPSHIRE

The flock includes selections from the best blood of England and America. It has won at all the leading Pacific Coast shows.

Won at the Panama Pacific International Exposition 15 firsts, 9 seconds and 6 championships, including grand champion ram.

Won at the Chicago International, first pen of 5 yearling rams, first ram lamb, second aged ram, fourth, fifth and sixth yearling ram. Second set of sire, fourth pen of 3 ewes, fourth flock.

We have a few choice registered and range rams left for this season.

Write or Call and See Them.

BISHOP BROS.

FRANK RUTHERFORD,

Manager

SAN RAMON,
Contra Costa Co., Cal.

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

One mile east of town.

St. Helena, Calif.

SHROPSHIRE RAMS

The kind that produce the large uniform black face lamb so much sought after in the markets.

Call on or write to

C. E. BARNHART,

Suisun, Calif.

Dependability of the DE LAVAL



Now that "dog days" are with us, it is no time to bother with a balky cream separator.

Dependability in a cream separator is especially necessary in the summer when the milk should be taken care of in the shortest possible time.

The DE LAVAL Cream Separator is dependable, and with ordinary care it will easily last a lifetime.

The DE LAVAL capacity rating is dependable. Each size exceeds its advertised

capacity under ordinary, and even under unfavorable, conditions.

DE LAVAL Service is dependable. Fifty thousand agents the world over see to it that DE LAVAL Separators are properly set up, operated and taken care of. And, above all, the De Laval Company is dependable—the oldest and by far the largest cream separator manufacturers in the world.

More DE LAVALS in use than of all other makes combined.

See the local De Laval agent, or, if you don't know him, write to the nearest De Laval office as below.

DE LAVAL DAIRY SUPPLY CO.

THE LARGEST DAIRY SUPPLY HOUSE ON THE PACIFIC COAST
ALPHA GASOLINE ENGINES JAMES BARN EQUIPMENT
IDEAL GREEN FEED SILOS VIKING ROTARY PUMPS
ACME FEED CUTTERS LAUSON TRACTORS

EVERYTHING FOR THE DAIRY
Catalog of any of these lines mailed upon request

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SAN FRANCISCO

Live Oak Stock Farm

F. A. MECHAM ESTATE

P. O. Address:

Petaluma, Sonoma County, Cal.
Take Electric Cars at Petaluma or Santa Rosa for Live Oak Station

Importers and Breeders of
Red Polled Cattle,
Shropshire Sheep,
American Merino
and
Rambouillet Sheep



SHROPSHIRE,
RAMBOUILLETS
and
AMERICAN
MERINOS

We have for sale this season 350 HEAD OF PUREBRED SHROPSHIRE RAMS, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age, and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouillets are all from prize-winning rams at the P. P. I. E. Strong, hardy, range-raised stock. We have a fine lot of yearling American Merinos of our own breed.

ALL STOCK SOLD SINGLY OR IN CARLOAD LOTS.

Carruthers' Sale Breaks Coast Record

(Written for Pacific Rural Press.)

The Pacific Coast beef cattle sales record established last April, when 42 head of Shorthorns sold at the breeders' consignment sale averaged \$693, was beaten by a wide margin at Sacramento July 10, when W. M. Carruthers of Live Oak sold 39 head of Shorthorns for an average of \$820. And this despite the fact that there was no high top to swell the average.

Interest centered in the great bull Hallwood Villager, a prize-winner and a proven sire, and breeders were there from all over the United States to bid on him. He goes back to Kahoka, Missouri, to head the herd of the well-known breeder J. W. McDermott, who secured him for the low price of \$2,700. The great white show heifer, Lady Ruberta, also goes outside the State, being purchased by L. E. Morris & Son of Caldwell, Idaho, for \$1800.

The top female was the sweet two-year-old heifer Countess Lavender, by Majestic Viscount, purchased by C. Harold Hopkins for Conaway Ranch, Woodland, for \$2050. Mr. Hopkins was the heaviest buyer, taking four head for \$4,825. Mayfield Vic-

toria 2nd, another classy two-year-old, was struck off to Wm. Bond of Newark for \$1850. Mr. Bond secured four head in all at a total of \$3,720.

Ed Cebrian of San Francisco secured one of the best bargains of the sale in Broadhooks Sultana 2nd, first prize junior yearling at the State Fair, for which he paid \$1500, and Ormondale Company, Redwood City, were the lucky bidders on Avondale's Gypsy, paying \$1300.

Geo. E. Dierssen, a young breeder of Sacramento, bought 10 head, largely young stuff, for \$4,720. Other buyers were Senator B. F. Rush of Suisun, H. M. Elberg of Woodland, Pacheco Cattle Company of Hollister, Butte City Ranch of Butte City, J. F. Dunne of Gilroy, Foster Bros. of Denver, J. E. Montgomery of Davis, Paul R. Sims of Elk Grove, and Sandercock Land Company of San Francisco.

The sale was cried by Fred Reppert of Decatur, Indiana, with "Scotty" Milne in the ring. W. A. Cotchel, field secretary of the National Association, came out from the East to attend the sale and gave valuable assistance.

Imported Shorthorns for Dibblee Estate

(Written for Pacific Rural Press.)

Manager John Troup of the Thomas B. Dibblee Estate, Santa Barbara, has recently returned from Chicago, where he bought an imported bull and two imported females at the Carpenter & Ross sale, June 24 and 25. Mr. Troup is enthusiastic in regard to the Shorthorn outlook in the East, where he found a very healthy situation.

The bull which Mr. Troup selected is a roan junior yearling, Grand Gallant, bred by J. E. Kerr of Castle Dollar, Scotland. The bull is sired by Sauquhar Grand Gallant, and is out of Imp. Rosamond, a Marr Roan Lady, sired by Prime Favorite. Grand Gallant is a full brother to the bull which sold last year for \$12,000 to Mr. Thomas of Kentucky.

One of the females is Imp. Bright Bessie of Collynie, the only Duthie bred cow that has ever come to California. She has a bull calf at foot sired by Maxwalton Minstrel. Her year-old bull calf, Imp. Scottish Lord, was bought for T. S. Glide of the Hillcrest Stock Farm, Davis, to head his herd. The other female purchased by Mr. Troup was Imp. Cecilia, bred by Lady Cathcart of Cluny Castle, Aberdeenshire, Scotland.

Mr. Troup while in the East visited Frank Harding's Anoaka Farms at Waukesha, Wisconsin, with Ed Cebrian, who had successfully bidden several times on the high-priced bulls at the sale. They found Mr. Harding's cattle in excellent condition, with many nice young prospects of calves coming on for his next sale. Mr. Troup was much taken with Mr. Harding's bull Lavender Sultan, which he considers one of the great bulls of the breed. He also visited the Meadow View Farm of McMillan & Mc-

Millan at Lodi, Wisconsin, where he bought a young Rosewood bull sired by Village Marquis, he by the great bull Villager. Mr. Troup considers this one of the choice herds of the breeds, as the McMillans only buy animals of the best breeding and individuality. A general desire all over the central west was noticed for better animals. With breeding and quality, the price seemed no object, but animals with inferior breeding and individuality were not much sought.

Mr. Troup is fitting a fair-sized herd to show at the State Fair. Despite the disadvantage of distance he is ready to "throw his hat into the ring." He has visited several of the leading herds in the State and believes that after the awards are made he will feel like throwing his hat into the air.

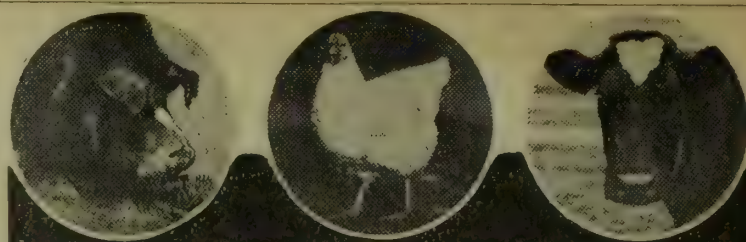
HALF RATES FOR SHOW STOCK.

The Railroad Administration has recently issued new rules governing the transportation of livestock to shows and fairs, which amounts to a half rate. The exhibitor must pay the full rate on his stock in shipping to the fair, and the ruling provides for free return provided the bill of lading is accompanied by a certificate from the secretary of the fair stating that the animals were exhibited and that they have not changed ownership. The animals must be returned within 30 days of the close of the fair.

When a circuit of shows is included the animals will be way-billed at the regular rate to each show, and at the close of the show the certificate from the secretary that he animals were shown there and that no change of ownership has occurred must be presented to the railroad authorities, who will then reduce the in-bound charges to half the regular rates. When the animals are shipped home from the last point on the circuit, half fare rates will again be charged.

However, the administration agrees to these half fare rates only when the liability is limited to specified sums, which are very low for registered animals, the limit on bulls being \$75. Consequently, it will be necessary for exhibitors to either run their own risk or carry insurance.

The daily market reports which have been issued by the Bureau of Markets have been discontinued and the bureau's work will be crippled in other directions, including the closing of several offices. Economy in government expenditures is given as the reason; but in connection with the livestock and meat industries the Bureau of Markets has proved by results that it deserves to be continued.



GLOBE "A-1" FEEDS

Globe "A-1" Poultry Mash —with dry buttermilk

Baby Chick Mash

The nutritious hearts of whole grains, ground and scientifically balanced with real dried buttermilk to make a wholesome feed on which chicks thrive. Makes chicks live and grow in robust health.

Growing Chick Mash

A food designed to make chicks develop into egg producers in the shortest possible time. Contains real dried buttermilk. Should be fed until chicks reach age of 5 months, then get

Globe "A-1" Laying Mash

for quick results in the egg basket. Contains real dried buttermilk. The use of buttermilk in poultry feeding has the indorsement of U. S. Agricultural Dept. (See Bulletin 162, Berkeley, California)

Put prosperity into your poultry yard. Start on these three great feed today. See your dealer—he has all the Globe "A-1" Feeds.

GLOBE MILLS

Los Angeles San Francisco

Globe "A-1" Swine Feeds —with dry buttermilk

Three kinds, one for baby pigs, one for growing pigs, one for fattening hogs. Scientifically compounded to suit age of animal. All kinds contain real health-giving dried buttermilk, in correct proportion to make animal grow, mature rapidly and take on a load of profit-making fat. Ask your dealer.

Globe "A-1" Stock Feed —with molasses

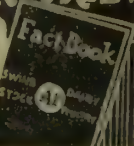
A well-balanced ration containing the proper amount of such concentrate feeds as soya bean meal, milo maize and other grains in combination with chopped alfalfa and desiccated bean straw. The whole ration treated with heavy addition of Hawaiian cane molasses. Palatable, nutritious—a winner either as a dairy or a fattening feed.

Globe "A-1" Dairy Feed

A high-protein concentrate to balance roughage available on your ranch. All we ask you to do is to weigh up the milk before and after feeding this remarkable feed for a few weeks.

Get the FACT BOOK FREE!

—here is a book you cannot afford to be without. Practical, sensible—a sane talk by experts who know how to raise poultry, swine and stock. Write for it now.



THE OTIS HERD

Milking Shorthorns
WILLOUGHBY, OHIO.



LADY OF THE GLEN.

Bred by us and acknowledged the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison,

Santa Rosa Stock Farm, Santa Rosa, Cal.
California Representative.

APPLETON Silo Filler

Better Silage Pays

It's the kind of silage that you make that really counts. The Appleton Silo Filler is built to make more appetizing and nourishing silage, because it cuts clean and even—no shredding. Every pound that goes into the Silo packs more firmly and airlessly, insuring a rich, succulent feed the year around, that makes stock thrive.

The wonderfully efficient, heavy, spiralled knives and adjustable cutter bar of the Appleton, are without an equal for delivering the even, cylinder-cut silage that insures 100% feed-value. The movable cutter bar enables you to adjust for clean-cutting under all conditions. The Appleton can be made to cut 10 lengths, from 5/16 to 2 1/2 inches.

In addition to making better silage, the Appleton does more work, more safely, quickly and easily, on less power. Write for our free booklet, and learn all about the other Appleton advantages, such as: simple, strong operating construction; auxiliary web-feed and big throat that save labor and time in feeding; traveling feed-table on power-saving, frictionless rollers; safety device that minimizes danger and damage, etc. 4 sizes, for 6 h.p. and up. The Appleton copes with all farm conditions.

Best Hay Cutter on Market



C. S. ANTHONY, Farm Machinery
219 N. Los Angeles St., Los Angeles, Cal.

Please send catalog and full data on Appleton Silo Fillers, Free to

Name _____ Address _____

Cebrian Secures Great Shorthorn Sires

(Written for Pacific Rural Press.)

California now has the proud distinction of being the home of what leading Shorthorn breeders have pronounced the best bull in both breeding and individuality that was ever brought to this country. His name is Imp. Caledonia and he was recently purchased in the Middle West by Edward Cebrian for his ranch near Sacramento.

It will be remembered that several months ago Mr. Cebrian bought the noted Palcines Rancho herd of 400 registered Shorthorns. Field Secretary W. A. Catchel of the Shorthorn Association visited the herd on his recent trip to the Coast and pronounced it the finest large herd in the country. It included the good sire, Pine Grove King, by the International grand champion, King Cumberland, but Mr. Cebrian decided that he must have the best bull that money could buy, so he scoured the entire middle-west and found in Imp. Caledonia just what he was looking for.

This bull, a three-year-old roan, was imported by Carpenter and Ross, and is by Proud Emblem, a Duthie bred bull that sired the top calf at the Scotland sales last year, being purchased by Mr. Duthie for a herd bull at \$20,000. Caledonia is out of the great Rosewood cow, Rosewood 105th. Wm. Anderson, of Scotland, considered her the best cow in his herd and expected to keep Caledonia for a herd bull. But he was brought to this country, where he topped the 1917 Carpenter and Ross sale at \$7,500—a record price at the time. He is a proven sire of great worth, and it was his wonderful crop of calves that particularly appealed to Mr. Cebrian. He considered them the best he saw in all his travels.

But a large herd needs more than one good bull, so Mr. Cebrian secured another corking good one in Gainford Matchless, of the noted Matchless family. He is by Imp. Gainford Marquis, considered the best breeding bull ever imported into Canada. Gainford Matchless, another

roan, won first as a senior yearling at the Chicago International last year, weighing 2,100 pounds at the time. He was considered a likely prospect for the championship at the International this year, and undoubtedly will make a local record for himself at the fairs this fall, as Mr. Cebrian expects to show him.

Mr. Cebrian paid \$25,000 for the two new bulls, but not being quite satisfied he bought also the roan bull calf Select Sultan, by Selection, he by Avondale. The dam of the calf is Village Bell 2nd, by Fair Acres Sultan, second dam by Villager, third dam by Golden Favorite. Some breeding!

The entire beef cattle industry of the coast is benefited by Mr. Cebrian's importation. He is developing his ranch and his herd in a scientific business-like way, and unless we miss our guess the Caledonia Farm, as it will be called, will be one of the leading Shorthorn breeding establishments in America.

LOS ANGELES LIVESTOCK SHOW.

The Los Angeles Livestock Show is now a sure thing. It is being backed by the leading men of the southern end of the State; C. R. Thomas has been made manager; the dates—October 18 to 26—have been claimed, and premiums amounting to \$33,000 are being offered. There will be classes for beef and dairy cattle, hogs, sheep, draft horses, saddle horses, driving horses, mules and jacks, ponies, goats, poultry, pigeons and rabbits. The premium list will be out soon and a copy may be obtained by writing Mr. Thomas at the Chamber of Commerce Building, Los Angeles.

BUTTE CITY RANCH SALE.

There is one sure thing about stock raised at the Butte City Ranch. The animals are grown under natural conditions and are not pampered. Consequently, they make good for those who buy them.

On Saturday, August 2, the second annual sale will occur at the ranch, and 50 registered Shorthorns, 125 registered Shropshire sheep, 50 registered Berkshire hogs and 10 Shetland ponies will be offered. Some of the most noted families of the respective breeds will be represented by individuals fully worthy of their breeding. The offering throughout will consist of prime young animals in vigorous, thrifty condition, that will prove profitable investments to their new owners.

CATTLE RANGES

ARE YOU INTERESTED?

In knowing facts about Central British Columbia Cattle Ranges and mixed farming, improved and non-improved, large and small? Write your requirements, resources.



J. H. BROWNLEE, Canadian Land Surveyor,
Peoples Savings Bank Bldg.
Phone Main 23353. Sacramento.

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay.
Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.
A few yearling heifers of same breeding.
Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY,

Perkins, Sacramento Co., Cal.

ORMONDALE SHORTHORNS

All are heavy boned, and of Scotch and Scotch-topped breeding.
Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED.

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road.
We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUEC-JERSEY SWINE

ORMONDALE CO.

BEDWOOD CITY, CAL.
R. D. No. 1

HILLCREST STOCK FARM

Shorthorn Cattle

Shropshire Sheep

Merino Sheep

RAMS AND BULLS FOR SALE

Single or in Carload Lots

T. S. GLIDE, - Davis, Calif.

BUTTE CITY RANCH

Owned by W. P. DWYER and W. S. GUILFORD

Butte City [GLENN COUNTY] California

Second Annual Sale

SATURDAY, AUGUST 2, 1919

50 REGISTERED SHORTHORNS

38 FEMALES—12 BULLS

Practically all of these good Shorthorns are sired by such well-bred bulls as Victor Stamford, Vermillion, Gloster Archer, Roan Chancellor,

Crescent Dale, Gibson's Goods, Ringleader, Perfection, and Sir Type.

There are some great cows with calves at foot, bred and open heifers, and some choice heifer calves. The bred females are all in calf to the Butte City Ranch herd sire Victor Stamford, he by one of the best sons of Whitehall Sultan and out of a Stamford dam.

The young bulls in the sale are of uniformly good type and are in vigorous, thrifty condition. Breeders and rangemen will find a choice selection.

Every young animal in the lot is permanently immunized against blackleg by Purity Blackleg Aggressin made by the Kansas process.

125 REGISTERED SHROPSHIRE

35 MATURE EWES—35 EWE LAMBS

35 YEARLING RAMS—20 RAM LAMBS

These Shropshires constitute the most favorable buying opportunity ever yet afforded in a California sale. The owners of Butte City Ranch realize fully the importance of the farm flock to most California farms, and have selected some of their very best for this sale in order that those

about to establish farm flocks may secure the most desirable foundation stock. These Shropshires represent Broughton, Cavendish, Minton, and Wardwell breeding, and are not only of pleasing type but are also in splendid condition.

50 REGISTERED BERKSHIRES

Possibly in no previous sale of Berkshires in California has there been offered such a uniformity of breeding. The entire offering is sired by two boars, Onward 4th, who is by the world famous imported English boar Epochal and out of the imported sow Compton Dulce, and Butte City Leader, who is by a son of the world's grand champion boar Grand Leader 2nd. The excellent gilts and young boars in the sale are growthy individuals of high average type, and out of some of the best brood sows ever owned at Butte City Ranch.

Every Berkshire in the sale is permanently immunized against hog cholera by Purity Hog Cholera Serum and mixed vaccine.

10 SHETLAND PONIES

Shetland ponies from Butte City Ranch have delighted scores of youngsters, who have purchased from them and the owners have selected some of their very best ones for this sale.

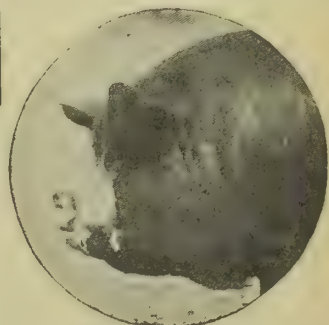
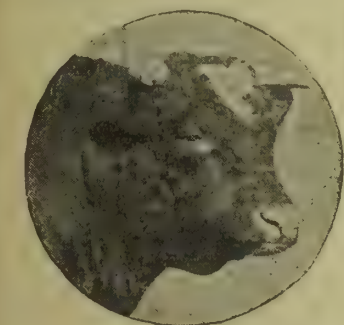
Sale Starts Promptly at 9 a. m.

Catalog free on request
Management

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J. M. HENDERSON, Pres. C. L. HUGHES, Sales Mgr.
SACRAMENTO, CALIFORNIA
AUCTIONEERS—

Col. Ben A. Rhoades, Los Angeles. Col. Geo. W. Bell, Tulare



Livestock and Dairy Notes

Livestock breeders all over the state are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

LIVESTOCK SALES DATES.

August 2—Butte City Ranch, Butte City. Shorthorn cattle, Berkshire hogs, Shropshire sheep and Shetland ponies.

August 6—Francis T. Underhill, Santa Barbara. 100 head Hampshire hogs.

August 26—Fresno County Poland-China Breeders' Association, Fresno. Consignment sale of bred sows and gilts.

September 17—John M. Bernstein and W. L. Haag & Son, Hanford. Poland-China bred sow sale.

October 4—H. I. Marsh and Les McCracken, Modesto. Poland-China bred sows and gilts.

October 7—M. & A. L. Bassett, J. A. Crawshaw and F. D. Ross, Hanford. 75 head of Poland-Chinas.

October 16—E. M. Elberg, Roselawn Stock Farms, Woodland. 45 head of Shorthorns.

October 18—Trehwhitt, Vaughan and Nehls, Hanford. Poland-China bred sows and gilts.

October 20—Tulare County Poland-China Breeders' Association, Tulare. First consignment sale.

November 7—Pacific Coast Hereford Breeders' Association, San Francisco. Third sale of Herefords.

The Dairy.

Pecho Ranch and Stock Company showed a yearling bull calf at the San Luis Obispo Livestock Show that looks like the coming Holstein bull of that section. His dam has a 7-day record of 26.09 pounds and a yearly record of \$15.38 pounds. He is by King Korn-dyke Pontiac.

H. M. Warden, San Luis Obispo, showed a Holstein bull at the San Luis Obispo Livestock Show that carries 37½% blood of the noted cow Duchess Skylark Ormsby. He also showed two fine three-year-old heifers with records better than 21 pounds in 7 days.

Helena of Sunnyside, a junior two-year-old Holstein in the Sunnyside herd of R. F. Guerin, Visalia, has just completed a 7-day record of 20.32 pounds from 408 pounds milk. She is the first daughter of Sir Veeman Korndyke Pontiac to freshen, and naturally Mr. Guerin is delighted. He has 30 more of his daughters and is expecting great results from them.

It is reported that the Co-operative Creameries at Visalia, Porterville, Tulare, Riverside and Caruthers have been taken over by the San Joaquin Valley Milk Producers' Association. Plans are under way for centralization of manufacturing, extension of markets and elimination of unnecessary equipment. A \$250,000 by-products plant is contemplated at Tulare.

Dean Beeman of Woodland has a wonderfully fine herd of Holsteins, headed by a great young bull Dean Fayne Segis. This sire is not only a wonderful individual but a very well bred animal, as his 16 nearest dams average 29.56 pounds of butter for 7 days. He has 5 century sires, 126 30-pound cows, 9 40-pound cows, and 1556 A. R. O. cows in his tabulated pedigree. The average per cent of fat of his 7 nearest dams is 4.48.

Swine and Swinememen.

Prof. J. I. Thompson of the University Farm has been selected to judge Berkshires at the International Livestock Show at Chicago next winter. They couldn't make a better selection.

F. M. Johnson of Napa has sold \$1,400 worth of registered Duroc hogs as the result of \$26.70 invested in Rural Press advertising since February. A pretty convincing illustration of the value of printer's ink.

HOLMES STOCK FARM

WATERFORD RD., MODESTO, CALIF.

Registered Holstein Friesians.

YOUNG SERVICE BULL FOR SALE

Prince Abbecker Arilla Walker, No. 204267—Three-quarters white.

Write for pedigree and price. Inspection invited and satisfaction guaranteed.



Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

Has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the maker.

Write for New Data. See actual figures showing you how to increase your calf profits.

COULSON CO. - - - Petaluma, Cal.

Walter Burnell, the herdsman at Jack London Ranch, Glen Ellen, says that business in the swine department has never before been so brisk, and gilts that they had expected to hold until fall and sell bred have gone like hot cakes.

The pig crop this year is only about 70% normal according to the Bureau of Animal Industry. The shrinkage is attributed to loss in pigs caused by the wet weather which prevailed throughout the east and middle west during the spring months.

W. Bernstein of Hanford purchased from H. D. Blackburn of Illinois about two months ago the young Boar Kings Big Ben, sired by the noted Big Ben. He is coming along in fine shape and promises to develop into one of the leading boars on the coast.

W. F. Sandercock of the Natomas District, Sacramento, has sold to Moore Brothers of Zionsville, Ind., a sow pig sired by Baron Duke 201st and from Princess Leader. The pig combines the blood of two world's champions and one grand national champion.

J. Francis O'Connor of Castlevue Ranch, Santa Rosa, being desirous of giving his registered Berkshires the best possible advantages, has established a small dairy herd. Starting with some grades and a few registered Holsteins he expects to gradually work into an all registered herd.

Lea Bleakmore of San Francisco, owner of Oak Knoll Farm at Lakeport, reports great interest here on the coast in Chester Whites. He is receiving a large number of inquiries and is making many sales. The Chester White is a great hog and Mr. Bleakmore is building up a wonderful herd.

The recent sale for a long price of the junior yearling Poland-China sow, Model Valley Sensation, is reported by Mrs. Viola L. Renwick of Santa Barbara to W. H. Green, Pattinay; also a boar pig, Mammoth Price, sired by Longfellow Price out of Big Helen. Mr. Green is to be congratulated on acquiring two such excellent animals.

Paul E. Mitchell, Poland-China breeder of Atwater, has recently made the following sales: Service boar to W. H. Osborn; 2 boar pigs to Albert Bispo; sow pig to Mrs. L. J. Dessel, Atwater; 2 sow pigs to J. P. Petersen, Chowchilla; boar pig to Geo. H. Burns; boar pig to S. H. Allen, Merced; sow pig to Elwood Mitchell, Selma.

Geo. L. Horine, Duroc breeder of Winton, has sold within the past few days 2 gilts to A. H. Lacey, Butte county, 3 sow pigs and 1 boar pig to D. Augustine, Contra Costa county, and 1 bred gilt to Joe Enos, Merced county. Mr. Horine is offering stock on a basis whereby farmers who are only raising hogs for pork cannot go without a pure-bred sire.

At the Trehwhitt, Vaughan and Nehls sale of Poland-China bred sows and gilts, which is scheduled for October 18 at Hanford, C. A. Vaughan will offer 10 of the fine big-type gilts that he procured in the east, and W. D. Trehwhitt will sell 40 sows and gilts all bred to Model Jones or Iowa Wonder. The Trehwhitt stock is mostly of Pfander breeding and Mr. Trehwhitt says that the offering will represent the best lot of real big-type females ever sold in California.

Beef Cattle.

Thornton S. Glide of Hillcrest Stock Farm, Davis, purchased a new herd header at the world record Shorthorn sale of Carpenter & Ross, at Chicago, June 24 and 25. The bull, Imp. Scottish Lord, is a yearling out of the Duthie bred cow, Imp. Bright Bessie of Collynie, purchased at the same sale by Thos. B. Dibblee Estate of Santa Barbara.

Sheep.

D. M. Wheeler of Santa Rosa, breeder of Shropshire sheep, says that in Fresno county many sheep are pas-

tured in the vineyards after the grapes are gathered, much to the benefit of both vineyardist and sheepman, but that the grapemep about Santa Rosa will not rent their vineyards for this purpose claiming injury to the soil through tramping of the sheep. Mr. Wheeler thinks this a mistaken idea and that grape growers should awaken to the fact that they are losing quite a sum by refusing pasturage at this period.

W. P. Harris of Holtville says that in the Imperial Valley 10 head of sheep can be kept on an acre of alfalfa; that 120 lambs will make \$1,000 clear in six months; that a six months' clip in April will run from 6 to 7

pounds per head; that 160 acres will maintain 2,200 sheep throughout the year, or 4,000 sheep during the summer alone; that it is necessary to have one ton of hay for every 15 head of sheep during the winter. However, Mr. Harris plants barley in his alfalfa in October and has green feed for his sheep all winter.

Miscellaneous.

The premium list for the State Fair to be held in Sacramento August 30 to September 9 is ready for distribution and copies can be obtained by writing to Secy. Chas. W. Paine, Sacramento. The premiums this year will total \$45,000.

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?

Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

SAN FRANCISCO

YOUR INVESTMENT RETURNS 100% EVERY YEAR

Costs of modern farm equipment, as with other productive industries, must be figured with regard to the returns in profits. Some silos may have proven money losers; over 70,000 successful users of the

INDIANA SILO

back theirs as money-winners.

To the extra meat and milk profits, and the saving of more expensive feeds, add the extra savings that the Indiana silo makes for you in less spoiled silage. The total is your yearly profit on the Indiana.

The airtight, convenient Indiana doors (patented), the special Indiana tongue-and-grooving of the seasoned No. 1 fir staves, the proven Indiana method of holding the silo in shape and the walls tight and straight with adjustable iron hoops—these features keep silage in the Indiana free from rot, mould and freezing—make it more succulent and nourishing.

Without an Indiana you pay for one every year in less milk and meat profits. Why not have one next season? Now is the time to build and be ready.

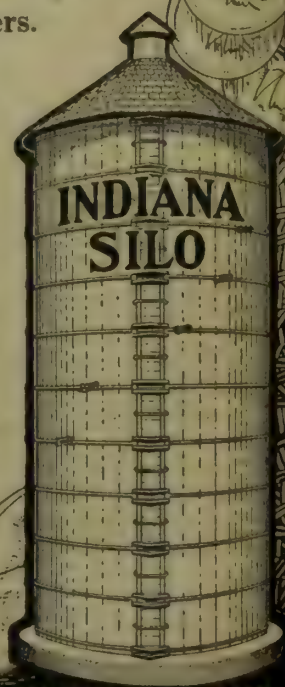
WRITE FOR OUR FREE 1919 SILO BOOK and learn about our EASY TERMS.

The Chas. K. Spaulding Logging Co.

Dept. B, SALEM OREGON.

The INDIANA makes big MONEY for you

THE INDIANA PAYS FOR ITSELF BEFORE YOU PAY FOR IT—WRITE FOR TERMS



LIVESTOCK DIRECTORY

Rate in this directory 3c per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Bookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

TWO SOWS AND A BOAR—\$100 the trio. Two sow pigs from ten raised sired by Baron Duke 201st, 780-pound, \$1100 Grand National Champion, from Rival B Princess, a prize-winner at San Francisco, Sacramento, Oregon, and Omaha National Swine Show, and a boar sired by the Grand Laurel Champion boar from Symboler Belle, and of Superbus blood lines. A boar from a litter of ten raised, big, long, typey, stretchy pigs. Sandercock Land Co., in charge of Natoma Land Sales, 23 Montgomery Street, San Francisco, Cal.

GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. E. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH—Top Berkshire gilts. Bred right, prices right. Satisfaction guaranteed. Geo. E. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

REGISTERED BERKSHIRES—Write R. D. Hume, Dos Palos, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

MARCH BOAR PIGS—Out of sows selected from the best herds of the corn belt. One line-bred Big Bob pig sired by Bridges' Bob Wonder, Missouri, grand champion, and out of my great sow Bridges' Bobby. Two sired by the noted Boulder Buster and out of the splendid sow Bob's Giantess. These are real tops and guaranteed to please. H. C. Shinn, R. F. D. 1, Tulare.

EL PROFITO—Our great herd boar, will put profit-making qualities into your herd. His offspring have size, stretch, bone, good backs and feet, and easy feeding qualities. To make the right start with big-type Poland Chinas, get one of his boar pigs. Prices right. Correspondence cheerfully answered. Viola L. Renwick, Santa Barbara, California.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

ELDERLY FARM—We are offering some excellent tops from our fall and spring pigs at attractive prices, sired by one of America's best-bred boars, Big Black Bone Wonder, with grand champion breeding on both sides. He is a real 1000-lb. boar. J. H. Ware, Live Oak, California.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

3 CHOICE GILTS November 7th farrow—\$40.00 each; 3 January 21 farrow—\$30.00 each. Registered and crated. Edward A. Hall, Route 1, Box 39, Watsonville, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

RIGHT TYPE POLAND-CHINAS—Weanling boars. Registered and immunized. W. T. Dice, Hanford, Calif.

LARGE TYPE POLAND-CHINAS. Winton Poland-China Farm, Winton, Cal.

BIG-BONED POLAND-CHINAS—From Eastern prize-winners. Sold out of boars; a few choice October gilts for sale. D. H. Forney, Route G, Fresno, California.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

POLAND-CHINA BOAR—Orange Blossom breeding. Ten months old. A crackerjack. Satisfaction guaranteed. L. Leest, Van Nuys, Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for sale. Giant Buster and President Stock. Prices right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large smooth and big-boned Poland Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. M. Bassett, Hanford, California.

BIG-TYPE POLANDS—Spring pigs from prize-winners. J. H. Hansbrough, R. A. Box 22, Modesto, Cal.

LARGE TYPE POLAND-CHINA Weanling Boars for sale. A. Swensen, Box 192, Livingston, Cal.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old—"A Wonder" bred boar.

POLAND-CHINA PIGS—Bernstein Trewitt and Ross blood. B. M. Hargis, Tulare.

BIG TYPE POLAND-CHINAS—Young boars for sale. Carstens & Halloway, Madera, Calif.

POLAND CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Nothing this month. Eight spring boar and 5 spring sow pigs to offer during August. All young stock is now immune. At the State Fair this year will show a full exhibit of good ones. Drop in and see them and get some real big typey ones. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

DUROC-JERSEYS AT IRELAND—Home of Cherry Volunteer II., Grand Champion Boar at Riverside. Ireland's Orion Defender and Orion's King of Ireland are excellent sires in service. Booking orders for spring delivery. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles, Calif.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

PATHFINDER AND KING'S COL. stock—immune. Weanlings, \$25 each. Bred gilts and service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento, Calif.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC JERSEYS—Open and bred gilts, August and November boars. Great herd headers. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Dos Palos, Cal.

DUROC JERSEY SWINE FOR SALE—Best blood lines. Bred sows and gilts. Service boars. Jersey Queen Farm, San Jose, Calif.

DUROC JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

DUROC-JERSEY SOWS with first litter, \$30 to \$45. B. Redaker, Napa, Cal.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Unseeded Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

MY HAMPSHIRE are money makers Stock for sale. Buy now. L. W. Denker, Saugus, California.

Miscellaneous.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

DAIRY CATTLE.

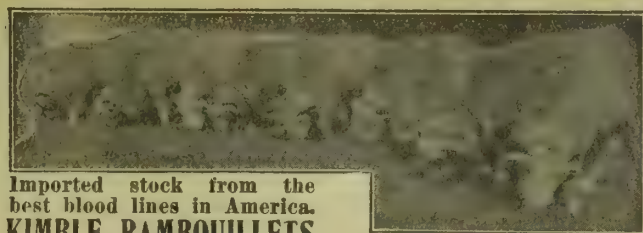
Ayrshires.

ELKHORN FARM AYRESHIRE—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

REGISTERED YEARLING BOB ROY Bull, Farmer's price. Redwoods Ayrshire Farm, La Honda.

AYRESHIRE—Registered; all ages. E. B. McFarland, 412 Claus Spreckles Building, San Francisco, California.

NORABEL FARM AYRESHIRE—Le Baron Estate Co., Valley Ford, Cal.



Imported stock from the best blood lines in America. KIMBLE RAMBOUILLETS

will make money on any farm. Pure bred, large and smooth, with heavy fleece of fine, long staple white wool. Yearling and older rams. Breeding ewes. Any quantity. Prices attractive.

Chas. A. Kimble, Hanford, Cal.,

Breeder and Importer.

Guernseys.

HIDDEN VALLEY FARM offers for sale 2 young Guernsey bulls, ready for service, out of high record advanced register dams. A. J. Welch, proprietor, Redwood City, California.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choicely bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Jerseys.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

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DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2½ years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

A PRICE ON EVERY ANIMAL.

Herd free from tuberculosis. All sales subject to sixty days' retest. Sons of Finderns Soldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

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YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEIN CATTLE—E. M. Freeman, Route B, Modesto, California.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A. Box 437, San Jose, California.

YOUNG HOLSTEIN BULLS—2 to 5 months old—Tilly Alcarra blood—for sale. A. Swensen, Box 192, Livingston, Cal.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spires, Hilcrest Farms, Caruthers, California.

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REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS—We breed for production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif.—Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesian—Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Milbrae Dairy, Milbrae, California.

HOLSTEIN BULLS and bull calves from A. B. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara Co. Lompoc, Calif. John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co. Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

SHORTHORNS—Carruthers Farms. Live Oak California.

HOPLAND STOCK FARM—Registered Short horns. Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable Diamond G Ranch, Esparto, California.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Props., Wells, Nevada Registered Hereford cattle. Breeding stock for sale.

SIMON NEWMAN CO., breeders of Registered Hereford Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords Milton California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

REGISTERED SHORTHORNS—Julien Ranch, Grenada, Siskiyou Co., California.

HORSES AND MULES.

A WELL-MATCHED TEAM of black mares; also extra mare; three two-year-olds, and four yearling colts; all of Percheron stock. J. Bernard, Calistoga, Cal.

FOR SALE—A-1 Breeding Jack. Bargain. Have quit raising mules. W. P. Harkey, Gridley.

PERCHERONS—Registered Stallions, Mares and Fillies; three, four, and five years old. Cora S. Seacrest, Escalon, Cal.

SHEEP AND GOATS.

PURE-BRED RAMBOUILLET RAMS, large smooth frames, extremely heavy shearers, from the very best strains of this country and France. Immediate delivery from ranch at Ord Bend, Glenn county. P. O. address, Windell Orchards, Glenn, Calif.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

HAVE FOR SALE fifty head of fine yearling Shropshire rams. Also 25 head of high-grade Rambouillet rams. These are big fine woolled rams. E. D. Dudley, Dixon, Calif.

500 GOOD TWO AND THREE-YEAR-OLD breeding ewes for sale, in good order. Write James J. Connell, 399 North 3rd St., San Jose. Phone 3763.

J. R. BLOOM, DIXON, CAL.—Breeder of Shropshire rams out of pure blood ewes and imported registered rams. Single and car load lots.

SHROPSHIRE—43 yearling, purebred, registered Shropshire rams for sale. Harry L. Huston, Winters, Calif.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

BISHOP BROS., SAN RAMON CALIF.—Breeders and importers of Shropshires.

KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet. Hanford, California.

WANTED—52 two-year-old Shropshire ewes. Route 1, Box 8, Cloverdale.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P. Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Gullford, owners. Special Notice: Second Farm Sale. Shorthorns; Shropshires; Berkshires; Ponies. August 2, 1919.

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The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

IT'S A SOURCE OF SATISFACTION

To know where to find the right kind of hogs when you want to buy.

KING JONES OVER

a son of the Great King Jones. Dam by Long King, out of a Big Bob sow. Weighs 600 lbs. at 14 mos. Stretchy, deep-bodied, well hammed and right up on his toes.

He heads the best herd of strictly big-type sows in California. Some extra good fall boars for sale. Cholera immune.

MCCARTY & STARKWEATHER

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CAN IT BE DONE?

As an experiment during July I am selling on a new plan

35 Registered Duroc-Jersey Spring Pigs

For the first time in California high-class REGISTERED DUROCS will be sold to bona fide farmers on easy terms.

In this lot are husky, growthy big type pigs from a 1100 LB. GRAND CHAMPION grandsire, out of dams producing 10 to 17 pigs per litter twice a year. The most popular Eastern blood lines are represented.

Every pig will be registered, crated, and sold with an iron-bound, money-back guarantee.

Send no money, but write today for full particulars, stating sex and number of pigs interested in.

GEO. L. HORINE,

WINTON, CALIF.



REGISTERED DUROC-JERSEYS

We have for sale right now, big, heavy-boned, high-up, four-months-old boars. Also some A-1 weanling pigs, either sex. Also some young gilts. Our herd boar has the best blood of the breed and was a prize-winner at the State Fair last year.

Write for prices.

ROUTE 4, BOX 735

THE GARDINER RANCH, SACRAMENTO, CAL.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

TAMWORTHS

(The Bacon Hog)

Largest Herd in the State DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM

W. O. Pearson, Prop. Woodland, Cal.

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM

P. O. Box 177, Lancaster, Cal.



ABSORBINE

TRADE MARK REG. U.S. PAT. OFF.

Will reduce Inflamed, Strained, Swollen Tendons, Ligaments, or Muscles. Stop the lameness and pain from a Splint, Side Bone or Bone Spavin. No blister, no hair gone and horse can be used. \$2.50 a bottle at druggists or delivered. Describe your case for special instructions and interesting horse Book 2 R Free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Strained, Torn Ligaments, Swollen Glands, Veins or Muscles; Heals Cuts, Sores, Ulcers. Allays pain. Price \$1.25 a bottle at dealers or delivered. Book "Evidence" free. **W. F. YOUNG INC.**, 86 Temple Street, Springfield, Mass.

Epoch-Making in Hampshire Circles

(Written for Pacific Rural Press.)

August 6 promises to be a red-letter day at Santa Barbara when the first public sale of pure-bred Hampshire hogs in California will be held by Francis T. Underhill on his Ortega-Underhill Ranch.

When hogs were first brought into the United States there were practically none of the conditions and problems that are today big items to the producer of pork. But now there have arisen the problems of economical feeding, the saving of labor and the producing of a hog that will be in demand because of its fine cutting qualities. The solving of them is a necessity to make the production of pork a paying proposition, and it is claimed that the Hampshire hog is the animal that can do the trick.

The Hampshires did not gain quick prominence after being imported to this country. Hampshire growth has largely been accomplished in late years; in fact, their increase of popularity in the last five years has been sensational, and it is the talk and wonder of the livestock growers in every section of the United States how the Hampshire has pushed to the front in so short a time.

What is the reason of this great growth in late years? Why is it that so many want Hampshire stock to produce their pork? There must be some sound reason for it. To make a long story short, it is merely the fact that these producing problems had got to a place where they had to be solved, and the Hampshire hog came forth and solved them. Some may say that it is merely the men who are pushing them and their advertising of the breed that is responsible for it. But admitting that the right kind of advertising will help sell an article, it is an absolute certainty that if you do not deliver the goods, the article you are selling will not "get by" for any length of time. Nor will it gain a popularity and hold it through the storms and buffeting of opposition, as the Hampshires have done in the livestock world of today. Its breeders claim that the credit must be given

to the hog—the belted beauty that delivers the goods.

The opportunities for the growers of hogs in California are indeed golden. The possibilities for the men who wish to accomplish things are unlimited. And the man who begins now has a running start; he has the advantage of being one of the first in the field. Imagine the advantage a few years from now when California will be one of the leading states in the production of hogs. And such can be the case in a very few years if the ranchmen and farmers take advantage of their opportunities.

Especially are the Hampshires adapted to the conditions of this State. They are an ideal hog for California. For instance, alfalfa, one of the most valuable feeds in the State and one of the most plentiful, is also one of the most valuable feeds for Hampshires. They are a foraging, green feed hogs. They are hardy rustlers and will get out after such feeds where the more lazy breeds will not do so. In the Middle Western States they are called the poor man's hog because of their ability to live on pasture feeds, and their rapid response to the fattening feeds when on is in a position to get them ready for market.

At the Underhill sale of 65 bred sows and gilts breeders will have the opportunity of getting their Hampshire foundation stock, of meeting and becoming acquainted with the other breeders of this State and Eastern hog States, and of attending a meeting of the breeders of California for the purpose of organizing a California Hampshire Breeders' Association. A large barbecue will be held and all interested are invited to attend. A cordial welcome is assured.

NEW HARNESS

is cheaper than second-hand, dollar for dollar of cost. Come in and see what we have to offer you in **HERCULES HARNESS**, Saddles, and Horse Collars. Our own make and fully guaranteed.

W. DAVIS & SONS

California's Pioneer Harness Manufacturers

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Catalogue of Harness, Saddlery, Trunks and Traveling Bags sent free on request.



Live Stock Profits

are directly dependent upon the general health of herds and flocks. Not all live stock diseases can be controlled or cured, a fact that justifies owners of livestock taking advantage of every proven method for eliminating possible risks.

PURITY BIOLOGICAL PRODUCTS (not always cheapest but always best) offer the greatest protection against certain diseases.

Purity Blackleg Agglutinin—Germ Free Vaccine—produced by the Kansas method. One treatment immunizes for life. Being germ-free its use will not introduce blackleg into healthy herds. Over 1,500,000 calves vaccinated without loss.

Purity Anti-Hog Cholera Serum is the most extensively used in the world.

Purity Mixed Vaccine for Swine prevents Swine Plague and Necrotic Enteritis.

Purity Hemorrhagic Septicemia Vaccine for cattle and sheep prevent Hemorrhagic Septicemia and reduce losses in infected herds.

We are prepared to offer the highest degree of service—service that counts, and does not end with selling. Correspondence and consultation invited. Write, wire or phone.

PURITY SERUM COMPANY

J. L. Thatcher, Manager
(Successor to Thatcher Serum Co.)
Riverside, Calif. Sacramento, Calif.

There is no excuse for a filthy hog trough where a sanitary one can be provided. The sanitary kind can be made either of cement or cast iron and they are not expensive. But even these will not avail or lessen the danger to the hogs from disease unless they are persistently and thoroughly cleansed, but they are so much easier to care for and keep clean that it is simply bad business to bother with the old kind.

Wonder how many valuable young boars will be killed this season by being overfed. It seems to be necessary to beat the other fellow, so there you are.

Consider the Brood Sow

(Written for Pacific Rural Press.)

The motherly qualities of a brood sow are to be considered an asset, just as definitely as are like qualities in dairy cows.

The feeding and care of a brood sow before she is bred, and while she is carrying her litter, bear a direct relation to the size of the litter and the strength of the pigs.

The young pig is a highly protein product; consequently, an abundance of protein should be provided in the feed. A sow cannot produce something from nothing.

Phosphate of lime is an essential feed for sows carrying litters, to provide for the development of bone in the pigs, and to maintain her own strength of bone. This can be supplied in wood ashes, burned cobs, charcoal and bone meal.

Keep your brood sows in good thrifty condition, but not fat. Plenty of exercise will prevent excessive fatness and keep them in proper condition.

Watch carefully the condition of the sow's bowels while she is carrying her young, and especially just before farrowing. She is naturally feverish at this time, and this tends to constipation, which in turn causes difficult farrowing. Keep the bowels open by feeding laxative feeds, but do not use a violent purge, as this might cause abortion.

Provide clean, dry, comfortable quarters for the sow at farrowing time, free from drafts. Pen her a few days in advance, and gentle her so that you can move around without disturbing her.

If the sow has had plenty of exercise and is not costive, she will have little trouble in farrowing, but it is well to be on hand to help her out if necessary.

Warm water with a handful of bran or shorts is all that should be given the sow for the first twenty-four hours after farrowing. After that, increase her feed very slowly. Be careful about forcing the milk too soon, as the pigs are unable to take care of much at the

start. If the sow has too much and some is left in the udder, it is liable to congest and cake, and serious consequences will result to both the sow and the pigs. Use at least ten days in bringing a sow to her full feed.

Give sows that are suckling pigs plenty of milk-producing feed. The cheapest gains are made by young pigs. Middlings come high, but pay at this stage of the game.

Use caution in changing the feed of the brood sow while she is suckling her litter, for any sudden change in the feed is liable to cause scours in the pigs. Make all changes gradually. Refuse and garbage often cause pigs to scour, and it is better to use such feed for shoats.

Keep the sow and pigs exercising every day, and don't let the pigs get too fat or thumps will develop.

Watch the young pigs and look after the tusks before they have done any damage. They start on a war basis right after birth, and begin scrapping for positions at the lunch counter. Remove the tusks and deprive them of their only weapons. It will be a benefit to them, their mates, and their mother, as blood poisoning is liable to infect the wounds made by the teeth. Use small tweezers and snap the tusks off.

Grand Champion Herd of Hampshires

FOR SALE.

Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Gilts

Best families.

Finest individuality and clean-cut markings.

Call or write

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.



BUY A YOUNG BERKSHIRE BOAR NOW

and grow him out for spring service. We are offering a few exceptionally good ones, 4 months old. These will make real herd headers. They are sired by our 700-lb. first prize winning son of Laurel Champion, and out of large stretchy sows. All sow pigs either sold or reserved. Also have for sale a 14-months-old boar, that weighs around 450 lbs. He is good enough to head any herd, and is priced right. Write us at once for further particulars.

IMPERIAL STOCK FARM

R. J. MERRILL & SON,

Morgan Hill, Cal.

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

CALIFORNIA'S FIRST HAMPSHIRE SALE

YOU have heard about the sensational rise of "America's most popular hog." You have heard of his wonderful money-making qualities; of his record at the 1918 International, where the lot shown below won grand championship over all other breeds and sold for \$2.25 per hundred above the nearest competitor.

Now you have the opportunity to secure animals of the best blood lines in America at your own prices. Mr. E. C. Stone, the leading Hampshire authority, says that Francis T. Underhill has given more thought to the foundation of his herd than any other man in Hampshire history; that Mr. Underhill has three of as good herd boars and as fine a lot of sows as he has ever seen; and that the stock to be offered at this sale is far superior to the average consignment at middle-west sales.



65 Bred Sows and Gilts

Four 3-year-old sows, 24 2-year-olds, 21 yearlings, 17 fall gilts. All guaranteed safe with pig; most of them carrying their own guarantees. Everything royally bred and from four great blood lines—Gen. Tipton, Lookout, Gen. Allen and Cherokee Lad. You can't beat this breeding.

The boars to which the sows are bred include Gen. Tipton's Masterpiece, the best son of the grand champion; Exalted Ruler, a Lookout boar by Exalted Lad, 1918 grand champion of Iowa; Draper Laddo, a Cherokee Lad boar; and Gen. Allen's Counterpart, by Gen. Allen, undefeated grand champion.

Wednesday, August 6th

Sale will be held at the Ortega Underhill Rancho, 4 miles east of Santa Barbara on the Coast Highway, near Montecito. E. C. Stone will be there. A State Hampshire association will be formed in the morning. Free barbecue. Come, whether you intend to buy or not. A good time assured. For catalog, information and free literature, address Walter Folk, western representative, Hampshire Record Association, in care of

Ortega Underhill Rancho Santa Barbara, California

FRANCIS T. UNDERHILL,
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COL. ORD L. LEACHMAN, Sacramento
Auctioneer

GOVERNMENT CONTROL OF PACKERS URGED.

The United States will never have a satisfactory and permanent solution of the meat problem until the manufacture, sale and distribution of meat products are officially supervised by authorized agents of the Government, working in co-operation with State and municipal authorities, whose only aim is to serve the public at large and not any particular class. This is the opinion of senators and representatives from livestock producing regions, as summarized by the Department of Agriculture.

The Department goes on to say that when the Federal Government is enabled by law to maintain a just supervision over the meat-producing industry that will prevent unfair dealings, speculation and profiteering, by furnishing the public all the facts regarding the industry, and when the states and municipalities are enabled by law to exercise similar supervision over interstate and local business, then, and only then, can we expect to have fair and stable markets in which producer and consumer alike will have a square deal.

There is no longer need for meat conservation. The supply is plentiful and patriotic citizens may disregard the war-time requests. Europe needs our surplus pork, but is filling her beef requirements from South America and Australia. Prices of beef cattle have fallen sharply since March 1 on account of the stoppage of exports for army use and a slack demand at home. Beef and lamb producers who sell their products now are confronted with the danger of heavy financial loss, which will tend to restrict production and cause a serious shortage in the future, unless some steps are taken to change conditions. The excessive retail prices now existing are not justified by wholesale quotations. They are so high that consumers are denying themselves, yet the prices paid producers for beef are too low.

Poultry and Rabbits for Profit

Conducted by R. H. Whitten.

LAY-MENT OF THE HEN.

(Tune: The Rosary.)

The eggs I've laid for thee, dear sir,
Would make a host of chicks for me.
I count them over every one that fills
Thy hatchery, thy hatchery.
Each day an egg, each egg a chick,
To soothe a starving mother's heart.
With hope I climb into the nest
And there a trap is hung.
Oh, families of which I've dreamed!
Your cruel gain, my bitter loss!
I kiss each egg good-bye and strive
to learn
To lay for man, ah, me!
To lay for man.

DOLLAR NEGLECT MEANS TEN DOLLAR LOSS.

(By T. E. Quisenberry, Pres. American Poultry School.)

The poultry and egg business has come into its own. The prices which have been paid for the products have been reasonably satisfactory. You can look for even higher prices this winter than in any previous year. The export demand is going to be greater, and while this has been a splendid year for farmers and poultry raisers, I look for 1920 to be still better.

It behooves every breeder to pay close attention to those little details which make for his success. The season for the little fluffy, downy, interesting baby chicks is past, and we are too apt to lose interest and grow lax with our methods and work.

One of the most important things to avoid during the summer months is crowding. Don't crowd the chicks in the house or yards. If your house is crowded at night, the larger ones will impose upon the weaker, mites and diseases are apt to get a start, and the vitality of your chicks will be sapped. Get the chicks to roosting on temporary roosts as soon as possible.

If you are not eternally on the lookout, mites are certain to get started in the cracks and crevices of the nest boxes and roosting quarters. Every roost and nest should be painted every two weeks with a liquid mite killer or a mixture of two parts of crude oil with one part of crude carbolic acid. Go into every crack and crevice with the mixture. Keep the droppings, broken eggs, dirt and filth of every kind cleaned up. If once started, mites breed by the millions and cost you in feed, health and the vitality of your flock.

Cultivate your yards and the ground around the poultry houses. Cover it with air-slaked lime before turning the soil. Sow some rape, swiss chard, barley, or something else which will make tender green feed. Keep the chickens off of it until it gets a start. If you can't do anything more, spade up a few shovels of earth in each yard each day and encourage the chicks to work in that.

Lice also thrive during the summer. Examine chicks and grown fowls for evidences of them. If your chicks appear dumpish, one of the first things to do is to examine your house for lice and your chicks for mites. Some of the advertised lice ointments are good for mature fowls. Three-fourths of a pound of lard, one-fourth of a pound of suet, mixed with one-half pound of blue ointment, makes a good ointment. Mix this thoroughly and use an amount equal to a garden pea just about an inch below the vent and the same amount in the fluffy feathers on each thigh. See that this is rubbed into the skin at these points. Do not use this for young chicks. For head lice on baby chicks, use a drop of sweet oil on the head and one drop under each wing.

Drinking water must be supplied frequently on hot summer days and the pan should be kept in the shade. The egg and the body of the fowl are composed largely of water. If you let the pan go dry you cut down growth and egg yield just that much. There is nothing so cheap if supplied, yet so costly if neglected, as water. It

makes your feed go nearly twice as far, and don't forget that the fowls drink a great deal on these hot days. You must also remember that scum and germs accumulate on the drinking pan, so these should be cleansed each day and disinfected once a week at least.

Dead poultry, rats which have been killed, or meat of any sort, should not be allowed to lie about the premises and become tainted. These should be promptly removed, and burned or buried deep. Limberneck is apt to result from ptomaine poisoning after such meat is once tainted or starts to decay.

A moist mash will whet the appetites of the youngsters and hasten growth. They relish a feed once a day of the moist mash, but it should not be fed sloppy. Neither should it be fed too freely, and allowed to remain in the feeding trough to become sour.

Don't expect to feed a single grain like corn, barley, oats, or kaffir corn to your poultry and get best results. They cannot thrive and do best on a

single food. They require variety and some ground food.

WHEN CHICKENS GET CHOLERA.

Fowl cholera demands fire-department speed in combating it. Drug treatment or home remedies only waste the time of the poultryman and allow the malady to spread. Strict sanitary measures must be applied at once to control this infectious disease, which spreads rapidly through the flock with high mortality. Turkeys, ducks, geese, pigeons and chickens are all susceptible to it.

Cholera is transmitted from flock to flock by means of sick or recently recovered fowls which have been placed in the flock without being subjected to a period of quarantine. The disease is also spread by wild birds or by persons, animals or utensils which have been on infected premises. A yellowish coloration of the droppings is an early indication of the disease. Soon diarrhoea develops, considerable fever is shown, and the bird loses its lively appearance, separates itself from the rest of the flock and appears dull, dejected and sleepy. It no longer searches for food, but sits with head drawn down to the body or drawn backward and resting in the feathers about the wing. The plumage soon loses its brilliancy, the wings

droop, the appetite is diminished, and the thirst increased. The comb and wattles may be a dark bluish red from engorgement with poorly oxygenated blood, or they may be pale and bloodless on account of the congestion of the internal organs, especially the liver.

Symptoms of Stricken Birds.

The affected birds soon become very weak, drowsy, and often sleep so soundly during the last day or two of their lives that it is difficult to arouse them. If obliged to move they stagger forward for a few steps in an uncertain manner and with dragging wings. The crop is generally dis-

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CHECKING the flow of water in laterals or streams and backing it up to any desired distance is a problem the irrigationist meets continually. The Calco Adjustable Metal Irrigation Dam is a simple, effective device that solves this irrigation problem. It holds water, backs it up as desired and—protects the lateral from injury.

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It does away with the guess work of the old method of one or two measurements a day. With it on your weir, you pay only for the water you actually use. It's easily attached by anyone in a few minutes. Weeds or silt in the water do not affect its operation and it needs no attention after its installation. Write for folder.

Put these devices to work on your system. Send your check or money order today for a Calco Metal Irrigation Dam. Ask for the Lyman Meter folder with measurement tables.

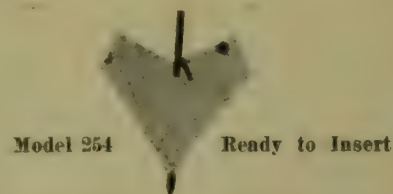
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Calco Adjustable Metal Irrigation Dam

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An ideal tappon. Simple and easy to operate. Made of Galvanized Armco Iron; strong, rigid and durable.

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FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

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Write for our booklet,
"PROTEIN FOR PROFIT."

tended with food and apparently paralyzed. The weight and strength of the bird rapidly diminishes, it breathes with difficulty, sits with beak open, and the breathing may be heard at some distance.

Finally the weakness is such that the bird is rested on the ground and a little later the bird dies. In very acute cases no symptoms are seen; the birds may be found dead under the roosts or they may fall at the feeding trough and die in a few minutes. Cholera may destroy the greater part of a flock in a week and then disappear, or may linger for months, only occasionally killing a bird. The time between exposure to the contagion and appearance of symptoms is from two to five days, while the duration of the disease is from 24 hours to 10 days. Most characteristic changes seen after death are red spots on the surface of the heart, which give it the appearance of having been sprinkled with blood, congestion of the intestines, enlargement of the liver, and swelling of the spleen.

Stopping Infection's Spread.

Since treatment of the affected birds is almost futile, the aim should be to prevent so far as possible the spread of infection. The first fowls showing acute feverish symptoms should be destroyed by a method guarding against contamination of the premises by infected blood. The carcasses should be burned or deeply buried. The healthy fowls should be moved to new quarters, if possible, and carefully watched for signs of disease. Houses and runs should be thoroughly cleaned frequently and disinfected with a 5 per cent solution of carbolic acid, a 2 per cent solution of compound cresol, or a reliable coal tar disinfectant in proper dilution. The drinking water may be made antiseptic by adding one dram of permanganate of potash to each gallon. This serves to prevent the spread of disease through the water and also is a convenient means of administering an internal antiseptic. Prevention and treatment to control fowl cholera by means of anti-seum and vaccine have not proved sufficiently satisfactory to warrant recommendation of the use of such preparations.

GIVING MEDICINE TO RABBITS.

Ever try to administer medicine to a rabbit? It isn't as easy as it sounds. Often the little critter will refuse to open his mouth, and if simple forcing is tried the strongest man will find himself up against a hard task.

Let the rabbit sit in a natural position on all four feet, and with the thumb and finger of the left hand press the lower lip firmly back against the teeth. Have the spoon in the right hand, and slip it slowly into the rabbit's mouth as you press the lip back. Tilt the head back gently, and hold it long enough for the medicine to be swallowed. A little practice will enable you to do the trick quickly and without injury to the rabbit.

Sunflowers are easily raised in almost any soil. They provide shade for fowls, and their seeds make excellent poultry food. Mammoth varieties of this plant can be grown and very little time and attention is required for cultivation. When seeds ripen and begin to drop, cut off the heads and hang in a dry place to preserve for future use.

A chalky white earlobe indicates a bird is laying heavily, whereas a cream-colored one shows the bird is laying moderately, has just started, or has just stopped. A milk colored earlobe shows slight laying, and a very yellow or dark earlobe means no eggs have been laid at all.

A small flock well taken care of is more profitable than a large flock handled carelessly. Poultry must be given the proper attention every day. Profits lie in good stock and proper care.

A scrappy disposition in a male bird can be taken as an evidence of vigor that will be transmitted to his offspring.

SAVAGE



Chicken Insurance —

A .22 Savage Hi-Power

A FLURRY of feathers, a squawk and a red streak going under the fence — another chicken gone!

How long are you going to stand it?

You know that coyote won't look at your traps. And when you sling lead at him with your old slow-assmolasses .30-30, he knows you're guessing you don't know how much to hold over him to allow for the drop of the bullet or how much to hold ahead of him to allow for his speed. And he knows you're half afraid to shoot anyway — the old .30-30 bullet might glance and hit a cow or a neighbor.

You need Chicken Insurance — the .22 Savage Hi-Power — the special tool for the job.

The .22 Savage Hi-Power rifle snaps its wicked little 20 grain spitzer point bullet out 2800 feet — more than half a mile a second.

You don't have to guess how much to

hold over — you don't have to guess how much to hold ahead — you simply hold dead on. And at the crack of the gun the vicious little bullet bites in right where you are holding.

It hits a paralyzing, explosive, knock-out punch — hits hard enough to drop grizzly and moose dead in their tracks — yes, and tiger and buffalo, too, because it's done it.

But it is safe to use anywhere, because the bullet will not glance. You can't make it glance, not even from water.

These are some of the reasons why so many United States Forest Rangers and Government hunters and professional wolfers use the .22 Savage Hi-Power. It's the modern, special tool for predatory animals — and, besides that, Captain E. C. Crossman, the United States Army Ordnance Department Expert, called it "The Best Deer Rifle in the World."

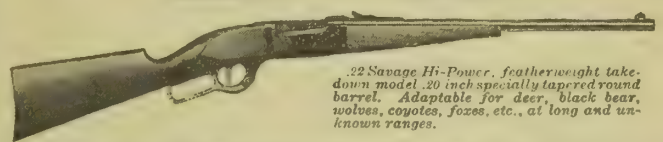
Write us for particulars and look at the rifle at your dealer's

SAVAGE ARMS CORPORATION

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.22 Savage Hi-Power, featherweight take-down model, 20 inch specially tapered round barrel. Adaptable for deer, black bear, wolves, coyotes, foxes, etc., at long and unknown ranges.

Whitewashing the interior of the hen-house thoroughly once or twice a year will help to keep it sweet and clean.

A reader asks us why it is advisable to paint the inside of a chicken coop. This is to keep hens from picking the grain out of the wood.

Poultry Breeders' Directory

WHITE LEGHORNS are the most profitable breed of poultry. If you are in the business for profit, you will eventually have them. Early broilers; early layers; early profits; we sell only White Leghorn Baby Chix from heavy-laying Hoganized hens. Safe delivery of full count live chix guaranteed. Prices per 100: February \$15; March \$14; April, \$12.50. The Pioneer Hatchery, 408 Sixth St., Petaluma, California.

DON'T BE TOO LATE BOOKING fall chicks, reduced. Get ready for high-priced broiler, roaster holiday trade. Seven varieties clearing customers \$5.00 yearly. 200-290 egg strain. Chicks every week in year. 70,000 capacity hatcheries supplying chicks. All booked some weeks. **HUNDREDS LAYING PULLETS**, breeding hens, roosters, reduced July, August. Valuable circular with proof free. J. Beeson, Pasadena, Calif.

THE MISSION HATCHERY

August and September Baby Chicks — White and Brown Leghorns, R. I. Reds, White and Barred Rocks. Reasonable prices. Quality stock. Supply limited. Book early. Box 17, Campbell, Cal.

PEERLES WHITE WYANDOTTES — Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

GET BABY CHICKS NOW — Write for free booklet on fall chicks. See why they pay. Several varieties every week. Only good, strong youngsters shipped. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto.

SURPLUS STOCK SALE — account of moving. Hoganized White Orpingtons and Sicilian Buttercups; trios, pens and singles, at reasonable prices; write for list. M. S. Woodhams, San Mateo, Cal.

EGG BRED — Buff Brown, White Leghorns, Golden Campines, Dark Cornish. Winners wherever shown. Send for circular. Percy Ward, 3142 Ward St., Fruitvale, California.

S. C. WHITE LEGHORN CHICKS — by the 100 or 1000 from A-1 Hoganized and Trapped stock. Won 1st, 2nd, and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

BARRED PLYMOUTH ROCKS — Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

BABY CHICKS — We have the large heavy-laying S. C. White Leghorns, severely culled last year. Send for prices. Tupman Poultry Farm, Ceres, California.

EASTMAN'S BRED TO LAY Hoganized and trapped Barred Plymouth Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

FOR SALE — 72 purebred S. C. Rhode Island Red pullets. April hatch; Eastern stock. Two dollars each. Mrs. Alice Jeter, Esparto, Cal.

GOLDCROFT BUFF ORPINGTONS — Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GEESE, GUINEAS. Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS — The Ferris Ranch Rt. 2, Box 144D, Pomona, California.

HIMALAYAN WHITE FUR RABBITS. Mock Ermine. Mrs. Leroy Hackett, 3308 "P" West St., Oakland, Calif.

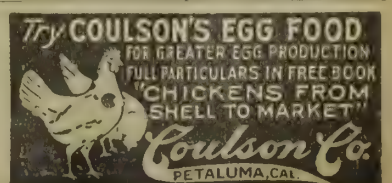
BRONZE TURKEYS — Albert M. Hart, Clements, Calif.

RABBITS.

RAISE RABBITS — Most profitable and popular small animal in America. Big demand. Clean, fascinating work. Send 10c for copy of leading rabbit magazine and our Rabbit Books, P. N. 5. Gilmore's Rabbit Farm, Santa Barbara, Calif.

NEW ZEALAND REDS — First class utility does bred \$5.00 each. Young does, \$2.50 each. F. R. Caldwell, Broadmoor, San Leandro.

RAISE RABBITS FOR US — We supply the breeding stock. Send stamp for particulars. H. E. Gibson Co., Arcadia, Calif.



THE HOME CIRCLE

TROUBLE BORROWED.

The heart too often hath quailed with dread,
And quite its courage lost,
By casting its glance too far ahead
For the bridge that never was crossed.

The toughest fight, the bitterest dregs,
The stormiest sea that tossed,
Was the passage-at-arms—no, the
passage-at-legs,
Of the bridge that never was
crossed.

A wind that withers wherever it goes,
And biting as winter frost,
Is the icy blast that constantly
blows
From the bridge that never was
crossed.

What folly for mortals to travel that
way,
As many have found to their cost—
To tempt the terrors by night or by
day
Of the bridge that never was
crossed.

The adage is old and worn a bit,
But worthy of being embossed—
Never cross a bridge till you come to
it—
The bridge that must be crossed.
—Dr. S. B. Dunn.

A COOL KITCHEN FOR SUMMER.

Last week we sang of the joys of a fireless cooker, and the burden of our song this week is the coal oil (or gasoline) stove in lieu of the hot wood or coal range for summer use. Indeed, we cannot give too much thought and attention to the family's comfort as the dog days approach.

The summer appetite, as a rule, is not so ravenous as in the cooler weather, and for this reason it is not necessary to cook big heavy meals which require long boiling or baking, which process might be more practically performed on the range. This, then, is when the coal oil (or gasoline) stove is of such practical use. Anything, however, can be cooked on them for which a range is used, but the coal-oil stove is particularly convenient for starting the hot dish for the summer day's dinner; this will require about fifteen minutes; and then the food can be placed in the fireless cooker until ready to serve; or, if one does not possess both a fireless cooker and an oil stove, the entire meal can be cooked on the oil stove without the discomfort experienced over a hot range. This is most advantageous during the summer months when strength, energy and comfort are to be conserved.

The coal oil stove is as safe to use as is the ordinary coal oil lamp, and requires only about the same attention, viz.: to see that its tank is kept filled, and the stove clean at all times. The initial expense is not great, considering the increased efficiency and greater comfort experienced in the kitchen.

The operation of a farm requires greater and greater efficiency, which is possible only with time and labor-saving devices. Men are seeing the wisdom of providing tractors, milking machines, electricity and other such modern equipment to facilitate farm work, and the housewife and the home have every reason to keep abreast of the progressive methods now employed by all up-to-date ranch and farm owners. Indeed, the home work, with its many petty details of daily routine, furnishes a more practical opportunity for the use of modern equipment than does the outdoor work on the farm; housework is a daily repetition year in and year out, while the outdoor farm work varies with each succeeding crop, requiring various and sundry equipment for its handling, and hence more expense. But cooking meals (and eating them) is not only a daily routine, but is a triple performance for each day; then the one whose duty it is to look after the meals should have just the right sort of stove and other proper equip-

ment to facilitate the preparation of the food that sustains, and the cup that cheers.—Z. D. H.

CANNING SIMPLE, EASY, BY USE OF GOOD METHODS.

Anyone who follows directions and uses care and cleanliness should be able to can food successfully. Home canning may be done in the kitchen, out of doors or in a community kitchen. Women, boys, girls and men last year "put up" millions of jars of fruits and vegetables, with a trifling percentage of loss, by the methods of home canning used by the Department of Agriculture in its home-demonstration and boys' and girls' club work.

These methods are simple and give good results when carefully followed. In brief, the fruits and vegetables—washed, pared, scraped and cut up as may be required—are blanched in boiling water or steam, then dipped quickly into cold water and packed immediately into hot jars. The contents are covered with boiling salted water or sirup, as may be required. The jars, partially sealed, are placed in a large container with sufficient water in it to process them, or, if preferred, in a steam pressure canner. When the jars have been steamed or boiled, according to directions, the requisite time for processing, they are removed, sealed tight, tested for leaks, and stored.

Especially for a few vegetables, such as corn, beans, peas and asparagus, many prefer to use fractional processing—that is, the jars are boiled for 60 to 90 minutes on three successive days. Processing is more quickly accomplished, however, with a steam pressure canner than by the water bath method. Only one period of "processing" is necessary for even those products which are difficult to keep if steam pressure is used. Consult your home demonstration agent and follow the procedure she recommends.

The method used by the Department of Agriculture in its extension work insures good color, texture and flavor to the vegetable or fruit canned. An ordinary kitchen usually possesses all necessary equipment for hot water bath canning. A large metal vessel, such as a wash boiler, with tight-sealing jars, good rubbers, a yard of cheesecloth, and the usual pans and bowls, are the articles required.

Any type of jar which seals readily may be used. The essential requirement is that it shall be air-tight. These directions are for canning in glass. If tin containers are preferred, write the U. S. Department of Agriculture for directions for canning in tin.

If a jar with the one-piece Mason top is used test it. Pour warm water into the jar, add the ring, and screw on the top. Invert, and if there is leakage, remove the top and with the back of a heavy knife or some other smooth hard surface, straighten the crimped spot on some hard surface. Test for leakage again. If an air-tight seal cannot be made, discard the top.

New rubbers are necessary every year, and should be tested. A rubber ring, to stand sterilization with the jar and its contents, must possess life and elasticity. It should return to its original length after being stretched to $2\frac{1}{2}$ times its length. A good rubber ring should also be able to support a weight of 13 pounds without breaking.

It is very important in canning to work quickly. Once started, there should be no intermission between the steps. Have all utensils in readiness. Wash and test jars, tops and rings. Sterilize jars and tops in boiling hot water for 15 minutes, and then leave them in the water, ready for use. Place the rings, ready for use in a hot solution of cooking soda and water made in the proportion of 1 teaspoon of soda to 1 quart of water, ready for use. If a washboiler or lard can is to be used for processing the jars, have a false bottom of wood

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BLAZING AWAY IN COST-DEFENCE!



FUEL DIVIDENDS

It's saving no matter how you figure it, in the making of clean oil-gas from kerosene with a Dreadnaught Burner—You clip the interest coupons both going and coming. In actual hard cash—say nothing of labor—you get just about twenty-five cents in value out of every dollar's worth of wood burned. The seventy-five cents?—Gone up the chimney, or in the ash pan—unconsumed fuel in both cases. You're burning good money and throwing in a lot of hard work for big measure.

Experiments are over with: Oil is the greatest fuel the world has ever known—it's 100 per cent in value.

Run a pipe into your stove, screw a Dreadnaught Burner on and you will never want to part with it. It's all so simple that it is hard to describe convincingly in limited space—just write for our factory circular, it will be sent promptly and we will also gladly answer all questions asked.

THE BURNER AND VALVE—
COMBINATION NEEDLE VALVE AND DRAIN
Mailed Anywhere upon receipt of

\$6.50

An Honest Burner with a Guarantee
Made RIGHT in Los Angeles.

SCIENTIFIC SPECIALTIES CO.
310 South Hill St., Los Angeles, Cal.

I HAVE BEEN SELECTED
BY THE
LEAGUE OF HOUSEWIVES
AS THE
"HOUSEHOLD SENTINEL"
I AM
KELLOGG'S
ANT PASTE



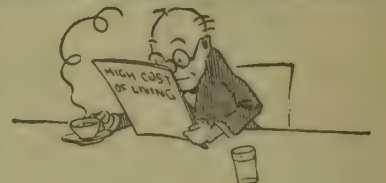
in place, and before commencing to prepare the fruit, put in the boiler, with sufficient water to cover the jars; or, if a vessel with tight-fitting cover is used for processing, water to the shoulders of the jars is sufficient. Start the water heating at once, as it takes a large volume of water some time to become as hot as it should be when the filled cans are placed in it. Have the sirup for fruit, or hot salted water for vegetables, ready before commencing the actual work.

When the jars are filled and partially sealed, place them in the boiler of warm water. Be sure the water is boiling vigorously before starting to count the time of processing that particular product require. If a steam pressure cooker is used, live steam should be escaping from the petcock before starting to count time. It is convenient to have a reliable alarm clock in the kitchen at canning time. Set it to ring when the sterilizing is finished.

When the jars are processed, remove and at once tighten the tops. Do not let filled jars cool before doing this. The hotter the product when the clamps or covers are tightened, to furnish sufficient pressure on the lid to effect a seal as the jar cools, the better.

Remember, the essentials in canning fruit and vegetables are these: Fresh products, pure water, care, cleanliness, good jars, "live," standard rubber rings and sufficient heat to process the products thoroughly in the closed container.

Canning and preserving on an ordinary stove is very trying work in



Water is the cheapest beverage, tea next.

"Why, how can that be?
A pound of tea costs—"

Excuse us for interrupting you, but the way to count the cost of tea is not by the pound, but by the cup. A cup of fine strengthening invigorating delicious tea costs only $\frac{1}{3}$ cent per cup, because a pound makes so many cups.

Schilling Tea is the fine practical economical tea of this country.

There are four flavors of Schilling Tea—Japan, Ceylon-India, Oolong, English Breakfast. All one quality. In parchment-lined moisture-proof pack—ges. At grocers everywhere.

A Schilling & Co San Francisco

MORE LIGHT THAN 20 OIL LAMPS
AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electricity. More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The



COLEMAN QUICKLITE

No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over. —will last a lifetime.

Write our office for Catalog 21-E. P.
COLE LITE & SALES CO.
216-18-20 East 41st St.
Showrooms 324 S. Hill St.,
Los Angeles.

the summer time. A gasoline fire pot, such as plumbers use, is ideal for this work. It can be placed out of doors if preferred to working inside. It requires less than a quart of gasoline per hour to run the pot; it

will be found to be one of the most useful labor and time savers on the farm where a quick heat is desired.

HELPS FOR WASHDAY.

While among enlightened people there is no way of entirely avoiding the weekly turmoil of the washtub and ironing board, there are ways, and easy ones too, of mitigating its terrors.

In the first place, a careful study should be made to reduce the size of the washing without interfering with family comfort or lowering the high standard of cleanliness which makes home delightful. A woman who set her mind upon this problem last year when her family moved from a city house to the country found that she lessened the articles to be washed fully one-third. She put all the white counterpanes they had used in the city in the bottom of a trunk and covered the beds with gaily flowered spreads made of cretonne. They looked very pretty and fresh, and were used all summer without needing laundering. During the summer she substituted a center-piece and doilies for the tablecloth, so there was no washing and ironing of those large pieces on the hot summer days, and the table with its lace-edged doilies, so easy to launder, looked exceedingly cool and dainty. Besides, if Miss Baby dropped jelly at her place, or impetuous Brother spilled the gravy, it was not necessary to remove a long cloth.

She began the custom of having the sheets and bath towels folded for the cupboards as they were taken from the line.

Hand towels, pillow slips, and napkins were quickly put through the inexpensive mangle she purchased, and some of the children's coarser handkerchiefs were treated in the same way.

The nightgowns and underwear for all the feminine members of the family were made of the popular white seersucker which requires no ironing, and trimmed with a heavy lace that shook out in the breezes and needed no pressing. Blue and light brown seersucker shirts and blouses clothed the boys on week days, and one starched shirt each for Sundays was the sum of the ironing in that line. The little girls wore colored seersucker frocks, and even their best dresses were made of the soft white crepe which, like their mother's blouses and gowns of the same pretty and becoming material, were ready to wear when taken from the clothes-line.

"I think," said this little mother as she expounded her system, "that the doing away with so much handling of the clothes, the sprinkling and folding as well as the ironing, has done more than any other household reform could have done to iron away what my husband used to call the 'washday creases' in my forehead."—
Kilbourne Cowles.

HOUSEHOLD HINTS.

To remove scorch from fruits, vegetables or meats, drop in a small piece of charcoal, and the scorched taste entirely disappears.

Paste strips of velvet around the inside of the heels of the children's shoes and you will have fewer holes to darn in their stockings.

Oilcloth on kitchen table or cabinets can be made to last longer if a padding of soft paper is placed under it. The life of oilcloth can almost be doubled when this is done.

Custards and all baked puddings bake quicker when put in a pan with an opening in the center such as angel cakes are baked in. This sort of a pan allows the heat to reach a greater part of the contents and thus the baking is accomplished quicker.

"Housewife" sends in a timely recipe for making apricot marmalade out of small fruit. She writes, "Some were not ripe enough to have juice, so I put all through the grinder, medium-sized knife. It was smooth and juicy to begin cooking. After cooking tender, use three-fourths as much sugar as fruit. One part grated pineapple to twelve of apricot makes a fine flavor. This is a quick and easy way."

B.V.D. Quality can only be had in B.V.D. Underwear.

If it hasn't this Red Woven Label



It isn't B.V.D. Underwear

B. V. D. Coat Cut Undershirts and Knee Length Drawers.

\$1.00

The Garment

B. V. D. Sleeveless Closed Crotch Union Suits (Pat. U. S. A.)

\$1.75

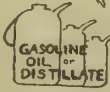
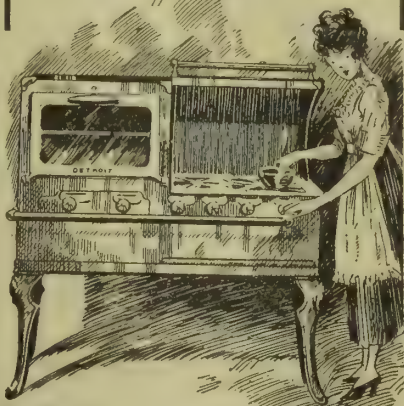
The Suit

Remember all Athletic Underwear is not B.V.D.

THE B. V. D. COMPANY,
NEW YORK.

Detroit Vapor Stoves

"Work Like Gas"
Burn Oil, Gasoline or Distillate



Here's a stove you ought to know more about. It makes friends on sight and keeps the housewife good-natured and happy, because it always does the right thing at the right time — and is such a splendid baker besides.

DETROIT VAPOR STOVES are made in several styles and sizes, and burn kerosene, gasoline or distillate. They save practically one-fourth of the fuel required by other liquid fuel stoves. Simple to operate and cheapest to buy when you consider service and durability. Write for illustrated, descriptive circulars and prices.

Barker Bros
ESTABLISHED 1880

734 South Broadway
Los Angeles

NO ESCAPE.

"Good morning, Mrs. Jagsby. We are peace delegates."
"Peace delegates?"
"Yessum. We were sent by Mr. Jagsby, who was unable to get home last night. He wants us to arrange the armistice terms and settle on the size of the indemnity he owes you."
"Umph! You tell Mr. Jagsby if he doesn't show up here in the next hour I'll come and get him. He's not in Holland."

FROM CALIFORNIA CRUDE

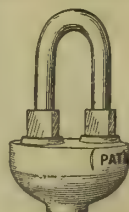
Zerolene is correctly refined from selected California crude oil. It meets with scientific accuracy the lubrication needs of all types of automobile engines. Get a Correct Lubrication Chart for your car.

STANDARD OIL COMPANY
(California)

ZEROLENE
For Motor Cars

THE PREMIER

Perfectly Simple Simply Perfect



One lady writes: "I'm actually proud of my hands" since we have had the PREMIER." (No soot, No ashes!)

Another lady says: "I do not have to give my stove a thought—I always know just when to take out my baking." (Uniform heat all the time!)

Coal or Wood was alright in grandmother's time. Don't watch others enjoy life—enter in.

The PREMIER makes a clean gas from kerosene (common coal oil), and in a thrifflly manner too.

It will naturally happen as a result, that most of us will get an oil burner sometime—you want to get the greatest possible value for your expenditure. Get a PREMIER.

Complete Outfits, \$12.50 and up, according to requirements.
No obligation in asking for information.

VAUGHAN & MATTISON, Pacific Coast Agents
225 MARKET STREET, SAN FRANCISCO, CALIF.

THE WAY HE FELT ABOUT IT.

A neighbor boy 5 years old had a great many things thrown on the floor, and when told to pick them all up he said:
"If this keeps up I will be a nervous wreck when I am 6."

BOOK ON

DOG DISEASES

And How to Feed

Mailed free to any address by the Author

H. CLAY GLOVER CO., Inc.,
118 West 31st Street, New York

America's Pioneer Dog Medicines

MARKET COMMENT.

Hay marketing after July 22 will be under provisions of the new law which was printed in full in our issue of June 28.

The unirrigated prune orchards around Chico are still dropping fruit (July 12). The peach crop, however, promises to be the heaviest yield in years.

The weather has turned warm and melons are ripening fast, according to the T. M. and G. Co. They now estimate that there will be about a 40 per cent reduction in the acreage on account of root disease and climatic conditions, together with a shortage of water. Many vines which were considered excellent a few weeks ago are now in a dying condition. There seems to be plenty of labor so far but the housing problem to accommodate it is lacking. The large amount of extra help coming into town has made this condition acute. F. W. Hosmer, general manager of the T. M. and G. Co., estimates they will ship 1500 cars with every promise of fine quality and good prices.

Classified Advertisements

Rate in this directory, 3c. per word each issue.

MISCELLANEOUS.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weissbaum Pipe Works, 160 Eleventh street, San Francisco.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

PATENT ATTORNEYS.

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

CORN HARVESTER—One-man, one-horse, one-row, self-gathering. Equal to a corn binder. Sold to farmers for twenty-three years. Only \$25, with fodder binder. Free catalogue showing pictures of harvester. Process Corn Harvester Co., Salina, Kan.

AGENTS—Mason sold 18 sprayers and Autowashers one Saturday. Profits, \$250 each. Square deal. Particulars FREE. RUSLER COMPANY, JOHNSTOWN, OHIO.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

BEEES FOR SALE—Golden Italians in patent hives. John G. Mee, St. Helena, Cal.

COUNTRY LANDS.

\$35,000—85 acres, 50 yards from school; county road on two sides. 10 room house (hot and cold water), 3 wells, windmill and tank, new gas engine and pump; barn, chicken and brooder houses; 2 horses, 1 cow, 350 chickens; 300 fruit boxes, 200 trays; complete set of implements to run place, including 4 wagons, \$250 power spray pump, cider press, etc.; garage and work shop. Average income \$5,000 per annum. Will guarantee \$7,000 crop this year. 2 miles from Windsor station between Santa Rosa and Healdsburg, Sonoma county. 30 acres prunes, of which 18 acres bearing, balance 3 to 5 years; 1 acre peaches; 10 acres apples; 2 acres pears; 14 acres resistant vines; plenty of berries, beans, corn, potatoes, etc. About 30 acres of this is deep, rich bottom land with plenty of water to irrigate, if necessary. Mortgage, \$12,000 5%, can remain. Umben, Kerner & Eisert, 20 Montgomery St., San Francisco.

AGED OWNER MUST SELL—193 acres \$2,800, including 4 cows, bull, team horses, wagons, harness, long list implements, hay, grain, etc. near railroad town. 150 acres productive loamy fields, wire-fenced pasture, home-use wood; apples, pears, plums, grapes, etc. 7-room house, 2 basement barns. Low price—\$2800—gets all; easy terms. Details page 43 Catalog Bargains, 19 States, copy free. Strout Farm Agency, 831 A P, New York Life Bldg., Kansas City.

\$16,000.00—80 acres in Honey Lake Valley, Lassen county. All under cultivation. Alfalfa seed, hay, and grain; under good irrigation system. Good improvements. 2 miles from postoffice and bank. School, 1 1/2 miles; high school, 15 miles; S. P. depot, 3 miles. Daily trains. A good buy. Cash only. Have other business prospects. Write to Box 280, Standish, Lassen Co., Cal.

FOR SALE BY OWNER—18 acres improved, about 5 miles south of Williams, 11 miles southwest of Colusa, county seat of Colusa Co. near State Highway. Alfalfa. Abundance of water for irrigation. Ideal poultry and dairy ranch. Address C. A. Hanson, Williams, Cal.

GRAIN AND FRUIT RANCH in Lake county for sale—31 acres; 1548 fruit trees, mostly Bartlett pears; rest in grain; 6-room house. Fruit crop goes with the ranch if sold soon. Price \$9,000. Mack Mathews, Lakeport, Cal.

FOR SALE—My Equity of \$9700 in 40 acres alfalfa land. 5 miles from Manteca. Address Wm. Robertson, 860 Fulton St., San Francisco.

WANTED TO EXCHANGE—Improved ranch in Tulare county for stock ranch in northern California. Address 154 So. C St., Tulare, Cal.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, July 16, 1919.

WHEAT.

There is no change here, but the firm tone of the eastern markets tends to keep the market here from being really weak.

Per bushel—	
No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
Recleaned, per cbl.—	
California	\$3.87 1/2 @ 3.75
Early Baart	\$4.15 @ 4.20

BARLEY.

Barley is very firm and the price has been marked up an average of five cents all around. The local demand continues slow, the strength of the market being entirely due to the shipping demand.

Feed	\$3.07 1/2 @ 3.10
Shipping	\$3.15 @ 3.20

OATS.

New oats are now reaching the market, but in such limited demand as to have little effect on prices, which continue about as before. Good old oats are well cleaned up, only off-grade stock being in any considerable supply.

Red feed, per cbl	\$2.70 @ 2.75
Red for seed	Nominal
Black for seed	Nominal
Recleaned Red or Black for seed	Nominal

CORN.

The corn market as a whole has been neglected this week. Nothing is offered, and there has been very little demand.

California	\$3.30 @ 3.50
Egyptian, choice	Nominal
Milo	Nominal

HAY.

Receipts of hay are increasing rapidly as is usual at this season, but the increase in supplies has been well cared for so far and prices have shown no change. Alfalfa has been the best seller, and is still moving very freely. Trade with the interior is very good, in fact, sufficient to about make up for the big drop in the government demands as compared with this time last year. Number 1 oat and wheat have now begun to come in in considerable quantity, and orders for these are being filled promptly.

No. 1 Wheat, per ton	\$15.00 @ 17.00
No. 2 Wheat, per ton	12.00 @ 14.00
Choice Tame Oat, per ton	15.00 @ 17.00
Wild Oat, per ton	10.00 @ 12.00
Barley Hay, per ton	\$11.00 @ 13.00
Alfalfa, per ton	14.00 @ 16.00
do, new, 1st cutting	
Stock Hay, per ton	9.00 @ 11.00
Barley Straw, per bale	.50 @ .80

FEEDSTUFFS.

The important thing in feedstuffs is the quoting of "millrun" and "millmix" as substitutes for bran middlings, straight bran and middlings being now entirely off the market. Millrun is arriving in hundred-pound sacks and is selling at \$43 to \$44 per ton, while millmix comes in eighty-pound sacks and

sells at \$57 to \$60 per ton. Millstuffs are firm throughout.

Bran	Not being marketed
Shorts	Not being marketed
Cracked corn	72.00 @ 73.00
Rolled barley	62.00 @ 63.00
Rolled oats	56.00 @ 58.00
Alfalfa meal	33.00 @ 35.00
Cocunut meal	48.00
Oil cake meal	71.00 @ 72.00
Millmix	57.00 @ 60.00
Millrun	43.00 @ 44.00

POTATOES, ONIONS, ETC.

Old stock potatoes are getting well cleaned up. Idahos are off the market, and only a limited supply of Oregon and River potatoes remain. New potatoes are in more plentiful supply, but the price does not show much change from last week's figures. On onions the market is a little easier. Southern tomatoes have been replaced by shipments from the Sacramento River section, these bringing \$3 to \$3.50 per box (large boxes). Merced tomatoes are more plentiful also. Peas and string beans have both receded a little and Alameda green corn has shown quite a drop as the result of increased supply.

String beans	5 @ 6c
do, Garden	7c
Peas	5 @ 7c
Carrots, per sack	\$1.50 @ 1.75
Rhubarb, Strawberry, box	\$1.50 @ 2.00
Cucumbers, hothouse, box of 30	\$1.25 @ 1.50
do, Los Angeles	50 @ 75c
do, Bay	\$1.00 @ 1.25
Eggplant, box	\$1.50 @ 1.75
Lettuce, per crate	75c @ \$1.25
Celery, crate	Nominal
Tomatoes, River, per large box	\$3.00 @ 3.50
do, Merced	\$1.00 @ 1.25
Sprouts	Nominal
Summer squash	50 @ 60c
do, Alameda	\$1.00 @ 1.25
Green Corn, Alameda, sack	\$3.50 @ 4.00

Potatoes—	
Oregon	2.25 @ 2.50
Idaho	\$2.10 @ 2.35
Garnets, new on street	\$2.50 @ 3.00
Other new on street	\$2.25 @ 2.60
Sweets, new, lb.	6 @ 7c
Onions, Warehouse Stock—	
Australian Browns	Nominal
Onions, new red	\$3.50 @ 4.00
Yellow	\$3.50 @ 3.85
Green Alameda	\$1.50 @ 1.75
Garlic	15 @ 18c

BEANS.

Except for a moderate advance in the price of blackeyes, last week's bean quotations remain unchanged. This advance reflected increased demand. A little better call was noted for large whites also, but not enough to cause a further advance, the price on these beans having been marked up slightly a week ago.

Bayos, per cbl.	\$5.90 @ 6.10
Blackeyes	\$4.42 @ 4.75
Cranberry beans	5.75 @ 6.00
Limas (south, recleaned)	\$9.00
Pinks	\$5.50 @ 5.75
Mexican Beans	4.50 @ 5.00
Tepary beans	2.50 @ 2.75
Garbanzo	11.75 @ 12.00
Large whites	5.85 @ 6.00
Small whites	6.75 @ 6.90

POULTRY.

The poultry market recovered strength during the past week. Receipts were heavier

than the week before and the demand sufficient to take care of the arrivals quite nicely. The market on broilers is firm at prices quoted with some prospect of another advance in price on good healthy stock weighing under 1 1/2 pounds. Hens have shown a big advance during the week, some Leghorn hens selling up to 32 cents, large colored at 34 cents.

Turkeys, live, young spring, lb.	Nominal
Broilers, 1 1/2 lbs. and under	33 @ 34c
do, 1 1/2 to 2 lbs.	32 @ 34c
Fryers, 2 to 3 lbs.	34 to 36c
Hens, extra, per lb., colored	32 @ 34c
do, Leghorn	38 @ 40c
Smooth young roosters, per lb. (3 lbs. an over)	40 to 44c
Old roosters, colored per lb.	22 @ 23c
Geese, young, per lb.	22 @ 23c
do, old, per lb.	22 @ 23c
Squabs, per lb.	48 @ 50c
Ducks, young	25 @ 28c
do, old, per lb.	25 @ 28c
Belgian hares	14 @ 16c
Jack rabbits	\$3.00 @ 3.50

BUTTER.

Butter receipts were ten per cent less in volume for the week ending today than for the preceding week with the market showing a variation of one-half to a cent per pound from the opening figure for the week. Shipping to outside points included San Diego and some exporting, the local demand and cold storage warehouse taking care of the surplus.

Extras	52 1/2	53	52 1/2	52 1/2	52 1/2
Prime firsts	51	51 1/2	51 1/2	51 1/2	51 1/2
Firsts	48 1/2	48 1/2	48 1/2	48 1/2	48 1/2

EGGS.

Eggs were in light receipt for the week with the market advancing by easy stages from the opening quotations and registering an advance of one and one-half cents per dozen. Shipments of extras are reported from local and producing points to the East and Los Angeles destinations. Fancy selected stock is still going into storage and withdrawals are also reported.

	Thu	Fri	Sat	Mon	Tu	Wed
Extras	47	47 1/2	47 1/2	47	48 1/2	48 1/2
Firsts	42 1/2	42 1/2	42 1/2	42 1/2	43 1/2	43 1/2
Ex. pullets	41 1/2	42 1/2	42 1/2	42 1/2	43 1/2	43 1/2

CHEESE.

Cheese receipts were in excess of last week with California fancy flats being scarce in the general volume and the market easily absorbing all offerings. The price advanced under the temporary shortage of this variety, closing steady to firm today.

Fancy California flats, per lb	30c
do, Firsts	28c
California Y. A., fancy	31 1/2c
Oregon Y. A., fancy	33 1/2c
Oregon Triplets	34c
Monterey cheese	22 1/2 @ 34c

FRESH FRUITS.

The fruit market has been active, apricots showing great strength. This is explained by the fact that canners are paying the record price of \$14 a ton for apricots in the local wholesale market. Unable to contract for sufficient supplies from the growers, canners have entered this market this year in large numbers, bidding against one another for all available surplus. In their eagerness to get supplies, they have been taking away a good portion of the normal receipts of fresh apricots.

California apples	\$3.00 @ 4.00
Northwest apples	3.00 @ 4.00
do, New Red Astrakhan, large	75c @ \$1.25
do, California, boxes	\$1.50 @ 2.00
Peaches	40 @ 85c
Apricots	\$1.50 @ 1.75
Plums	\$1.00 @ 1.25
Figs	50 @ 65c
Strawberries, chest	\$11.00 @ 14.00
Raspberries	\$12.00 @ 15.00
Loganberries	\$8.00 @ 10.00
Blackberries	\$5.00 @ 12.00
Currants, chest	10.00 @ 13.00
Gooseberries	6 @ 8c
Cherries—	
Royal Anne	10 @ 15c
Black, bulk	15 @ 18c
White, bulk	9 @ 14c
Cantaloupe, Standards	\$2.50 @ 3.00
do, Ponies	2.00 @ 2.50
do, flats	1.90 @ 2.25
Watermelon, lb.	2 @ 2 1/2c

CITRUS FRUIT.

Lemons continue in strong demand, and oranges are firm at last week's prices, as well as grapefruit.

Oranges, Valencia	\$3.50 @ 5.25
Lemons, fancy	\$7.00 @ 7.50
do, choice	6.00 @ 7.00
do, standard	5.00 @ 6.00
Lemonettes	4.00 @ 5.00
Grapefruit	3.50 @ 4.25

DRIED FRUITS.

The market for dried fruits continues strong, with apples and peaches in special demand. Both these commodities jumped a cent this week. Just what effect the announcement of prices by the Peach and Prune Growers' Associations will have on the market remains to be seen.

The Prune and Apricot Association at San Jose, controlling about 70 per cent of the crop, this week announced prices for the 1919 prunes crop as follows: 20-30s, 22c flat; 30-40s, 16c; 40-50s, 14c; 50-60s, 12c; 60-70s, 11c; 70-80s, 11c; 80-90s, 11c; and 100s, 11c. One cent a pound premium will be paid for fruit delivered before September 20. On small-sized fruit 8 1/2c a pound will be paid for 100-120s and 7 1/2c for 120s and smaller.

Apples	10 @ 19 1/2c
Pears	18 @ 20c
Peaches	15 1/2 @ 16 1/2c
Apricots	23 @ 29c
Prunes	13 @ 15c
Figs, Adriatic	14 @ 16c
do, Calimyrna	15 @ 20c

RICE.

There has been greater activity on California rice at the advanced prices noted earlier in the month than when the price enjoyed Government protection, the damaged grades being eagerly sought in the New York and New Orleans markets for export, while the better grades have been sold mostly to the Japanese trade for local consumption. Further advances are predicted on domestic rice.

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, July 15, 1919.

General market conditions throughout the past week remained firm, with noticeable activity in bidding and increase in prices, especially in Atlantic Seaboard markets.

Despite increased offerings, prices ruled somewhat higher than the week previous. This is particularly noticeable in peaches and grapes.

What few cars of Bartlett's have reached the East, have met with a very ready demand, at prices higher than ever realized for this variety before. There is an unusually heavy shipment of Bartlett's on the rails and it is estimated that about a third of the Sacramento River crop has already been shipped, but on account of heavy purchases by canners, the total shipments will probably be affected from other districts, so that even with heavier offerings from the Sacramento River, we do not look for the markets, at any time, to break, but anticipate a lower price level on Bartlett's next week. This is to be expected on account of increased sales, but we maintain that a strong market on Bartlett's will prevail throughout the season.

Elberta peaches from the San Joaquin Valley will begin to move within a few days and the demand for canning purposes by Eastern consumers, is unusually heavy. It will not be necessary for any of this variety to reach the Eastern auctions, as the entire crop can be sold to good advantage in West and Middlewest markets.

Though plum shipments are running heavy and will continue so for the next three weeks, the demand will undoubtedly take care of the supplies and the market will unquestionably remain firm.

There seems to be an unprecedented demand for grapes from the Imperial and Coachella Valleys and shipments will continue for the next ten days. By that time Thompsons and a few other

varieties will begin to move from the lower San Joaquin Valley.

The heat of a few days past affected the Tokay crop to a limited extent, the damage not exceeding 25 per cent in some districts, and 10 per cent in others, but despite the injury, the output will be normal, if not affected by any other conditions from now on.

There is considerable interest being shown by foreign buyers for exports of Bartlett's to European and South American markets. No shipments have yet been made as refrigerator equipment is not available at the present time but the export movement should begin in about two weeks. If this is as heavy as at present anticipated, this condition should affect and benefit the Eastern markets.

Our present prospectus would indicate that the general market on all deciduous fruits and grapes will be considerably higher than last season.

Average for the week:
NEW YORK—Bartlett Pears, \$5.18; Wilders H. B., \$2.43; Lawsons H. B., \$3.39; Comets, \$3.06; Malaga Grapes, \$5.56; Thompson Seedless, \$4.63; Triumph Peaches, .71; Royal Apricots, \$1.25; Formosa Plums, \$1.78; Santa Rosa, \$1.88; Climax, \$1.68; Simoni, \$1.41; Burbank, \$1.64; Tragedy, \$1.97; Clyman, \$1.07; Botan, .85; Red June, \$1.15; Abundance, \$1.20.

BOSTON—Bartlett Pears, \$7.00; Comets H. B., \$3.60; Hale Peaches, .86; Triumph, \$1.01; Alexanders, \$1.94; Thompson Seedless, \$3.84; Malagas, \$5.18; Climax Plums, \$1.87; Formosa, \$2.40; Botan, \$2.04; Santa Rosa, \$2.50; Clyman, \$2.13; Burbank, \$2.09; Red June \$2.02.

CHICAGO—Malaga Grapes, \$5.00; Thompson Seedless, \$4.50; Triumph Peaches, \$1.10; Alexanders, .70; Eulatis, .91; Hales, \$1.07; Bartlett Pears, \$5.27; Tragedy Plums, \$2.64; Climax, \$2.20; Santa Rosa, \$2.44; Burbank, \$2.12; Red June, \$2.11; Abundance, \$1.81; Formosa, \$2.40; Shiro, \$1.98; Botan, \$1.72.

HONEY.

There is little feature to the honey market, very little new crop honey having reached this market as yet. Receipts are due in considerable quantity within the next week or two, however. Dealers have paid 18 cents for small lots of sage honey, but this price is considered very high, and not likely to hold.

Water-white orange blossom18c
White to water-white sage (subject to production)18c
Light Amber Mountain (Sage-Buckwheat) 14c
Light Amber Alfalfa11c

LOS ANGELES.

Los Angeles, July 15, 1919.

BUTTER.

Butter is higher since quoted last week. Receipts are climbing up also and the demand continues good. This week's quotations show an advance in price of 2c over last week.

Receipts for week, 463,000 lbs.
California extra creamery56c
do, prime first54c
do, first53c

EGGS.

Case counts and pullets advance 1c each. Receipts little below last week. This market is active. Receipts for the week, 1,389 cases.

Fresh ranch, extra51c
do, case count50c
do, pullets45c

POULTRY.

Broilers and fliers in fair demand. Heavy hens scarce and selling well. Light hens plentiful and dull. Turkeys and ducks are reported slow sale.

Broilers, 1 to 1 1/4 lbs.24c
Broilers, 1 1/2 to 1 3/4 lbs.29c
Friers, 2 to 3 lbs.32c
Roosters (soft bone), 3 lbs. and up30c
Stags and old roosters, per lb.18c
Turkeys34@40c
Hens24@30c
Ducks23@26c
Geese25c

VEGETABLES.

All good fresh stuffs in fair demand at quotations. Cantaloupes are priced lower because of quality. The season is about over for shipment of melons and it is a little early for home grown. Potatoes make slight advance, while onions, beans, tomatoes and cucumbers decline. Receipts are fair.

Potatoes, new, per cwt\$2.75@3.00
Onions, New Red, per cwt\$3.75@4.00
do, Stockton yellows, per cwt\$3.50@3.75
White silver wax, cwt.\$4.00
Cabbage, per 100 lbs.75c@1.00
Rhubarb, per 30-lb. box75c@1.25
Summer squash, lug.35@40c
Peas, per lb.8@10c
Kentucky Wonders4 1/2@5c
String Beans, Wax4 1/2c
do, Green4c
Tomatoes, lug box\$1.50@1.65
Cucumbers, local, lug box45@50c
Lima Beans, local, lb.14@16c
Cantaloupes, Stand. & Pony crates \$1.75@2.00
Watermelons, 100 lbs.1.00@1.25
Lettuce, crate70@90c
Corn, lug box50@75c
Peppers, Bell, lb.25@28c
do, Chile, lb.18@20c

DRIED CHILE PEPPERS.

This market is reported to be very dull.
California12@14c
do, Mexican20@22c

HAY.

Oat hay in light supply and good demand reported. Alfalfa coming in more freely. This market is slow sale and lower.

We quote f. o. b. Los Angeles.
Barley hay, per ton\$18.00@21.00
Oat hay, per ton\$21.00@23.00
Alfalfa, Northern, per ton\$19.00@20.00
Alfalfa, local, per ton\$20.00@22.00
Straw, per ton9@10.00

ALFALFA GROWERS OF CALIFORNIA, INC.

Los Angeles, Cal., July 15, 1919.

The Alfalfa Growers of California report that the shortage of water in the greater portion of the San Joaquin Valley has seriously effected the third cutting of Alfalfa and indications are that the fourth and fifth cuttings will be light.

In the Alfalfa growing districts south of the Tehachapi most of the fields show a tendency to bloom while the growth is still short.

Recent receipts on the Los Angeles market have been light and the market has advanced on some grades. Indications are for continued light receipts and an active demand.

Present quotations on Alfalfa Hay, f. o. b. cars Los Angeles, are as follows:

No. 1 Dairy\$26.00
Standard Dairy\$24.00@25.00
Standard Alfalfa\$21.00@22.00
Stock Alfalfa\$12.00@16.00

BEANS.

Blackeyes quoted higher since last week. all others, prices remain unchanged and the market dull.

Limas, per cwt.\$8.00
Large white, per cwt.6.25
Pink, per cwt.6.50
Small white6.25
Blackeyes, per cwt.\$3.75@4.00
Tepary, per cwt.\$2.00@2.50

LIVESTOCK.

CATTLE—This market is steady and the demand light. All prices the same as quoted last week.

Per cwt. f. o. b. Los Angeles:
Beef, steers, 1000@1100 lbs. \$9.00@10.50
Prime cows and heifers.... 7.50@ 8.50
Good cows and heifers.... 7.00@ 7.50
Canners5.00@ 5.50

HOGS—This market reports demand good with prices higher, and in sympathy with Eastern markets.

Per cwt. f. o. b. Los Angeles:
Heavy average 275@350 lbs. \$15.50@16.50
Heavy average 225@275 lbs. 17.00@18.00
Light18.00@19.00

Rough docked 20 lbs. piggy sows 40 per cent.

SHEEP—All prices remain unchanged. The market is steady, demand fair, with receipts about normal.

Prime wethers\$ 8.50@ 9.50
Prime ewes8.00@ 8.50
Yearlings8.50@ 9.50
Lambs12.50@13.50

FRUITS.

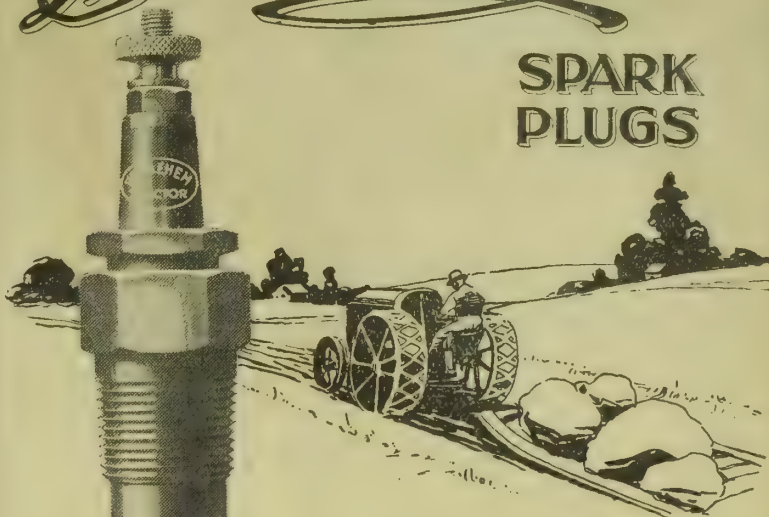
But few cherries are coming in and they are higher. Apricots, peaches, plums and grapes selling well at quotations. Berries are higher under lighter receipts.

We quote from growers:
Cherries, lb.20@30c
Apricots, lb.5@7c
Strawberries—

30 basket crates, fancy.....\$4.25@4.50
Poor to choice3.75@4.00
Blackberries, case 30 boxes3.75@4.00
Raspberries, case 30 boxes3.50@3.75
Loganberries, case, 30 boxes3.25@3.50
Plums, Beauty, lb.5@6c
do, Climax4@7c
do, Santa Rosa7@8c
do, Tragedy6@7c
Grapes, Thompson's Seedless, lb.9@10c
do, Malaga, lb.12@15c

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E. H. SCHWAB, President

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Special Livestock Market Report

San Francisco, July 16, 1919.

The bottom of the beef market seems to have been reached and there is a steadiness that presages better price levels. There was a sharp advance in eastern markets last week and shipments to those markets from California have eased up the marketing pressure here which has held prices down the past few weeks. Fifty carloads of cattle were shipped from Porterville to middle western buyers last Monday. Grass cattle will continue coming for a month or six weeks, when hay-fed stock from Nevada will be drawn this way as needed.

Steers—
Grass Steers, No. 1, weighing 950 1100 lbs.10@10 1/2c
Grass Steers, No. 1, weighing 1100 @1300 lbs.9 1/2@10c
Grass Steers, thin8@7c
Grass Cows & Heifers, No. 1.....8@8 1/2c
Grass C. & H., 2nd quality.....6 1/2@7 1/2c
Grass Cows & Heifers, thin.... 4@5 1/2c
Bulls and Stags, good4 1/2@5 1/2c
do, fair4@4 1/2c
do, thin3@3 1/2c
Calves, light weight12 1/2@13c
do, medium11 1/2@12c
do, heavy10@11c

HOGS—Another new record price for live hogs was reached in Chicago last week, due to improved domestic trade, seasonable weather, light receipts, and heavy shipping demands by eastern states and Canada. Foreign conditions, influencing trade, show gradual improvement with the opening up of interior Europe. The California market has responded to eastern high prices and probably will not be appreciably lowered even by the inflow of stubble hogs, which will be coming soon.

Hard, grain-fed, 100 to 15019 1/2c
do, 150 to 20020c
do, 250 to 30019 1/2c
do, 300 to 40019c

SHEEP—Lambs have been a big crop and the demand has kept pace so that consumption has been maintained at the higher prices prevailing. A great many frozen carcasses were shipped east during the spring. Three weeks more will see the California-grown supply low enough to admit Nevada stock.

Lambs, yearling10 @10 1/2c
do, milk13 @13 1/2c
Sheep, wethers9 1/2@10c
do, ewes7 1/2@8c

PORTLAND LIVE STOCK.

Portland, July 14, 1919.

CATTLE—Stronger; receipts, 1779 head.
Steers, best, \$9.50@10.50; good to choice, \$9@9.50; medium to good, \$8.50@9; fair to good, \$7.75@8.25; common to fair, \$7@7.50; good to choice cows and heifers, \$7.50@8; medium to good, \$7@7.25; fair to medium, \$4.50@5.50; canners, \$3@4; bulls, \$5@7.50; calves, \$9@14.

HOGS—Higher; at new record; receipts, 1533 head. Prime mixed, \$21.50@22.25; medium, \$20.50@21; rough heavies, \$19.75@20.25; pigs, \$18.75@19.75.

SHEEP—Steady; receipts, 2781 head.
Prime lambs, \$11.50@13; fair to medium, \$9@10; yearlings, \$6@8.50; wethers, \$7@7.50; ewes, \$6@7.50.

EASTERN LIVESTOCK.

Chicago, July 14, 1919.

HOGS—Receipts, 51,000; estimated tomorrow, 35,000; steady to 25c lower; mixed and packing grades declining most; top, \$22.95. Bulk, \$21.35@22.90; heavy weight, \$22@22.85; medium-weight, \$21.75@22.95; light weight, \$21.75@22.95; light light, \$20.35@22.60; heavy packing sows, smooth, \$21.25@21.75; packing sows, rough, \$20.50@21.15; pigs, \$19@20.25.

CATTLE—Receipts, 20,000; estimated tomorrow, 18,000; firm.

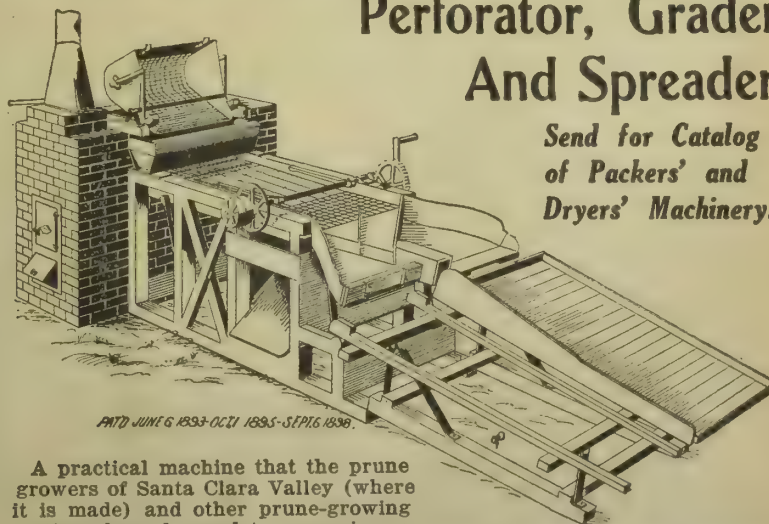
Beef steers, medium and heavy weight, choice and prime, \$16.40@17.50; medium and good, \$13.75@16.20; common, \$11.35@13.75; light weight, good and choice, \$14.50@17; common and medium, \$10.40@14.50; butcher cattle, heifers, \$8.25@15; cows, \$8@13.25; canners and cutters, \$6.50@8; veal calves, light and handy weight, \$18.25@19.25. Feeder steers, \$9.50@12.50; stocker steers, \$8.25@11.75.

SHEEP—Receipts, 17,000 head; estimated, 15,000; strong.

Lambs, 84 lbs. down, \$15.25@17.75; culls and common, \$9.50@14.75; Yearling wethers, \$10.75@14.25. Ewes—Medium, good and choice, \$7.25@9.50; culls and common, \$3@6.75.

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32 x 3½	22.40	32 x 3½	28.90	32 x 4	46.85	32 x 3½	3.95
31 x 4	29.95	31 x 4	34.30	33 x 4	48.05	31 x 4	4.50
32 x 4	30.55	32 x 4	36.00	34 x 4½	55.70	32 x 4	4.80
33 x 4	31.95	34 x 4½	48.65	35 x 5	69.15	33 x 4	4.80
34 x 4½	43.35					34 x 4½	6.60
35 x 5	53.25					35 x 5	7.70

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TIRES

THE PACIFIC RURAL PRESS

SAN FRANCISCO

JULY 26, 1919

LOS ANGELES

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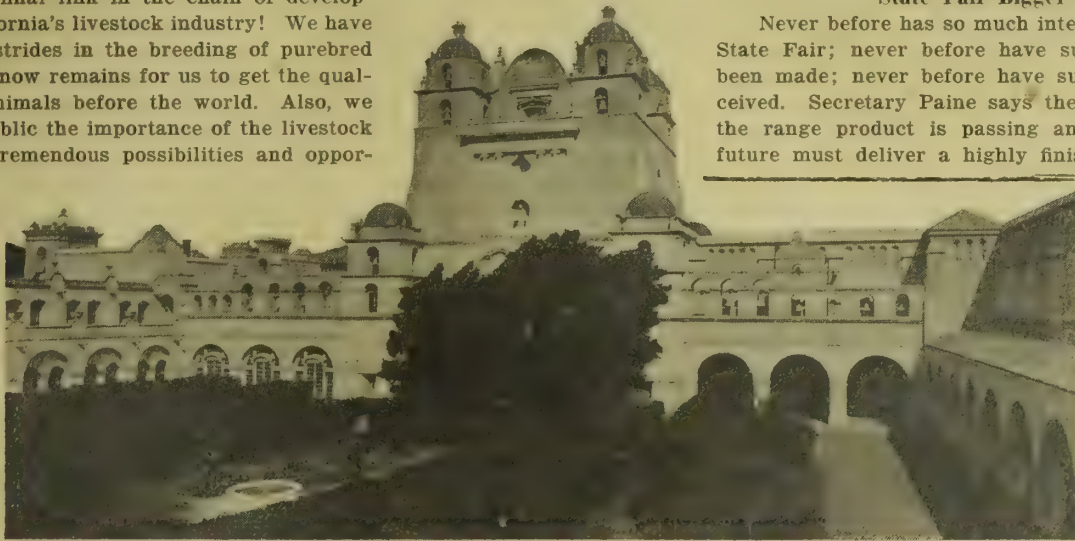
California's Three Showyard Shrines.

Written for Pacific Rural Press by R. H. Whitten.



AT LAST, the final link in the chain of development of California's livestock industry! We have made great strides in the breeding of purebred stock, and it now remains for us to get the quality of our animals before the world. Also, we must impress upon the public the importance of the livestock industry, and show our tremendous possibilities and opportunities, so as to get new breeders started.

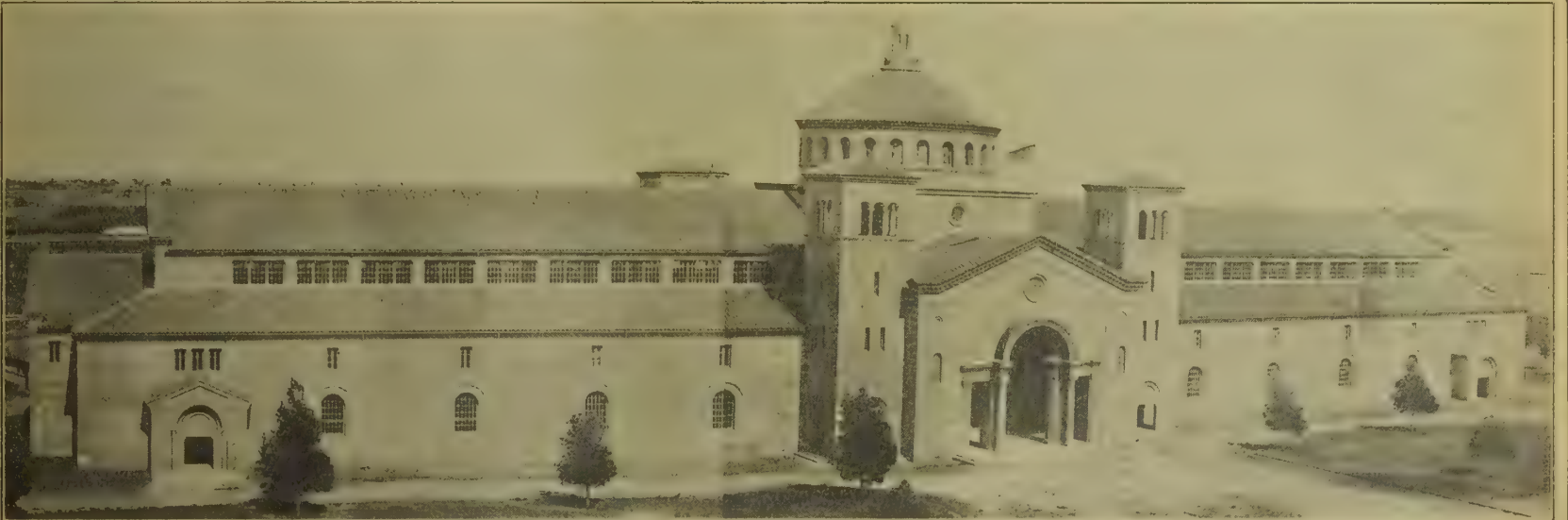
Nothing short of great livestock shows will do this. We may talk and print words and pictures galore, but only through showing victories are indisputable proofs submitted, lasting impressions formed and minds influenced. They stand for both education and progress.



State Fair Bigger Than Ever.

Never before has so much interest been manifested in the State Fair; never before have such extensive preparations been made; never before have such heavy entries been received. Secretary Paine says the Big Message will be that the range product is passing and that the farmer of the future must deliver a highly finished product—bred on the

right lines and cared for to the best advantage. The exhibits will show the best ways of accomplishing this and educational features will be played up prominently. Cash prizes, totaling \$45,000, are offered, and the leading herds and flocks of the State will compete for them during the week of August 30 to September 6.



San Francisco Knows How.

Besides the State Fair and an unusually large number of excellent county and district fairs, there will be two big exclusive livestock shows this year—one at San Francisco and one at Los Angeles.

San Francisco never yet pulled off an event without making it about the best of its kind, and the California International Livestock Show, to be held November 1 to 8, will be no exception. The biggest men of the city are back of it, and they promise to make its influence to the Coast what that of the Chicago International is to the East.

The sight of purebred stock at a fair has been the turning point in the career of many a man, and Prof. Gordon H. True, manager, promises to stage such a show at San Francisco that everyone who views the stock and witnesses the demonstrations will see a future full of promise and will want to get into the game. Also there will be educational exhibits of dairy and meat products, intended to connect the consuming public more closely with the breeder, producer, manufacturer and dealer.



Top: California Building at Panama-Pacific Exposition grounds, where the San Francisco Show will be held. Center: New completed Agricultural Pavilion at State Fair grounds, Sacramento. Bottom: Grand stand at Exposition Park, Los Angeles, before which the winners at the Los Angeles Livestock Show will be exhibited.

Los Angeles Will Show 'Em.

The Big Idea of the Los Angeles Livestock Show, to be held October 18 to 26, will be to open the eyes of the entire community, says manager C. R. Thomas. The show will bring from far and near the very best animals of their kinds and will convince breeders who have been asleep at the switch what good blood can do.

Every inducement, including premiums of \$33,000, will be offered to get breeders, general farmers, dealers and others to round up at the show and make a clearing house where they can relate experiences, exchange ideas, buy and sell stock, and boost the industry in general, as well as having a royal good time.

If you want premium lists or further information about any of these shows, write to Chas. W. Paine, secretary of the State Fair, Sacramento; C. R. Thomas, manager Los Angeles Livestock Show, Chamber of Commerce Bldg., Los Angeles; or Prof. Gordon H. True, manager California International Livestock Show, Lachman Bldg., San Francisco. All together now—boost for these shows!

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EDITORIAL.

THE VICTORIES OF PEACE.

Peace hath her victories
No less renowned than war.
—Milton.

We are not writing of the league of nations—for that will get nowhere unless President Wilson can explain to the American people how it can be safe and salutary. We write not of Japan's shot at the Nipponification of Shantung—for Americans have not yet agreed to her claim that she did not know it was loaded. Nor do we find anything else in world-peace, as other people are now quarreling over it, which offers us any comfortable comment. The old historical conclusion that war makes peace and peace makes more war, still seems to hold true. We cannot earn the subscribers' dollar by joyful comment on world affairs, for there does not seem to be a dollar's worth of joy in the whole maze of them. Still there is no excuse for yielding hope and courage, for we are still bound for a better world. And no ancient definition of courage and faith in human destiny is broader and better than the very modern one: "We do not know where we are going, but we are on the way!"

Incidental and fundamental thereto is the evidence of local industrial activity and prosperity. As socially and industrially a busy, prosperous and contented family is the foundation of national strength and success, so, geographically, the industrial activity, development and prosperity of a commonwealth are the clustering congeries of units of courage and contentment, which determine the future of a country or of a continent. We are justified then in commenting upon current topics of growth and development in California as full of gladness for ourselves and perhaps of significance to the world.

CALIFORNIA WILL WELCOME THE FLEET.

Speed on the ship!—but let her bear
No merchandise of sin,
No groaning cargo of despair
Her roomy hold within:
No Lethian drug for Eastern lands;
No poison-draught for ours,
But honest fruits of toiling hands
And Nature's sun and showers.
—Whittier.

There can be perhaps no more dramatic demonstration of the return of peace than the flight of the war-fleet of the American navy from the Atlantic to the Pacific—the flight from war-troubled to peaceful waters: the very name expressive of nature's beneficence and descriptive of the glad escape of mankind from the last few years of unexampled crime and outrage on the sea. It is fitting to celebrate the peace of the Pacific by the impressive maneuvers of the grand fleet which preserved its peace by its achievements upon the Atlantic. And it is more than a celebration to awaken national gratitude for what has been done: it is a guarantee for future peace and an assurance that this continent will be safe for Americanism and democracy. And it is this fleet which constitutes Whittier a prophet, for it not only bears no slaves, but it is assurance that no remnants of autocracy

shall safely cross its bows, and it carries no drugs nor drinks for human degradation—for are not its bunkers full of grapejuice? And as for "fruits of toiling hands and Nature's sun"—not even Whittier could have foreseen that California could have literally produced nearly a quarter of a billion dollars' worth of fruit products for world enjoyment last year! And if one takes Whittier in the broader sense which he intended, and applies his vision of the service of the ships of peace, which this fleet will safeguard and for which it will point the way to the world through the American canal at Panama, we then have a prophecy of the merchant fleet now being realized, which will ply from our coast to and from all coasts in the trade which our production needs and supplies, and which shall never again be menaced by peoples seeking world dominion by other means than merit in production and commerce through honest industry and humane governmental policy.

The coming of the national fleet with something like 250 vessels, of the greatest of which the like have never plowed Pacific waters before, is a great event in the history of our western front of the nation. And these naval monsters, which are really lions of the vast deep, will disport themselves like playful kittens around the feet of the kindly Daniel (front-named Josephus), who is their lord and master. And besides these leviathans there will be lesser craft of all warlike kinds and conditions—making a peaceful holiday in the waters of San Diego August 7 and 8; of San Pedro, August 9 to 13; and of San Francisco, August 15 to 22. It is to be a visit of open cordiality openly arrived at, for Admiral Rodman announces that he desires the 30,000 men who float with him to meet and know the people they protect and the grand country they serve. And the response on the part of the people will undoubtedly be the greatest popular demonstration which Pacific coast people have ever put their hearts into, for, as a current writer says:

As ships and men enter San Diego bay to make the first call on the coast entrusted to them, they will receive from the people of the West a "welcome home" that will last through every Pacific port they put into. The West will have come into its own at last, for the heart of the West has been with the Navy always, the Navy of which it read, to which it sent its sons, but which it has never seen before in its full might.

Let every Californian who can, "Speed on the ship!"

THE FALL FAIRS!

What land is this? Yon pretty town
Is Delft, with all its wares displayed;
The pride, the market-place, the crown
And center of the Potter's trade.
—Longfellow.

And while we rejoice over the fleet with all that it suggests of national strength and safety, which is a national surety of peace to come, we should not forget that the crowning victory of peace is the opportunity for industry—to make homes, to till fields, to build factories, and to cause the markets to bustle with trade. What the poet sang of the most ancient craft of the potter is true of all the industries which are honorably pursued to serve the uses of mankind. Our cruel, ambitious foes must seize upon industry to compensate their wrongs and to regain respect and credit in the world. Americans must pursue industry to repay the cost of their rescue from ruin and to answer their call to new greatness and prosperity. Incidentally they must regulate industry lest a threat of worse domination than that which they have just happily escaped, is realized upon them. Obviously, the greatest material victory of peace is the present outlook for industry and the disposition to hold it in honest service to the public and not to install it in mastery.

California is fast realizing all and more than the pioneers prescribed, and more also than the most far-seeing of their followers could have predicted, even a few years ago. Production, trade, wealth and population are increasing beyond all anticipations. World-interest for purposes of home-making and investment was never so great as now. Popularity and demand for farming, live stock and equipment; for factory-sites, trade-opportunities, export-ventures, institutional extension and establishment—for everything, in fact, which stirs the thought and action of progressive men and women,

is now being inquired for and secured as never before. It is just the time to strike for the greater development of the State which our conditions and our opportunities invite, and every wide-awake Californian should take a hand in it. In this way we can extend the field of one of our newest industries and make all California a moving-picture of American development and progress.

For ourselves we propose to pursue one line as now most timely and influential in celebrating our share in the victories of peace and that is in promoting the greatness and success of this fall's fairs. If adequate interest and effort can be aroused it will be very easy to constitute every point at which a fair is held this fall "a pretty town with all its wares displayed: the pride, the market-place, the crown and center" of our farmers' trade. It is exceedingly important that this should be done, the State is full of people who are looking and thinking and to whose knowledge of what California is doing and can do we should patriotically minister. We should have a greater State Fair this year than ever before and the circuit of great displays which is now being arranged for as well as the host of local fairs which supplements the grand circuit, should all be carried forward with the fullest liberality of funds and endeavors. Every man and woman who is entrusted with effort for these educational and patriotic exhibitions should begin at once a personal effort for a wonderful success. During the next few months we propose to see to it that no such effort shall fail for lack of information and exhortation.

PRODUCERS' PROPAGANDA.

Griefs of mine own lie heavy in my breast,
Which thou wilt propagate to have it pressed
With more of thine. —Shakespeare.

Never before was systematic propaganda such a munition as during the last war, and never before has such propaganda been so widely invoked, both to preserve peace and to destroy it, as it is being so invoked at this moment. It is a great moving force, either for good or for evil, according to the motive which actuates it, but of that we have naught to do. There occurs to us rather a notion of industrial propaganda, and how much more convenient it is to seize upon the recent enrichment of our common speech and speak of propaganda instead of the awkward phrases "continuous promotion" or "well-sustained advertising campaign," which not long ago were our only recourse. And it is not only convenience which is involved, for there comes now to everyone, who has a good thing to push, a consciousness of duty to make it known and influential through propaganda. Of course, one who has a bad thing to push has a hunch that he too must propagate—but we have naught to do with that. It is an interesting fact that our most famous California products, which have won their way to great popularity have been doing it for some time successfully by particular propaganda. It is true, of course, that our wheat made hot-cakes of itself, and our beans were going by trainloads to Boston for decades before the Government inverted the propaganda process by turning it back upon bean growers instead of its proceeding from them upon consumers of beans. It is still true that our products which were not regarded as staple foods, but as luxuries, have for the last decade or more been possessing themselves of the advantage of staple standing by the force of generous investment in propaganda. Our oranges have fought the apple at the breakfast table and in the dessert courses to a receipt of millions more of dollars than the seductive Sunkist advertisements cost, while our raisins achieved even a higher dramatic success by vaulting out of an occasional rice-pudding into our daily bread—with such universality that even the child at its mother's knee has come to add the words "with raisins in it" to the nightly petition. Prunes and walnuts too would have undertaken propaganda before this if the price had not precluded the need of it, and it will be practically the same way with apricots, peaches, and pears this year. For them, and for all other distinctive fruit products of California, propaganda remains as a preventive of decline to the disasters of the time before the propagating art was invoked to relieve the griefs which did lie heavy on the growers' breast—as the poet said.

And it is fortunate that propaganda is now contemplated by other California high-class products aside from the horticultural lines. At the meeting of the California Dairy Council in this city, of which Mr. Whitten has given appreciative reports in our last two issues, there was specific recommendation by several speakers that the future of the dairy industry depends upon the enterprise of producers in educating the public by attractive display advertising in high-class consumers' journals to set forth not only the deliciousness and wholesomeness of all the compounds and products of pure milk, but the actual, indispensable food value of them as associated with refreshment and delights to the palate. Such undertaking as advocated by the Dairy Council is fundamental to the expansion and price-support which the industry needs to enable it to embrace the opportunity which imbibatory legislation has created. It is such a propaganda which is required to garland the cow with her peace victory decoration and she should have it.

THE COOLING OF THE CAKE.

—the kneading, the making of the cake, the heating of the oven and the baking: nay, you must stay the cooling too or you may chance to burn your lips.
—Shakespeare.

In the speed with which development affairs are now going Californians should keep cool. There will be a great cake cut in this State if it is not spoiled in the baking. We shall need courage and confidence but must not become flighty and visionary because everything seems to be coming our way. We need reasonable optimism and abounding patriotism. In one of the public parks in Los Angeles on July 4th, ten thousand persons were served with "cuts" from a single cake, which was a feature of the celebration, and it was six feet high, four feet thick and weighed nearly half a ton. There were no casualties for the cake had been carefully cooled!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Clean or Green?

To the Editor: Ever since I came to California in the spring of 1915, I have been a careful reader of the Rural Press, and it has been a decided help to me in many ways. At the present time I am between the devil and the deep sea in regard to clean cultivation. I know that clean cultivation as practiced about Orland tends to burn up the organic matter in the top soil. The soil contained very little such matter because of the grain farming of previous years. Our winter season is too strenuous for leguminous cover crops. Each year my ground takes water less easily and retains it for a shorter time than when I began in 1915, no matter how deep the mulch. I have decided on a very definite plan to be followed for the next three years, and I expect it will create talk when I begin operations this fall. I would like to see some articles in the Press by those who practice clean cultivation and by those who do not. What all the land in the Orland project needs, except perhaps the black sediment soil, is organic matter. I am going to bend every effort in that one direction regardless of looks or anything else.—R. O. K., Orland.

That sounds rather desperate. If you had told us what you propose to do we might be able to judge whether you should have a guardian appointed or not.

As for "clean cultivation," it is very hard to find an example of it nowadays because it really means the destruction of everything that tries to grow, either summer or winter, by the frequent use of the cultivator. Whenever a man allows weeds to grow in the rainy season and plows them under, he is no longer practicing clean cultivation: he is on his way toward green manuring. Clean cultivation in summer is not "clean cultivation" as it was originally practiced in this State when the name arose. It would be very hard to find anyone who is now a "clean cultivator"—because practically everyone understands and practices the advantage of plowing under weeds, rye, or other grain, even if he does not undertake to sow any of the legumes which are commonly prescribed and widely used—and it is a pretty dry copy of the Rural Press which does not contain some reference to that doctrine and practice. We cannot admit that you are

right in considering your winter too strenuous to grow legumes for we have seen too much wild bur-clover, medic, and sour clover (not to speak of native California clovers) covering your region in the winter to admit that legumes will not grow. But you are exactly right in claiming that your land needs more organic matter in the soil, and we are very curious to know by what desperate ways you are going to try to get it.

Rose Weevils.

To the Editor: I am sending you some tiny beetles that are playing havoc with my roses, puncturing the buds and spoiling the blooms. What can I do with them.—Mrs. J. P. W., Los Gatos.

To the Editor: What can we do to prevent the ravages of a weevil on our roses. The insect is dark brown, about one-quarter of an inch long, with a snout one-third as long.—A. R. S., Atascadero.

You are probably out of the range of its injuries by this time for it has rather a short run each year—usually about a month, and few are found after May in the interior valleys, or after June on the coast and at elevations. Gathering and burning injured buds as soon as seen cuts off the increase for the grubs feed inside the capsule until they take to the ground for transformations. Thorough spring cultivation will reduce the numbers of the pests to appear on the spring blooms. When the beetles appear on the bushes they can be collected by jarring the bushes over a sheet or a shallow pan of water on which a film of coal oil is floating. The beetles can also be reduced by spraying or powdering, when you see the first of them, with lead arsenate—but we always hesitate to advise poisoning posies for children, big and little, like so well to carry the stems in their mouths.

Seed Potatoes.

To the Editor: I have several hundred bags of small potatoes which, owing to the absence of moisture, are about the size of a large hen egg. They are smooth and clean, free from disease, and were grown from very fine Oregon seed this spring. Will these be good seed for this fall? I would like to plant whole. Is it better to clip off one end—seed end or stem end?—L. J., Hemet.

The potatoes which you describe are certainly suitable to use as seed for a fall crop, provided they are fully matured and the eyes well developed before planting. It is not desirable to cut off either of the end and they can be planted whole as you propose. Experiments by Prof. Rogers of the University Farm indicate that, in the hot valleys at least, maturing of the seed can be best secured by holding the first crop seed in long piles two to three feet deep in a shady place, covered with several inches of straw and frequently sprinkled to keep the potatoes from getting too dry and hot. Too much heat seems to injure the tubers for midsummer planting. If held with reasonable moisture and reduced heat they seem to develop better eyes. Planting deeper than in fall or winter is also desirable.

Manure on Uncovered Subsoil.

To the Editor: Is it good policy to apply stable manure before sowing alfalfa on ground that has been scraped pretty heavily in checking up for alfalfa seeding? Do you think it would have a tendency to keep the roots up near the surface, making it take more water? What would be the best way to apply the manure, or rather get it into the soil? Do you think inoculation advisable in this case?—F. A. Y., Chowchilla.

It is a good policy to use stable manure liberally on uncovered subsoil and to plow it under as deeply as you can for any kind of a crop. It is not desirable, however, for some crops to get in a lot of coarse manure and sow before the manure has enough time and moisture to rot and settle down. If you can put on water now and plow the manure into moist soil, and then work the soil well for a good seed bed before you sow the alfalfa this coming fall or winter, you will surely get a more even stand and a stronger growth, and the soil will take the water more uniformly next year. You need not fear of making the plant too much of a surface rooter. It will go after the water and the manure extract, which will go down with it—unless your land has hardpan or is too heavy below. In that case the land ought to be shot! Inoculation is insurance against a possible natural deficiency of bacteria in the uncovered subsoil.

IS THIS YOUR PROBLEM?

Are you feeling the pinch of the continued high cost of living? Food and clothing still high, with no relief in sight. Your earnings no greater, and not enough coming in to cover all expenses.

We can solve the problem for you. Take up our circulation work. It is a free, independent life in the out-of-doors, attending to our renewals and securing new subscriptions. You will like it, and you will find just the opportunities you have been looking for.

Straight salary, permanent work. No investment necessary except that you must have an automobile. Write us at once telling about your qualifications and experience. Full particulars will come back and you will be glad you investigated.

Safe to Remove Knots in Summer?

To the Editor: Is it all right to treat Tragedy prune trees for crown gall at this time of year, immediately after crop is harvested, and do I use the right plan when I cut all diseased tissue out and cover the wound with Bordeaux paste?—G. W., Exeter.

We are not aware that the safety of removing knots of considerable size from bearing trees during the growing season has been publicly demonstrated, though probably some of our readers have experience in that line which they are requested to communicate to us for the public good. Until we get assurance in that way we answer that such root-surgery is usually done during the dormant season and, theoretically, it would be safer to allow the tree to use the sap channels it is currently using until it finishes its season's job, and it is probably on that basis that such work as we know of on old trees has been done in the late fall or winter. On young trees knots are safely removed as soon as seen and their extension is thus arrested. Bordeaux paste is the usual application though asphaltum is also used.

White Berry Scale.

To the Editor: What ails by blackberries and loganberries? The stems are all covered with a white or greyish-white scale on the bark, and no berries come on the vines this season. Please tell me what to do.—L. C. D., Bradley.

It is the worst infestation with the rose or berry scale (*Aulacaspis rosæ*) we ever saw. The scales are fairly felted over the bark—as they overlap each other so thickly. As the plants have made no leaves this season we presume they are dead, and in that case we should pile straw around them and burn them all off clean, making the fire hot enough to kill those just below ground also. If, however, you see shoots coming from the roots, you can cut off all the top growth as low down as you can, burn it up by itself. Then rake away the loose dirt so as to lay bare the shoots and top roots, and spray with kerosene emulsion. The chances of getting clean plants from such infestation is, however, very small indeed and we would prefer to burn up the whole outfit and start over this winter with new, clean plants on another piece of ground.

Diabrotics on Roses.

To the Editor: Can you tell me what to do to kill the bugs on my rose-bushes? The bugs look very much like the little red lady-bugs, but are green in color.—G. P., Brentwood.

These are the pestiferous "green lady bugs," but they are not ladybirds at all, either in classification nor in the things they live on. They can be killed by spraying the things they eat with lead arsenate (3 lbs. to 50 gallons of water), but a ripe apricot or a pretty flower which is poisoned that way is dangerous to people. If you care enough for your roses you can do two things: cover the bush with mosquito netting so they cannot get in or put on an old pair of gloves and pinch hard every bug you catch. If you practice enough so that you can catch and pinch with both hands independently you can soon reduce them notably. These pests are very abundant and then practically negligible for several years. This is the only comforting thing we know about them.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m. July 22, 1919.

Stations—	Rainfall		Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest Lowest
Eureka .....	.00	.00	.11	62 50
Red Bluff .....	.00	.00	.00	108 72
Sacramento .....	.00	.00	.00	106 58
San Francisco .....	.00	.01	.01	65 49
San Jose .....	.00	.00	.00	86 54
Fresno .....	.00	.00	.00	106 72
Los Angeles .....	.00	.00	.00	84 62
Tonopah, Nevada .....	.00	.10	.22	92 62
Reno, Nev. ....	.00	.00	.07	98 58
Winnemucca, Nev. ....	.00	.00	.17	98 52

Tile Drainage Pays Big Interest on Cost.

Written for Pacific Rural Press by R. E. Hodges.

Despite the high prices of tile, the profit from its use as demonstrated in recent years around San Francisco Bay in Santa Clara county, has led many land owners there to continue their drainage extension the past winter and spring.

Chief among the progressive projects is that in which about a dozen land owners got together and laid 9,000 feet of main-line drain tile to take the water from six or seven systems at present, as well as a great many more eventually. This main line consists of 1,500 feet of 16-inch pipe, 3,000 feet of 14-inch pipe, and the rest of 12 and 10-inch diameter. This drains a maximum of 1,500 feet on each side of the tile line, taking all surplus water from a long strip of land between the road and Campbell Creek, into which the tile empties.

This main line takes water from several systems already installed. One of these is that of Frank Wilcox, whose experience was related in our columns a year or two ago. Mr. Wilcox has been reclaiming as much as financially possible of his ranch by tile drainage for at least half a dozen years, finding that land which could not be plowed before, works nicely right after tile are put in, and still better after the first year. He will finish draining his entire ranch this season. It was two years ago that he said he would gladly pay \$20 per acre just to get a satisfactory outlet for the tile on one piece of 20 acres. Now he has it. The work was recently completed by Geo. H. Frith, who first made his own farm near Agnews workable by drainage, and then undertook the same kind of work for many others around the Bay, using a ditching machine.

Another notable contribution to the prosperity of the Valley was the tiling last winter of 114 acres belonging to C. T. Clifford in this district. This

BEAN TRADERS ENRICHED WHILE AMERICANS BLED

A couple of million of our men who gave up their work and their homes and their immediate chances for advancement in order to offer their lives for their country, knew that those who stayed at home might profit by their absence. They made no objection to that. The farmers who were urged by the Government to raise big crops even at the hazard of peace destroying their markets, raised the big crops and have not objected to the legitimate effects of peace on their markets. But the millions of soldier boys and the millions of farmers who served their country, had a right to expect that the rest of the American people would not trade on their sacrifices.

It has been known that the bean market in California was sick and that Oriental beans were being imported. Petitions for a tariff on those imports have been ignored, but still righteous indignation held its bounds.

But it has lately come to light that an official of a certain bean-importing firm loaned \$40,000 a few months ago to a certain buyer of beans for the U. S. Grain Corporation, and shortly thereafter the Grain Corporation gave that firm an order for 36,000,000 pounds of Oriental beans, at a price above California prices. That order was at one time rescinded, but was again put into effect and delivery was completed about eight weeks ago. During this time the California Bean Growers' Association has been pleading for a chance to sell to the Government at most any price that would pay the cost of production; but has been unable to sell any great quantity.

Aaron Sapiro, an attorney of San Francisco, over 35 years of age and the father of two children, was one of the men who did not have to go to war, but who gave up his practice and his home and volunteered last spring when days were darkening for the Allies. He is back again and is making it his business, not necessarily to prosecute the men who dishonorably became rich while he was offering his life, but particularly to get the facts which may be laid before Congress to waken that body to the righteousness of a tariff that will give our beans a chance at the market at least until Christmas. He and others on a special delegation are holding themselves at the call of the Ways and Means Committee of Congress. Now may they win! And now may you bean holders, whose battle these men are fighting, back them up with letters and petitions over your signatures, urging the Ways and Means Committee at Washington and your own Representatives and Senators to put this thing over.

included 3,000 feet of twelve-inch outlet and about 50,000 feet of laterals. All of the laterals, for the sake of economy in buying, are of four-inch diameter.

About a dozen lines, each 2,500 feet long, were laid on a slope of three to three and a half inches per hundred feet on land which has heretofore

had water standing on it until June, turning green and foul, preventing growth of anything with much value. As the tiling progressed last winter, men, stock, and machines worked over this same land within three days after a rain. It had been said that four-inch laterals on such a slope and in such long lines would not carry

enough water. It was true that they were found full 1,500 feet from the main line, into which they emptied with some force. This farm will be planted to pears. Orchard trees do not bother the tile, though willows, poplars, gums and cypress fill tile with roots.

Some Other Projects.

E. M. Ray has drained 400 or 500 acres near Gilroy with over 300,000 feet of tile. L. B. Dutton, whose experience raising alfalfa in an old willow swamp has been related in Pacific Rural Press, has been reaping his reward in the shape of increased alfalfa crops since we first visited him. W. R. Thorsen is just starting to dig and place 30,000 feet to drain into Campbell creek.

Costs of Tiling.

Most of this work is done by a tile ditcher, which digs the trenches with practical assurance of uniform grade at a cost of \$40 to \$50 per thousand feet, where they average four feet deep in this kind of soil (silty adobe), according to Mr. Frith. A sort of shoe slides along the bottom of the trench at the rear of the digger, making a narrow groove about an inch deep. A man rides the shoe and lays tile as fast as the digger works ahead. The groove prevents tile from rolling out of line while the trench is being filled. Four-inch tile are said to cost about \$45 per thousand feet. It costs about \$10 per thousand feet to lay the tile. Filling the trenches is subject to a road-grading outfit and costs about \$10 per 1,000 feet. Thus the total cost of laterals should not be over \$115 per 1000 feet, or not over \$50 per acre. The job once well done is permanent; and it immediately adds several times its cost to the value of many areas and pays profitable interest on money invested wherever free water stands long in the upper four feet of soil.

The Phosphorous Situation.

The considerations introduced by me into the potash discussion are not without their just need of significance in relation to the phosphorous question. For example, it must be remembered that when any phosphate fertilizer is applied to a soil, other things are introduced besides phosphorous. Such other things may be gypsum, small quantities of free sulphuric acid, calcium in different and more or less soluble forms besides gypsum, as well as other substances, depending on the kind of phosphorous fertilizer which is applied. It goes without saying that any or all of these substances must exert a greater or lesser influence on the constituents of the soil and its solution; and that such influence may go far in the direction of improving plant growth on a soil irrespective of any phosphorous which may be added under such circumstances and which of itself may or may not exercise any influence on the crop.

Ground Rock vs. Superphosphate.

It has frequently been pointed out of late how easy it is in soil work to draw erroneous conclusions from what seem to be reasonably well controlled experiments. For example, in attempting to determine whether or not a given soil is in need of phosphorous, and if so, if a soluble or relatively insoluble form should be applied, we have adhered to the following procedure, which has been handed down to us by tradition.

A series of plots of the soil to be studied is laid out. Some remain untreated, some receive ground rock phosphate and still others receive superphosphate carrying equivalent quantities of phosphorous. Many other forms may be employed in the experiments now in vogue, but the simple case which I have assumed will serve just as well to make my point which will be just as pertinent to the more elaborate experiment. On these plots, we will assume further, that corn is planted.

At the end of the growing season, we harvest and weigh the crops from the plots and find that the yields are lowest on the control or untreated plots, that they are greater on the plots treated with rock phosphate, and greatest on those treated with superphosphate. What could be more natural, in such a case for the ordinary farmer, agronomist, or even soil chemist who has not imbibed the modern spirit of soil science, than the assumption that such an experiment not only proves the need for corn on that soil of phosphorous but of available phosphorous.

In the light of foregoing discussions, either or both conclusions drawn from the facts in question may be wholly erroneous. The increase in crop, due to the application of rock phosphate, may be due to the calcium contained in it, as well as to the phosphorous, since the calcium as well as the phosphorous will react with other constituents of the soil solution or furnish a larger amount of itself to the soil solution. Hence, the experiment does not prove that plants on the soil in question suffer for lack of phosphorous.

A more important consideration here, however, is the relationship of the superphosphate plot to the other plots. While it does so seemingly, the yield on the superphosphate plot actually does not prove that available phosphorous is needed more than unavailable phosphorous. As is well known, an application of superphosphate carries with it not only a large amount of soluble calcium and soluble phosphorous in the form of mono-calcium phosphate, but it also introduces a considerable quantity of calcium sulphate, which is fairly readily soluble in the soil water and like the soluble mono-calcium phosphate may

bring about profound changes in the nature and concentration of the constituents of the soil solution. The amount of soluble salts which superphosphate carries being greater in amount and variety than those of the ground rock phosphate, it is only natural to expect them to be more active chemically as well as physiologically and, hence, to increase the concentration of the soil solution and change its qualitative nature to a greater degree. Supposing, therefore, that the concentration of the soil solution in the soil in question should be too low and that factor limited absorption by plant roots, the superphosphate must necessarily improve conditions more than the rock phosphate for obvious reasons. If, however, the concentration of the soil solution should be great enough but its qualitative nature such that calcium is present in insufficient quantity, the superphosphate again, for obvious reasons, would go farther in improving the soil solution as a medium of plant growth. Hence, there are plainly other and fully as pertinent and justifiable conclusions to be drawn from the effects of rock phosphate and of superphosphate on soil and crop as the common and almost the only one drawn now to the effect that the phosphorous in them and that to the extent to which it is soluble should be regarded as the cause of increased yields like those assumed above. It is clear that any or all of these factors, at least, may be a true explanation, but if it is any one of them, we have not the means at present of establishing which one it is with certainty.

What a lot of candy is being munched since the first of the month by contemplative-looking office men.

Fertilizers and Fertilization--VI

(Written for Pacific Rural Press by Dr. C. B. Lipman, Professor of Soil Chemistry and Bacteriology, University of California.)

ANOTHER HOME-BUILT APPLE DRYER.

(Written for Pacific Rural Press.)

We recently saw a very efficient home-built apple dryer near Sebastopol, Sonoma county, which is under one roof with operating room and storage. It belongs to D. M. Searby. It is built on the edge of a side hill which has permitted the furnace and heat chamber to be built in the form of an outside basement so that ventilation (for regulation) of the heat chamber is arranged from two sides. Thus the prevailing wind is a consideration. This is a great thing, for with a north wind very much less artificial heat is needed.

There is no fan. The heat from the chamber below passes up through the dryer-chambers, which all lead the moisture-laden air up through a ventilator two and a half by one and a half feet inside measurement, and seven feet wide at the base.

There are two hot-air drums in the heating chamber with the usual double range of connecting pipes as explained in the Napa dryer. The larger drum at the back of the chamber is four feet in diameter and the smaller one is a little over three feet. To reduce heat the ventilators at the base of the heating chamber are opened as desired—there are seven each side. The drying chamber consists of six units, which have a capacity of 48 trays each. One and a quarter tons of dried apples can be turned out of this dryer per diem.

Danger of fire is reduced by seven plies of asbestos, being set between the brick work of the heating chamber and the wood of the superstructure, and the asbestos is further protected with tin. It is 56 feet from ventholes to the top of ventilator shaft.

The average time taken to evaporate apples is six hours to a charge. Either an oil burner or wood could be used with this class of dryer. Its original cost was something over \$2000.

Dried Wine Grapes-Value and Evaporation

(Written for Pacific Rural Press by John J. Fox.)

(1) Can you tell me the value of different qualities of dried wine grapes? (2) Who buys them and for what purpose? (3) What is the method of making wine from them? (4) How are they dried?

This is a series of questions that is cropping up increasingly of late. Last week we had a letter containing such questions from a subscriber in the South Seas (Tahiti). On this matter of such wide-spread importance we consulted Professor Fred T. Bioletti, and give here his remarks on "Methods of Drying and Returns," together with those on the "Principles of Evaporation," by Professor W. V. Cruess of the University of California now published in bulletin form (Nos. 14 and 15) by former State Board of Viticultural Commissioners.

How Are We Going to Save the Crop This Year?

"If wine-making should be definitely prohibited during the vintage of 1919, the only profitable means at present practicable to save any large portion of the wine grape crop is by drying it," says Professor Bioletti. "As dried wine grapes will probably find their principal use in wine-making, it is necessary that the fresh flavor of the grapes, and especially their color, should be as little changed as possible. Drying directly in the sun destroys the color of red grapes completely. Some of this color is retained by grapes dried in an evaporator as is the fresh flavor of the grapes, if the drying temperatures are kept low enough." A moderate sulphuring prior to evaporation helps to retain both flavor and color, the reason for which the Professor explains.

Use of Evaporators.

"In the coast counties and in the central part of the great valley which produce the bulk of the wine grapes, the only practical method of drying is by the use of evaporators, whose product is better suited for wine making than that obtained by sun drying. In the cooler and later raisin districts the methods of dipping before drying in use for bleached Sultaninas would be necessary."

Wine Is Made from Dried Grapes.

"It has been abundantly demonstrated that wine satisfactory to the consumer can be made from dried grapes. It is not equal to that made from fresh grapes of course. During the phylloxera crisis in France millions of gallons of wine were made there from sun-dried grapes imported from Turkey and Greece."

How Many Gallons of Wine to the Ton?

This depends on how ripe the grapes were when they were harvested, how much moisture is retained in the dried grapes and the alcoholic strength desired in the wine. For example: "A ton of fresh grapes with 23 per cent of sugar will yield about 550 pounds of dried grapes. If we ferment this with 180 gallons of water, we can obtain 180 gallons of wine with 11.5 per cent of alcohol. These figures are based on analyses of California dried grapes and on tables based on actual practice."

To Make Wine from Dried Grapes,

"They must first be soaked in water until they have imbibed the amount of water they lost in drying. They must then be passed through rollers to break the skins. By soaking in water of 150 degrees F. the process is hastened and the crushing is unnecessary but the resulting mixture must be cooled artificially or injurious fermentations would be likely to occur."

"In any case, after crushing or cooling a good vinous fermentation must be started by the use of a pure selected wine yeast. In all other respects the operations are identical with those used in making wine from fresh grapes."

Will It Pay to Evaporate?

Professor Bioletti is of opinion that at the prices offered for dried wine

grapes, it will pay growers a fair profit plus the return of the cost of the evaporator from the first season's run. This opinion is based on estimates of the cost of an evaporator, of cost of evaporation, on the known drying ratios of various qualities of grapes and on the prices now offered and paid for dried wine grapes.

Average Drying Ratios of Wine Grapes.

He gives this table as based on three crops of eleven varieties grown and sun-dried at the Kearney Experiment Vineyard (Fresno county):

One Ton of Fresh Grapes Gives:			
Balling (Sugar test)	Pounds dry	Drying Ratio	
17 deg.	439	4.56	
18 deg.	454	4.41	
19 deg.	470	4.26	
20 deg.	488	4.10	
21 deg.	508	3.94	
22 deg.	531	3.77	
23 deg.	556	3.60	
24 deg.	585	3.42	
25 deg.	619	3.23	
26 deg.	662	3.02	
27 deg.	722	2.77	
28 deg.	826	2.42	

"The riper the grapes the higher the yield of dried product. For each added degree of sugar the increase averages about 35 pounds of dried grapes per ton of fresh or over 7½ per cent."

The next figures given are of the utmost importance as showing the gain in matured fruit:

"On a vineyard with a crop of five

fruit evaporators have been described. For the proper evaporation of grapes the Professor says:

"In the evaporation of grapes, heat is necessary. The moisture-laden air must be removed rapidly and continuously, by a forced movement of air through the evaporator. The volume of air necessary depends on (1) the temperature of the air, and (2) its "humidity."

Each 27 degrees Fah. rise in temperature doubles the moisture-absorbing capacity of the air. For example: a given volume of air at 154 deg. F. has about twice the moisture-absorbing power of the same amount of air at 127 F."

"The air will, in most grape evaporators, enter the drying room at 145 deg. F. to 150 deg. F. and leave it at about 25 deg. F. lower. To obtain a reasonable rate in drying, the air must be allowed to leave the evaporator only partially saturated."

"In grapes of the Sultanina variety, rapid deterioration takes place above a temperature of about 145 deg. F., and it is believed wine-grapes are no more resistant. This relatively low temperature makes it necessary to use larger volumes of air to secure an expeditious rate of evaporation."

Dipping and Sulphuring the Grapes.

"Grapes dry much more rapidly if dipped at the boiling point in a solu-

25 per cent. Above this moulding and fermentation will cause loss on the dried product. They must then be securely packed to exclude insects.

Professor Cruess describes an evaporator that will hold six tons of fresh grapes per charge that can be built—trays, trucks, furnace, tracks, dipper, labor, and all for \$2,000 or less. If a man owns an engine or motor this cost will be reduced at least \$200. The specifications are based very largely upon the results of the practical experience of growers who have used it. He says: "It is recommended that the prospective builder obtain all information possible from users of commercially built outfits upon performance of their evaporators before purchasing. The trays made have wire mesh screen bottoms as the ordinary raisin tray is not very satisfactory for use in the dryer."

General Specifications

Are given in Bulletin No. 15. Some of the details still under investigation are as follows: Tray material, wood slats or metal. If metal wire mesh the size of mesh—probably between ¼ inch and half inch. The best temperatures for the complete operation. The best methods of dipping and sulphuring with regard to time, amount of material used and manner of handling. The volume of air necessary for the best results and whether draft or suction or both be used. Instruments and scientific points in connection with heat, humidity and condition.

The mechanical details will be probably worked out to the best advantage by owners on the basis of methods now in use.

The time necessary for evaporation of grapes is variously estimated by different men, according to Professor Bioletti, who gave the writer the above details. The time given for the operation varies from 6 to 24 hours, which must give a great variation in dried quality, but may be also partly due to the difference in drying qualities of various varieties and their degree of ripeness. The Professor thinks that it will probably work out at from 8 to 16 hours per charge, but nothing has been definitely established.

We are told that the dried wine grape can be used for food uses other than wine-making, though they could hardly compete with raisins. Foreign markets are being looked for and investigated by men at the head of the Viticultural Industry. With many active minds at work on a single project it is not overanguine to hope for some workable outcome that may save the best of the vineyards to serve some useful purposes in the manufacture of syrups, vinegar, conserves, or what not. A large tonnage of cull Malagas, Sultanas, Muscats, Thompson Seedless and Fehrzagos is involved as well as the winegrapes in this great salvage scheme.

VARIETIES OF CALIFORNIA STRAWBERRIES.

The varieties of strawberries grown in the Gardena district (Los Angeles County) are Klondykes, and Baldwins, also Excelsior and Nickomar. In the San Gabriel Valley the Brandywine prevails. In the Pajaro and San Juan districts and the Santa Clara, Banners and New Oregon are the chief varieties while in the Florin district (Sacramento Co.) the Oregon, Dollar and Jesse are the favorites. According to the Bureau of Crop Estimates, Southern California has 1330 acres in Strawberries this year; Central and Northern California 1120 acres; Central and Coast districts 1100, making total of 3550 acres for this season.

Push on—keep moving. Stagnation means decay and you don't want to be taken for a dead one yet.



A type of home-made evaporator in the San Joaquin Valley with the furnace at one end and draft or suction outlet at the other end of evaporating chamber.

tons per acre, the increase in gross returns, if the dried grapes were sold at seven cents a pound would be over \$12 per acre for each degree of sugar. The drying ratios that would be obtained in an evaporator might be slightly higher than those of sun-dried grapes given in the table."

Cost of Evaporation.

"At present prices for labor and material it may be fairly estimated that the actual running cost of an evaporator drying six tons of fresh grapes per 24 hours would be close to \$6 a ton of fresh grapes. If we take an average sugar content of the grapes as 23 degrees Balling and a price of 7 cents per pound for the dried grapes, we get for a season's run (of 30 days) for an evaporator drying six tons every 24 hours, the following balance sheet:

Grapes—180 tons at \$20.....	\$3,600
Drying—180 tons at \$6.....	1,080
Total cost	\$4,680
Dried grapes—100,000 pounds at 7c.....	\$7,000
Net profit of drying.....	\$2,320

We had a man in the office only yesterday saying he had been offered 8½ cents flat if he would evaporate his grapes. Others, with finer varieties, have been offered 10 cents. The method described by Professor Bioletti's outline a manner in which the crop can be harvested and sold or stored.

The Principles of Evaporation.

A number of home-made evaporators have been studied by Professor W. V. Cruess, with the two governing factors always in view as of primary importance. These two factors are efficiency in operation and cheapness of construction. In recent issues of the Pacific Rural Press, various types of

tion consisting of one pound of lye to 30 to 50 gallons of water. Therefore, a dipping outfit is recommended. The ordinary prune dipper has been used with success on Tokays.

In Sutter county, black sheet-iron tanks are used to heat and hold the lye solution. A dipping basket, the shape and size of a lug box and made of heavy screen wire is used for smaller operations. White grapes will be improved in appearance by exposing to the fumes of burning sulphur for 15 to 20 minutes after dipping. Laboratory tests have indicated that similar treatment will improve the color of red grapes for wine-making."

Operation of the Evaporator.

"The grapes should be evaporated as soon after picking as possible, says Professor Cruess, for specified reasons.

The grapes are dipped in the above boiling solution for a period long enough to cause the skins to develop minute cracks—about three to five seconds. They are then rinsed in clean water.

Sulphur or Not as You Please.

Spread bunches on trays preferably only one bunch deep. A 3-foot square tray will hold 30 to 35 pounds of grapes. The grapes are run into the drying compartment on dryer cars. The heat is generated to 145 deg. F. at point of entry and the interior heat is observed on thermometers in front of small glass windows in the drying compartment."

"The dry air is forced through the chamber till the grapes are dried to a leathery consistency. The finished raisin should contain about 20 per cent of moisture. The amount of moisture is extremely important because the profits will vary according to the moisture content up to about

Of Interest to Fruit Growers

(Written for Pacific Rural Press.)

Near Selling Plan for Deciduous Fruit

All receivers and auction companies in New York have decided to block together in their auction catalogues of fruit shipments, according to a notification to this effect received by Charles E. Verdon, general manager of the California Fruit Distributors.

Cantaloupes. Increase of Production.

The yearly shipment record of cantaloupes from Imperial Valley is as follows: 1913 season, 2171 carloads; 1914, 4,065 cars; 1915, 3,693 cars; 1916, 4,142 cars; 1917, 3,148 cars; 1918, 4,094 cars and to July 1, 1919, 6,768 cars.

The Oregon Growers' Co-operative Association.

Seventy-five representative fruit and nut growers from every important producing district in Oregon met recently in convention at Portland and organized under the above name. It closely follows the California plan of organization, and is the largest of its kind ever attempted in the Northwest.

A Fortune for Somebody.

"It costs about \$40 a ton to husk strawberries for canning," said the manager of one of our large canning companies recently. The man who can produce a strawberry that husks easily and is yet a firm berry for canning can make a fortune. For it would be of great value to all consumers of the strawberry crop.

The Ukiah Fruit Evaporator.

The Cunningham Dryer at Ukiah will dry the "orchard run" of growers' pears this season. We understand that over 600 tons of No. 1 pears will be dried here this season as a starter. Experts have expressed the opinion that the pears grown and cured here should be equal to those of Lake County in quality.

California Pear Growers' Association

"Gratuitous applications for membership in this association are coming to the office every day," said President Frank T. Swett. "We have nobody out soliciting membership, but the new members are coming in so that they may get the benefit of the association prices. We have so far sold between 14,000 and 15,000 tons of pears to the canners. There will be 50 per cent more pears dried this year than usual." The pears on the river now being shipped are of excellent quality and are in strong demand.

Standard Apple Act Self-Supporting.

For the year ending July 1, 1918, the state appropriated \$5,000 for the enforcement of the Standard Apple Act. No appropriation was made or asked after that date for the reason that the revenue accruing from the sale of apple grade stamps, at one-half cent each, reached the sum of \$13,543.66 during the apple shipping season of 1918. There is every reason to believe that from now on this branch of the Agriculture Department's work will be self-supporting. The value of guaranteed standardized fruit can no longer be questioned.

Dumping Green Fruit.

The annual spasmodic attempts to dump some green fruit on the market have been, as usual, frustrated by the officers whose duty it is to protect the industry. Commissioner Fred Rouillard of Fresno County has turned back the first shipment of Thompson seedless, other commissioners have turned back peaches, plums and cantaloupes. We have the best quality fruit this year ever obtained. We have the best prices, the best crop and a record demand, and we intend that our markets shall continue to respect the quality of our packs.

Apricot Pits.

Before the war Germany and Denmark used to take our apricot pits, paying \$45 a ton for them. After the

war started and shut these markets off, the price dropped to \$15. The Prune and Apricot Growers' Association became interested, and last year agreed to pay \$31.50 a ton cash on delivery, and as much more as there was in it. The final settlement netted growers \$37.50 a ton or nearly two cents a pound. It pays to save the pits and let the association handle them. A still better price may be obtained this year if enough pits are delivered.

Cutting Back Young Walnuts.

Revisiting the S. P. Stow Company orchard last month at Golita (Santa Barbara County) we noticed that the large 6-year old Eureka walnut orchard had been heavily cut back. For over heavy growth of foliage was breaking trees last fall. The trees are 33 feet apart and look very promising. They were cut close down when they were planted and thus made a new stem and prodigious later growth. Pinching through the seasons might have avoided so much heavy cutting. The ranch has one of the oldest Eureka lemon orchards in the state (adjoining the walnuts). There are 30 or 40 acres of them—said to be 40 years old.

Management of Strawberries.

Jackson Bros. (nurserymen) near San Jose planted out 19 acres more strawberries this season—New Oregon and Banner. Fifteen thousand plants go to an acre and they are set in double row beds with irrigating furrows between. The ground is leveled in contour and the labor is contracted. One Jap family takes care of about three acres. This would be equivalent to about one man to the acre. The berries are irrigated once a week and picked once a week. Some sulphuring has been done for red spider. On their old beds last year they produced 12 tons of strawberries to the acre. This beats alfalfa for tonnage.

Propaganda to Disrupt Growers' Organization.

The ridiculous yarn about 10 cents being the price to be paid for raisins by independents while the association prices will be much lower, is such a palpable "bait" to lure away the credulous that it's a poor fish that would rise to it. For the intention is to injure the Raisin Growers' Association. Wylie M. Giffen, president of the association, says: "There is not a single concern in business today that would buy 10,000 tons of raisins at ten cents a pound without knowing what the association prices are going to be. Our duty is to sell the entire crop of raisins for the most money that we can possibly get. We believe that what has always been true will be true again—that our prices will be more than the average of outside growers. The keystone of an organization like ours is honor on the part of its component members. The undivided loyalty of the

9,000 growers with whom we now have contracts will make our position impregnable. We have already sold at a price to be named later a large percentage of this year's crop. If these contracts could not be filled our written pledge would be worth less than a scrap of paper. Under no conditions will we voluntarily agree to the release of any crop."

THE NEW IRRIGATION LAWS.

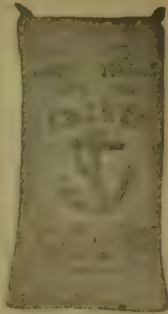
The new laws relating to irrigation go into effect July 22, when the new Department of Agriculture comes into being. One of these (Senate Bill 493—Senator Irwin of Kings County) will help to break up the large tracts of land now owned by corporations and transform them into small holdings. For it makes possible the organization of an irrigation district by a majority vote of the registered voters living within the boundaries of a proposed district instead of a two-thirds vote which was formerly required. A majority vote on property values is also essential. The farmer must control the water as well as the land if permanent success is to be assured. Irrigation districts have been prevented from organizing often by large land owning corporations, who do not want to be taxed on their vacant or dry farmed land for improvement and do not want to sell. Immense quantities of water are available in the two great interior valleys and only organization can pay for its development and distribution—by the formation of public districts having the power to raise the requisite money by the issuance of bonds. Forty-four such districts are now formed and operating under the Wright-Bridgford Law.

VETCH IN ORCHARDS.

To the Editor: Would you advise sowing inoculated vetch in a young orchard for cover crop this fall on land that can be irrigated? How would it do for an old orchard to be disked in the spring without plowing?—S. A. M., Modesto.

We certainly believe in sowing vetch early in the fall in orchards which can be irrigated. Whether it should be inoculated depends on whether the inoculation would make enough greater growth of the vetch to justify the expense. We know of a number of people in your district who have found vetch inoculation in grain fields highly profitable. While you would probably get more or less of a crop without inoculation, we believe that while you are doing it, you might as well get the best possible, and this is only to be obtained by inoculation according to directions. The object of the vetch is to add nitrogenous fertility to the soil in the cheapest form possible. If you disk it in the old orchard in the spring, you still have a great deal of the value available for that year's crop, but a great deal of it will remain in a dry, unavailable condition so long as it stays in the surface layer which dries out through the summer. It will help to make a good mulch, unless it loosens the soil too much because of heavy growth.

SULPHUR



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 3 times they will not be affected by MILD EW or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also E. A. G. I. E. Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for

bleaching purposes, LEAVING NO ASH. VENTILATED Sublimed Sulphur—Impalpable Powder, 100% pure, in double sacks, for Dry Dusting and making Paste—(Atomic Sulphur).

For LIME-SULPHUR SOLUTION, use our DIAMOND "S" BRAND REFINED FLOUR SULPHUR. We can furnish you this Sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out in labor for spraying your orchard, even if you pay your men \$4 per day for making the solution and applying same.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre DIAMOND "S" BRAND POWDERED SULPHUR, 100% pure. This has increased various crops up to 500%.

Also PREPARED DRY DUSTING MATERIALS, Tobacco Dust, Dry Bordeaux, Dusting Sulphur Mixtures, etc. And "Anchor" Brand Standard LIME-SULPHUR SOLUTION 33 deg. Be., Sulphur Paste, Nicotine, Black Leaf 40, etc. Fungicides and Insecticides. Carried in stock and mixed to order.

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Write for catalogue and if a beginner for Cottage Bee-Keeping, which will be promptly mailed free.

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APIARY DEPARTMENT
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PRUNE PRICES—THE STRAIGHT OF IT.

The California Prune and Apricot Growers, Inc., have determined opening prices on prunes as follows: 20-30s, 22 cents flat; 30-40s, 16 cents basis; 40-50s, 14 cents basis; 50-60s, 12 cents basis; 60-70s, 11½ cents basis; 70-80, 11 cents basis; 80-90s and 90-100s, 11 cents basis. From 100-120s, 8½ cents flat and 120 upward, 7½ cents.

Prices are difficult to compare with any straight basis price, but might be said generally to be better than a 12-12½ cent ordinary base, according to H. C. Dunlap, Secretary-Treasurer of the Association. On the 20-30 flat price, one point in the 30s is included; in fact, all these bases overlap one point. Two dollars a ton more will be paid on 27s; \$5 more on 26s; \$10 more on 25s; \$12 more on 24s; \$15 more on 23s; and \$20 a ton more on any points below 23. The 30-40 grade includes 32-41. The price then on 35s would be 18½ cents; 36s would be \$1 a ton less, and 34s, \$1 a ton more; every extra point within grade size adds \$1 a ton up to the 91-100 grade.

First payment will be 15 cents a pound in 20-30s, and on an 8-cent basis from 30-100. Five cents a pound on anything smaller than 100. On ordinary sizes, growers delivering their fruit in good condition before September 20 will participate in the fund that develops as a result of one cent a pound premium on September deliveries to the trade.

In some sections there has been a little injury from sunburn and here and there a little split fruit, but the crop generally is in splendid condition.

HORTICULTURAL JOTTINGS

There is a difficulty in some sections of getting enough props for orchard use.

Seventy-five cents a tray for material in making 6-foot trays is some price!

The first consignment of Thompson Seedless grapes was despatched from Fresno on the 17th.

Thompson seedless were the first grapes to be shipped from Woodlake. These left last Monday, July 21.

The Texas crop of Elberta peaches is estimated at 1800 carloads. Early sales were reported to be bringing \$2.65 per bushel f. o. b.

A carload of Oregon cherries broke all previous records when 1,107 sixteen-pound packages put on sale in New York brought \$6,570.

A crop of sixty acres of Tokay grapes was sold by T. H. Peppers Co. of Lodi for \$14,000 last week. There are estimated to be 40,000 crates on the place.

The Russian thistle is practically under control in Merced county, owing to an energetic campaign against them by Arthur E. Beers, Horticultural Commissioner.

An eighty-acre prune and apricot ranch in the Santa Clara Valley will yield the owner \$40,000 for the season. Mr. Treadwell plans to dry most of the fruit.

Len Lindquist of Middletown (Lake county) claims to have invented a new method of making grape syrup from wine grapes. Regular winery equipment can be used.

A good pear crop in California and the West in general contrast with poor conditions in such important pear states as New York, Michigan, Illinois, New Jersey and Delaware.

Field mice have attacked young citrus trees in Yuba County, necessitating "bridge grafting" to save some of the trees. Poisoned barley has been recommended to kill the mice.

The fruit juice tax of 10 per cent on gross sales of grape, apple and loganberry juices is being protested at Washington, and a delegation is urging 2 cents a gallon or less as a tax.

Commercial packing houses will not want any more green prunes in dry yards than they can help this year. Tray shock and labor are too high. Evaporators will be busy though, and be used to at least half-dry the fruit.

Malaga grapes are ripening enough in the Lodi district so that the sugar in them meets the standardization law of 17 per cent. Not all of the bunches reach this, but it serves as a forecast of early ripening Tokays.

Modesto Canneries have been busy with apricots. Finishing them this week, their forces will be put on peaches. The Pratt-Low Co. of that city will have 200,000 cases of fruit up by October 15. Vegetable canning will follow until December 15.

The plum season closed this week at Porterville and vicinity. The fruit was of high quality, but the season was not as good as usual, prices being slightly lower than last year. Wicksons and prunes were the chief varieties marketed.

Perhaps you have envied the hogs who have had a jag on apricots. Twenty-five of a herd of 75 were fed on refuse from a cannery packing

apricots near Lodi. The refuse had fermented and these hogs were "soused" for four days.

A system of supervision whereby evasions of the standardization law will be impossible has been worked out by green fruit inspectors of Tulare, Kings and Fresno counties. There will be close co-operation and packing houses will be under close scrutiny.

The British Food Controller has extended a general license for importation of fresh fruits except grapes and pears, which are classed as luxuries. This will be welcome news to our apple growers, who developed a large trade with England before the war.

Sunsweet prunes and apricots will make their bow this year for the first time in many new markets. Hundreds of tons are already contracted for shipment to the Orient, to Russia, Australia, Canada, England, Holland, Belgium, France, Italy and the Scandinavian countries.

The commercial peach crop is estimated at 30,082,000 bushels this year; and a half, or 16,000,000 bushels, comes from California. Nearly 90 per cent of our crop is dried or sent to the canneries, leaving about 4,000 cars to be shipped as fresh fruit. Heretofore California has been the third peach state. Georgia leads us now.

TEMPERATURES FOR EVAPORATING PRUNES.

"The information now published on the subject of the proper temperatures for curing prunes and drying prunes is somewhat conflicting and appears to be more or less unreliable," said Professor W. V. Cruess of the University of California, in reply to our questions. "The whole subject of artificial drying of fruits would appear to be on a very empirical basis and that a great deal of scientific work must be done before accurate recommendations can be made."

"With our present knowledge, it would seem that we should recommend a temperature of 120 deg. F. to 130 deg. F. for the start of the evaporation of fresh prunes. Prunes that are one-half or two-thirds dry can be started at 140 deg. F. or 150 deg. F. Fresh prunes would at this temperature soften and drip. The prunes apparently will stand a temperature of 150 deg. F. when thoroughly dry, but our laboratory experiments indicate that a temperature of 160 deg. F. will cause considerable caramelization, even two hours after the prunes have become free of water. Thus it would seem that a temperature of 150 deg. F. should be about the maximum used in practice where there is danger of fruits being kept at this temperature for more than two or three hours after they are dry. Where the prunes still contain moisture the caramelization does not take place lower than 160 deg. F. or 170 deg. F. because the evaporation of the water from the fruit keeps the fruit below the danger point in the vaporator."

The use of suction fans operated at night with a pilot light for collecting moths and beetles has been reported. A flat pan with a little coal oil in the bottom constitutes the receiver.

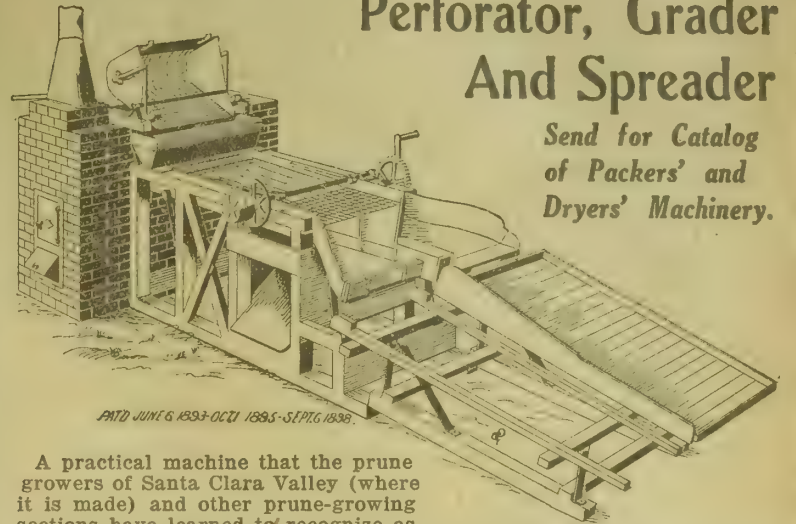
How many cords of wood do you need for that prune dipper? Now is a good time to haul it.

LOSE NO TIME IN CLEANING THOSE MOLDY TRAYS.

(Written for Pacific Rural Press.)

Have you cleaned those moldy prune and raisin trays yet? In three weeks' time you will be wanting to use them. Washing trays takes time: "a lick and a promise" won't do; it is too risky. Everybody is scrubbing trays now or thinking about it. We called at one large commercial drying and packing establishment last week and the following is their method of washing their thousands of trays: They made a redwood vat 8 feet 4 inches long by 40 inches wide and two feet deep, with a steam coil at the bottom to keep the water boiling. A pound of lye is dropped in and one tray at a time is dipped and scrubbed. Hot water is necessary. That is a point that must not be forgotten. It facilitates the work if the trays are well wetted up before they go into the bath. Wire brushes are used on the real dirty trays, and all are well scrubbed with brooms. The wire brushes are 5 row with 2 to 2½-inch bristles. Three men clean about 250 trays a day. The water is changed about four times a day. The lumber for the vat costs about \$10. There is not time to lose.

Anderson Combination Dipper Perforator, Grader And Spreader



Send for Catalog of Packers' and Dryers' Machinery.

A practical machine that the prune growers of Santa Clara Valley (where it is made) and other prune-growing sections have learned to recognize as the standard machine of its kind. It embodies every possible advantage—and does the work perfectly in every way. Durable and substantial in construction.

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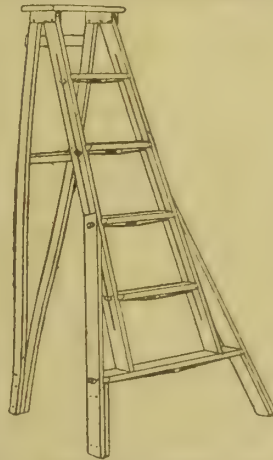
We can furnish this Combination Dipper, Perforator, and Spreader in any size desired—for either hand or power use. Write—and tell us your requirements.

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Have you enough trays to handle this year's crop? Shook is high-priced but so is the fruit you are growing. What has become of the disreputable old blanket stiff? No room in California today but for self-respecting workers.

The Longest Shipping Period

(Written for Pacific Rural Press.)

Newcastle (Placer county) and the district adjacent to it has perhaps the longest fruit shipping season on the coast—from the strawberry and cherry period in early spring to late pears, pomegranates, table grapes and persimmons when the air smells frosty, a few weeks before Christmas. J. A. Campbell, a Dominion Horticultural officer from New Zealand, was with us when we drove through this region last month. As we came into the fruit area around Roseville, Penryn, Auburn and Newcastle, Mr. Campbell exclaimed, "Ah, now this looks like home! These undulating hills, clothed with orchards to their summits are more like New Zealand than anything I have seen yet. The picturesque background of timber, range and brush is typical of California yet not unlike our island scenery in the distance. Our trees run a little larger than these, but not so large as those in your valley orchards. I like the way the trees are trimmed—low headed and well protected; carry a goodly load and are yet cheap to harvest the fruit from, also to prune and spray."

A Newcastle Orchard.

After visiting the packing houses we drove to the orchards of J. L. Nagle—a prominent grower and general manager of the California Fruit Exchange at Sacramento. This ranch, comprising 242 acres of orchard, ships fresh fruit from April to November. One or two striking new features were noticed here. Baskets are used to pick the fruit into instead of buckets or bags. The sides are springy slats; the handle is a rope and the fruit is taken directly to the packing house and packed out of the basket. "No

dumping into lugs. This obviates much bruising of fruit and it is handled only once. As the truck collects the filled baskets of fruit it drops empty ones in the row for the next picking; the trees being gone over about three times. The baskets nest so that a large load of empties can be carried and they are very light. A large variety of deciduous fruits is raised here. We found the men working on plums. One orchard of plums yielded a crate of fruit to the tree at four year old.

Cultural Methods.

A trained man is kept here whose sole duty it is to make his rounds and look after the health of the orchard; to investigate any trouble shown by individual trees and repair any mechanical injury or forestall it by precautionary measures. In irrigation, contour furrows are drawn as much as possible and about one inch of water used to every 6 acres. After irrigation, the ground is promptly cultivated as soon as it is fit to get onto with a team. Mr. Nagle manures heavily every year in addition to raising a cover crop. From the top of a knoll we could look down and see the difference in the color and density of the foliage on peaches, plums, pears, etc., where the manure had been applied and some adjoining orchards where none had been used.

Mr. Nagle supervises these orchards on his Saturday afternoons and Sundays, and has them contracted or departmental men in charge. As he says, "I am a fiend for cleaning up," and apparently the men in charge heed this. The packing and marketing facilities from this section are admirable.

Staples for Wiring Fruit Trees

In your issue of July 12th there was an article descriptive of a method of securing heavily laden fruit branches by means of wire and galvanized staples. I have always thought that anything driven into the limbs of the trees would injure them, or at least greatly weaken them. Am I mistaken? I have some pear trees seven years old and many of the branches are beginning to break in the high winds, but as I have to cultivate frequently on account of morning glory I have not put up any props. I had thought before of wiring up the branches, but was afraid to pass a wire around a branch as it might cut through the bark, but the idea of staples is new to me. How large should the staples be? If small ones are used for small branches they will be too small in a few years to hold up the greatly increased weight.—H. V. L., Oakland.

We have used wire for supporting trees for years in Napa and Sonoma counties to eliminate the expensive and awkward method of propping. To pass a wire or a wooden support behind the branch cuts through the bark and weakens the branch. We did most of our wiring in the winter, but it can be done any time. First

we used 14 gauge wire and found that too light—some of them broke. Twelve gauge is all right, but hard to handle, so we compromised finally on 13 gauge.

We used two-inch fence staples (light) and drove them in if possible slightly obliquely with the points tending downward to avoid a straight pull. I don't know that this is necessary as they hang on well and never pull out. If the wood is too small to carry a staple without splitting the wood—and this must be a matter of judgment—use large picture screw eyes. Neither of these will injure your trees, for the bark will grow right over and there is no wound.

I have noticed some orchards wired to a central strong ring, the wires radiating from it. This is a good plan in a few instances where there are a number of leaders, but is generally an unnecessary expense as it involves the expenditure of far more labor. It has this advantage; if one wire breaks, only one branch is released. You will find this method of wiring from staple to staple very helpful in securing your trees in shape, and it will obviate the expense and annoyance of props and broken limbs each year.

Figures on Apple Drying

To the Editor: Will you kindly answer the following questions:

- (1) Will Newtown Pippins dry out five to one average?
- (2) What is the cost of peeling and trimming per green ton?
- (3) What amount of sulphur is used in drying?
- (4) How many peeling machines would be necessary to operate a 50-ton crop and what is the cost of such machines?

(Reply by Carrol J. Rodgers of Watsonville.)

(1) I do not believe that orchard run Newtowns will dry out 5-1; but if of good size and well matured they should dry out about 6-1. The evaporators here figure from 6½-1 to 7-1 for the season's average of all apples dried—the bulk of these being inferior grades with more wastage.

(2) The labor cost for peeling will be in the neighborhood of \$2 to \$2.50 per green ton, depending on the kind of labor used and the quality of fruit. If trimming is practised after peeling the cost will be about this much additional or a total of from \$4 to \$5 per green ton.

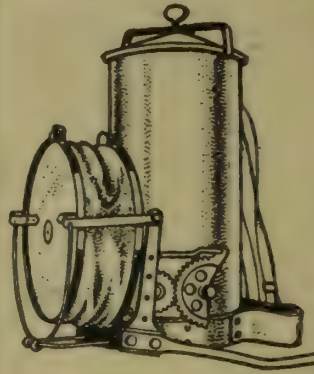
(3) The amount of sulphur used varies from 20 to 40 pounds per dry ton, the average being perhaps 30 pounds. Early in the season the apples require more sulphur than later when they are more mature.

(4) The number of machines to use for a 50-ton crop depends on the speed with which you wish to dry and the amount of floor space available for drying. For economy in heat, it is desirable to use each unit of your plant to capacity, if possible. We figure 3½ to 4 tons of apples (before

peeling) for each kiln floor of 400 square feet. Each peeling machine will average about a ton a day or bet-

ter with expert operators. Power machines cost around \$40 each and hand machines about \$25 each.

American Beauty Dust Sprayers



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CORN EAR WORM,
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RUST AND MILDEW

One Man Does From 15 to 25 Acres Per Day

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Put Me Through the Acid Test

The supreme test is this: is the maker willing to ship on approval? Send me your order today for 2 or more of the

SECURITY
KANT-WOBBLE
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—I'll pay the freight and ship subject to approval. The SECURITY never comes back! I've sent hundreds on approval—not one was ever returned—orchardists know when they see the SECURITY—it is the one ladder that actually cuts picking costs and is built right!

Prices: 8 ft. ladder, \$5; 10 ft., \$6; 12 ft., \$7.20. 65 dealers in Calif., or write me direct for shipment on approval or booklet.

J. B. Patterson Mfr.

70 Franklin St.,

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I ADMIT THAT I BUILD

THE BEST ORCHARD TRUCK IN CALIFORNIA

Twenty-five years of experience has taught me how.

AGENT FOR DIAMOND T MOTOR TRUCKS.

Motor Truck Bodies Built to Order.

M. BROEDEL,

Write or Call
556 SO. FIRST STREET

San Jose, Cal.

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An organization along broad and liberal lines for a nation-wide, safe, and sane distribution of tree and vine fruits. Our services are available through our associate members to any and all shippers of fruits.

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For Every
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NEW
Threads &
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Fittings and
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Special
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Made to
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TESTED AND GUARANTEED.

PACIFIC PIPE CO.

MAIN AND HOWARD STS.

SAN FRANCISCO, CAL.

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Dusting for Walnut Thrips—Results.

The J. B. Pico walnut orchard at Goleta (Santa Barbara County) was dusted with the kaolin-black leaf mixture just as the leaves were coming out this year. Two and a half months later the trees still showed freedom from aphids, and the trees carried good foliage clear to the top of the largest trees. Another orchard dusted two months later also showed freedom from thrips but the foliage in the tops of the trees showed small. The two orchards can be compared as they are adjacent and the soil is similar. We cannot say that these comparative conditions are due to the dusting or to different orchard management, but they are the facts.

Effective Whitewashes.

We noticed a very white wash on some two year old tree stems last week and reached down a hand to try its adhesive powers. It whitened the hand but did not brush off, so we asked the grower for his recipe. "Well, I use a lot of tallow in it," he said, "and I cook the lime while the tallow is stirred in—I put a fire under it. How much tallow—oh, I don't know, never weighed it, but quite a lump. It makes the wash stick and I think it is repellant to rabbits." The next day we saw another young orchard well protected with whitewash and the owner also uses a lot of tallow (no specific quantity) but he also adds a quantity of Spanish whiting in order to make white whiter. There was no scaling in either case.

Stable Manure for Citrus.

The Kaweah Lemon Company at Lemon Cove (Tulare County) started planting their citrus groves in 1890 and '91. They have over 160 acres in lemons—all Lisbons,—90 acres of navel oranges and some grape fruit—enough to run a good-sized packing establishment. J. R. Arthur, the manager, says that \$1835 was spent for barnyard manure in one year for a small 22-acre orchard which was bought to add to their holdings. He has more faith in manure than in any form of fertilizer because of its mechanical effect as well as its plant food value. The above is only quoted as an instance of the thoroughness of the application deemed necessary by commercial growers.

This is a Peach of a Year.

How to build a large peach orchard so as to never miss the target or to have too much to do at once is shown at the Superior Fruit Ranch at Ceres—320 acres of it. Their peaches are divided as follows: 40 acres of Muirs and 40 acres of Lovells now 10 years old; 40 acres of Tuscans and 40 of Phillips Clings (8 yrs. old); 20 acres of Albertas. Then there are 30 acres of Tilton Apricots and 10 of Blenheim, also 20 acres of Tokay Grapes and 50 acres of Malagas. This makes a long, profitable season. Any fruit man familiar with this section can figure out the possibilities of the turnover here for this year of wonderful crops and prices.

Disking Against Johnson-grass.

"The disk is not a good tool to fight Johnson-grass; I have found that out," said S. G. Owens of Madera, who has 80 acres of Muscats where this tiresome weed has crept in. "The disk just chops up the root and makes more plants of it which readily strike if the ground is in proper shape for working. I have found the best plan is to plow thoroughly and then use the spring tooth and harrow, which drags the tough roots up to the surface. Keep the spring tooth going till they are dried up and can be raked off. In the vineyard it is impossible to keep this going as long as I should like because the vines prevent that, but the spring tooth is the tool." He uses it also in his apricot and peach orchard to create and maintain a thorough mulch after irrigation.

Caprifying Adriatics.

Mr. Owens has about five acres of White Adriatic Figs which turned off

ten tons of dried fruit last year. This year he has caprified the orchard and can reasonably expect an improvement in quality and weight. He has 185 trees to be exact and these may yield \$700 to the acre with decent luck, for they are large trees. Farmers in this section are fortunate in being in control of their own water systems. The water is within easy lift of the surface and in any quantity. The soil is warm and responsive to careful treatment in irrigation and fertilization.

Prune Prices.

In 1902 prunes sold at a 2¼ cent base. In 1903 and 1904 they sold at 1¼ to 2¼ cent base and thousands of prune trees were ripped out by disheartened growers. In 1917 the growers received up to 8 cents and the following year 8½ cents and better. This year the market and the demand as well as concomitant conditions have given a 12 cent base. The average men outside of the associations sold their prunes at 9 cents. Some sold at 8 cents and 8½ and some at 10 and 11, but the average was not over 9 cents or 25% to 30% less than association men will get at the least.

Let Your Fruit See the Sun.

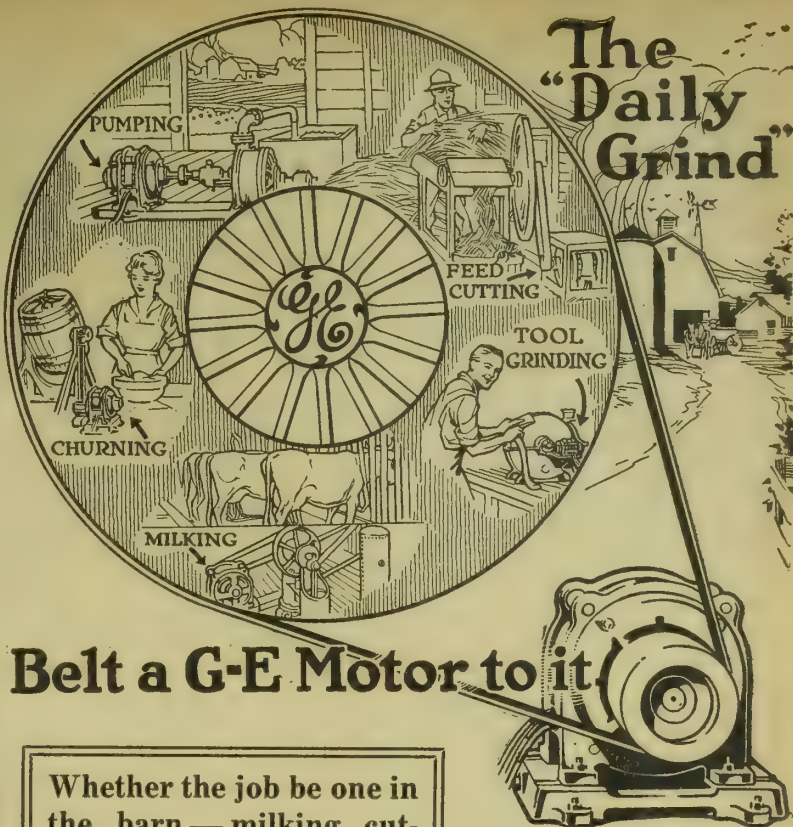
"I am going to take out every other row of prune trees in my orchard," said a prominent grower recently. "The trees have grown so close together here that the sun never penetrates and that is why these prunes are small. No sun—small prunes. I expect the surrounding trees to do better in size and quality of fruit and they will soon spread over the unoccupied ground."

That 300,000 Ton Raisin Crop.

Advertising is an art. Judicious display and a careful following up is bound to bring returns. Our growers' selling organizations are shining examples of what can be done by advertising in a large way, and this was only possible by organization. This year's 200,000 ton crop of raisins is already sold where a 100,000-ton crop was a drug on the market a few years ago. In a few more years there will be a 300,000 ton crop. Nothing but a grand campaign of advertising could find markets for such a vast increase. And this will be carried out by the efforts of the united growers of raisins—the California Associated Raisin Company.

Wage Scale Decision for 1919.

In accordance with a wage scale decision arrived at by conference with employers and employees, the following firms and fruit operators who are parties to the agreement agree to pay 45 cents an hour for 8 hours and 55 cents for each hour thereafter in each day: California Packing Corporation; Herbert Packing Co., Inc.; Garcia & Maggini Co.; Napa Fruit Co.; J. F. Pyle & Son; D. Di Fiore Packing Co.; Golden State Canneries; Pacific Coast Canning Co.; Geo. E. Hyde & Co.; J. C. Ainsley Packing Co.; California Peach Growers, Inc.; J. B. Inderrieden & Co.; Hunt Bros. Packing Co.; Pratt-Low Preserving Co.; The Shaw Family, Inc.; Salsina Packing & Canning Co.; Rosenberg Bros. & Co.; Croker Packing Co.; Schuckl & Co.; The Conatada Canning Co.; H. Z. Prince & Co.; California Canneries Co.; Manteca Canning Co.; Golden State Asparagus Co.; Bay Side Canning Co.; F. Z. Wool Packing Co.; Goetjen & Workman; J. H. Flickinger Co.; California Associated Raisin Co.; O. A. Nelson & Co.; Muller Bros.; Libby, McNeill & Libby; Pacific Coast Syrup Co.; Manteca Packing Co.; Richmond-Chase Co.; Guggenheim & Co.; G. W. Hume Co.; Greco Canning Co., Inc.; Winters Canning Co.; F. E. Booth & Co.; Ocean Shore Canning Co.; Maywood Packing Co.; Sunlet Fruit Co.; Sunical Packing Co.; Kings County Packing Co.; Zerillo Packing Co.; North Ontario Packing Co.; Placentia Canning Co.; San Jose Canning Co.; Tamal Packing Co.; California Co-operative Canneries; Western Canning Co.; Pasadena Canning Co.; Victory Canning & Packing Co., Inc.; Bishop & Co.



Belt a G-E Motor to it

Whether the job be one in the barn—milking, cutting the day's feed, pumping the water—or in the dairy—separating or churning—or wherever chores are everlastingly waiting to be done, there is a G-E FARM MOTOR that will do the work better and quicker. The labor released soon pays for the motor equipment.

Your near-by Central Station or General Electric Agency will gladly help you.

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THE WHEAT TRACTOR
Equipped with Road Wheels.

Write for descriptive printed matter.

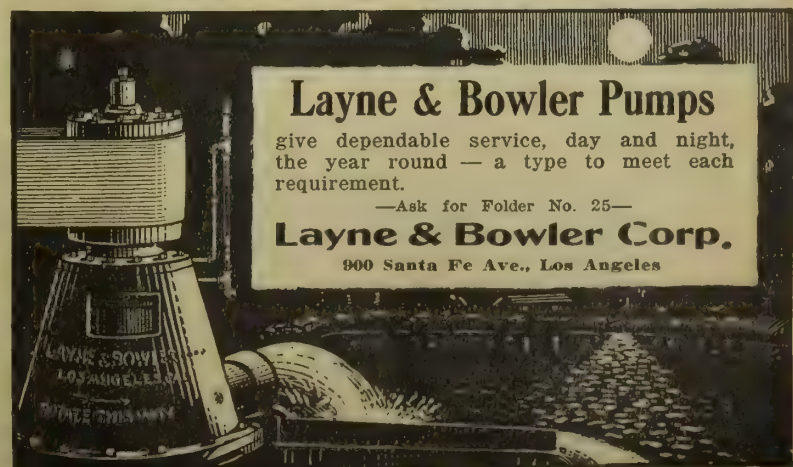
THE HESSON SALES CORPORATION

California Distributors

235 South Los Angeles St., Los Angeles

The WHEAT TRACTOR handles three 14-inch plow bottoms under all normal conditions. It will furnish power for any hay baler or silo filler, also plenty of power for a medium sized grain separator, with weigher, wind stacker and self feeder. As it is equipped with a governor like a stationary engine, the WHEAT TRACTOR will furnish steady power for pumping water, running an ensilage cutter or doing any similar farm work.

With the WHEAT TRACTOR'S interchangeable road wheel attachment it can be converted in less than an hour into a road truck with rubber tired wheels and will do anything that a 3500-pound truck will do with trailers. Some good territory still open for dealers.



Layne & Bowler Pumps

give dependable service, day and night, the year round—a type to meet each requirement.

—Ask for Folder No. 25—

Layne & Bowler Corp.

900 Santa Fe Ave., Los Angeles

You Need Not Fear to Buy Any Pump.

(Written for Pacific Rural Press by E. E. Hodges.)

To the Ranchers of Madera County and Elsewhere:

The State Railroad Commission has investigated the situation in Madera county revealed in our issue of April 19, wherein it was stated that there is a general impression among the ranchers that if they buy an F pump, they will get earlier and more continuously satisfactory service from the San Joaquin Light and Power Corporation with less delays than if they buy any one of a half-dozen other pumps that are offered. In that issue we quoted the Power Company's representative who stated emphatically that there was no real basis for such an impression or rumor. Some of the Power Co. and F. Co. officials had ridiculed the statement that such an impression existed, but the Railroad Commission found it quite general among the ranchers as the Pacific Rural Press had found it.

The Railroad Commission then tabulated the dates when applications were signed and when transformers and meters were hung, the application dates including all from Madera county between January 1, 1918, and March 6, 1919. This shows that the average time between date of application for power and date transformers were hung was 132 days for parties installing F. pumps and 124 days for those installing other pumps. The average time between date of applications and date meters were ready for service was 145 days for parties who installed F. pumps and 143 days for all others. This proves that our readers actually were not discriminated against in any general way on account of the kind of pump they installed, although certain cases of discrimination are yet unexplained. Walter J. Dodge, Assistant Engineer of the California Railroad Commission, and Mr. Lutzke, also of the Commission, made the investigation.

On February 21, 1919, one of our subscribers wrote to the Pacific Rural Press stating that he had found a pump and motor that would fill his requirements and that the price was reasonable. He had partly paid for the outfit when his neighbors told him "that unless I purchase my plant from a certain company and purchase a certain make of machinery, I will meet all kinds of delays and obstacles, even to the condemnation of my whole outfit. After asking for bids from several firms, I asked this favored company. Their bid was \$71 higher than the next highest bid." * * Can anything be done to get a square chance for the farmer and justice for those who advertise in your paper?"

We asked the power company for their explanation, of course withholding the name of our subscriber who feared delay if he antagonized the company. We also inquired from five of the leading makers of pumps and motors in San Francisco, and found them unanimous in saying that their experience justified them in believing that such a condition existed. General Manager A. G. Wishon of the San Joaquin Power Corporation refused to discuss the anonymous letter, but almost immediately addressed a letter to his district agents asking them for specific cases of faulty installations of various pumps such as would justify the stand of the power corporation in recommending the F. pump to consumers of electricity for irrigation.

The Power Corporation has a definite set of specifications for pump installations which are required before it will connect its lines with the meter and thus with the pump outfit. But these specifications are not always followed by the local men who install pumps, and the ranchers have trouble afterward if connected in spite of the rule, but due to the urgency of some such cases.

Since Mr. Wishon would not go further in the matter, the Pacific Rural Press sent a representative to that territory and published a summary of his findings along with a few ranchers' statements in our issue of April 19. Not long afterward, we submitted our correspondence and several signed statements from the ranchers to the California Railroad Commission. That Commission thereupon sent their representatives to the same territory for an investigation, since the Power Company is under its jurisdiction and is supposed to connect power users in the order of priority in which their applications for power were signed.

Referring to actual dates of application and service, most discriminations against power users were found to have been for causes that would seem reasonable to any unprejudiced person. Some parties obtained transformers independently when the Power Company claimed to be unable to get enough to go around, and such

parties were served sooner than their turn would otherwise have justified. One party was told that the company had no transformers, but he found transformers available in San Francisco and was immediately connected up when he told the company about them. Some applicants were dropped from the priority list when they failed to answer letters. Some parties exchanged places with friends on the priority list for fair reasons and without delaying other applicants, but this is subject to abuse and is discouraged by the Commission. Some applicants were not ready when their turn arrived and the power men were busy elsewhere when they became ready. Sometimes a man late on the priority list could be connected with a great economy of time and labor while the power men were out to connect up a near neighbor. Such a practice would perhaps be commendable if it did not tend toward outrageous abuse and if it did not subject the company to perpetual suspicion.

But the persistence with which this public utility recommends one particular pump concern, and the frequency with which the representatives of both visit prospective power-users together, along with the discontent of other pump dealers have led to a suspicion, not well founded in our opinion, that some of the Power Company's representatives are getting a rakeoff from the F. pump business. The rumor that discrimination was practiced against buyers of other pumps certainly has led many ranchers to buy the one recommended by the Power Corporation officials. It may be significant that of the 141 applicants for power service who have been connected up since January 1, 1918, 80 have installed F. pumps and 61 applicants other makes.

I think that the Power Corporation has handled this situation somewhat unwisely, writes Mr. Dodge in his report, in that they have allowed various rumors to continue and have taken no definite steps to counteract them. Further, I believe that the close association of the Power and the F. pump companies' representatives is not the most prudent course to continue. * * * The Power Corporation recommends strongly the installation of the F. pump; and in their attempt to have these pumps installed, their representatives on going to see the applicant for service has * * * had an F. pump agent accompanying him.

However, it appears that during this year the order of connecting up new services in the Madera district has more nearly corresponded to the order in which the applications were received than during 1918.

Get Definite Data.

Our suggestion to our readers, based on the Power Corporation's stated wish to clear up such misunderstanding is that whenever you feel that discrimination is being practiced

against you, apply to the district representative of the Power Company on the basis of their statements in our article of April 19 and ask for an explanation. If that proves unsatisfactory, ask to see their books as the Madera representative promised permission. If you find discrimination that has damaged you, get the facts of the case which prove it and send them on to us or to the Railroad Commission in San Francisco.

THE KADOTA FIG PLANTINGS.

(Written for Pacific Rural Press.)

In reply to our enquiries regarding the Kadota fig (which is said to be the White Endich), W. Sam Clark of Sultana (Tulare county) said: "About the planting of Kadota figs for next season, I am now booking orders in some quantity about five months in advance of any previous season though my nursery has never heretofore been able to supply over 50 per cent of the orders placed with me (June 14). In a few days we will be picking and shipping the June crop and will be about 30 days at this work. On August 1 we will begin shipping the later crops, which correspond with the Smyrna and Adriatic. By caprifying this portion of the Kadotas we produce a dried article second only to the choicest Smyrnas. Then, as the season advances and the wasp is no longer obtainable, our figs continue to ripen and we generally cease picking November 15 to 19. Hence we have a crop in June, part of September, all of October and half of November, and we have harvested a tonnage on trees of a given age far greater than can be found on the above named varieties."

"The curing qualities are the same as any other fig. They are gathered from the ground in the same way though we consider them too valuable as a fresh fruit to think of drying them. For instance, all the green Kadotas in the valley around us have been contracted for by canners, who furnish the boxes. The grower gets 8 cents a pound f. o. b. for his June crop and 9 cents a pound for his following crops. The uncertainty of transportation the last two years has made us cautious of heavy shipments, but another year we hope to resume in quantity the shipping East."

"It is not alone the excellent shipping qualities of this fig that is bringing it into favor with planters. It bears a paying crop at an early age, the fruit never splits, sours, or molds on the tree and is frost resistant."

Cherries are practically all harvested now and the yield has been satisfactory in tonnage and of a quality throughout which has never been surpassed.

Madewell
Surface
Pipe
Lock
Seam Pipe
With the
Lock Seam Sleeve

Strongest, smoothest and most practical construction possible. When it comes to surface pipe, there's nothing better.

—Lock Seamed by powerful machinery — a good wide seam that holds.

—Lock - Seamed Sleeves, countersunk on the inside, leaving a perfectly smooth surface. An exclusive Madewell feature.

—Full Gauge Steel guaranteed in all Madewell Pipe.

Send for Catalog 8. It explains Madewell Surface Pipe and other Madewell Sheet Metal Products in detail.

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NEW HARNESS

is cheaper than second-hand, dollar for dollar of cost. Come in and see what we have to offer you in **HERCULES HARNESS, Saddles, and Horse Collars.** Our own make and fully guaranteed.

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California's Pioneer Harness Manufacturers

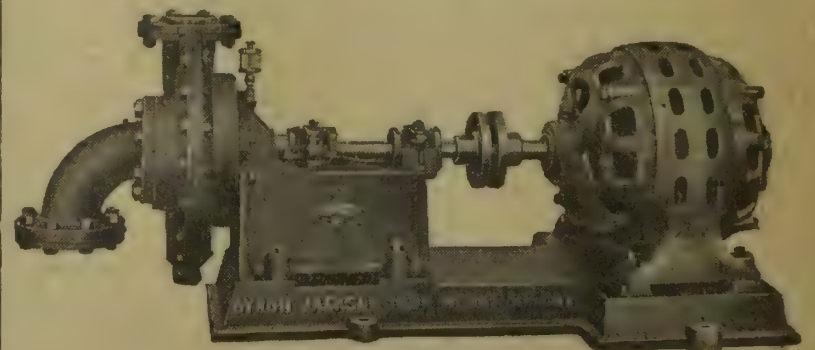
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Catalogue of Harness, Saddlery, Trunks and Traveling Bags sent free on request.

UNCLE SAM DEPENDS ON YOU!

Is your soil producing the maximum?

"BYRON JACKSON" PUMPS are built to meet every condition of "supply and demand" on your ranch.



Write us your conditions.

New Catalog No. 60-A for the asking.

BYRON, JACKSON IRON WORKS, Inc.

LOS ANGELES

SAN FRANCISCO

VISALIA

Suggestive Agricultural Mention

(Written for Pacific Rural Press.)

Restricted Cereal Importations.

After August 15 no seed or paddy rice may be imported into America, nor, except under strict supervision may raw, uncleaned, or unprocessed wheat, oats, or rye be imported from Australia, Japan, India, Brazil or western Europe. This is to prevent introduction of the flag smut and take-all diseases.

Chinese Wheat and Flour.

China imported more than one and three-quarter million barrels of flour in 1913, but her imports have fallen off since then and she now produces more wheat than she uses at home. Had it not been for high freight rates, flour milled in Shanghai would last year have been marketed in Vancouver. That's surely carrying coals to Newcastle!

California Land Show.

A cotton gin, a vegetable dehydration plant, a miniature rice field and rice mill are some of the exhibits to be at the California Industries and Land Show, October 4 to 19 in San Francisco. Along with these will be maps from the U. S. Department of Agriculture showing further available lands for cotton, rice, vegetables, etc.

World Cotton Conference.

A world cotton conference at which are expected representatives of not less than 20 foreign countries, besides all of the cotton states of America, is to be held in New Orleans, October 13 to 16. The pro-

gram recently published includes discussion of all the questions confronting cotton growers as well as a better understanding by each section of the conditions existing in other sections.

Lime for Legumes for Fertilizers.

Is your land heavy and sour? Money spent for lime is an investment, not an expense. It will all come back with some more little dollars besides. Soils analyzing strong in lime will produce abundant legume crops, other things being favorable: legumes increase the nitrogen in soil; nitrogen from legumes will increase your crop of whatever kind; and the lime will help in other ways, too.

Barley Skyrocketing.

It is estimated that over half of the present barley crop has been sold, and Europe is demanding more barley at the higher prices being asked. Since the opening of shipments to Europe, there has been a rather steady rise in prices due to increasing demand. It may be well not to forget recent history of a similar wild struggle to get barley and a slump thereafter.

Cold Storage Public Utility.

All cold storage warehouses are public utilities subject to the Railroad Commission as to rates, regulations, etc., under a law which went into effect July 22. There are about 60 such warehouses in California. The Railroad Commission has asked

all of them to file schedules showing all rates, charges and rules at present in force. From these reports as a basis, equitable rules and charges for the State will be worked out officially.

Iron Canyon Water Application In.

Permission to store a million acre feet of water per annum besides direct diversion of enough to cover an acre every 17 seconds is asked of the State Water Commission by W. A. Beard of the Sacramento Valley Development Association to irrigate 650,000 acres on the west side of the valley from the Iron Canyon project. Mr. Beard also asked the use of 10,000 cubic feet per second for hydro-electric power development under the new law by which irrigation districts may generate electricity with their water power.

Modesto Applies for Water.

The Modesto Irrigation District has applied to the State Water Commission for a permit to store 600,000 acre feet of water per annum in the Tuolumne River by means of a concrete dam 283 feet high, 930 feet long on top, 100 feet long at the bottom, the waters to be used for electric power and for irrigation of 100,000 acres as reported by the Water Commission. The dam and reservoir are to cost \$3,100,000 and the electric works are to cost \$1,000,000. The work is to begin in 1920 and be finished before 1924. This district has been dry several weeks already this summer, and the need for storage is shown by damage to fall crops.

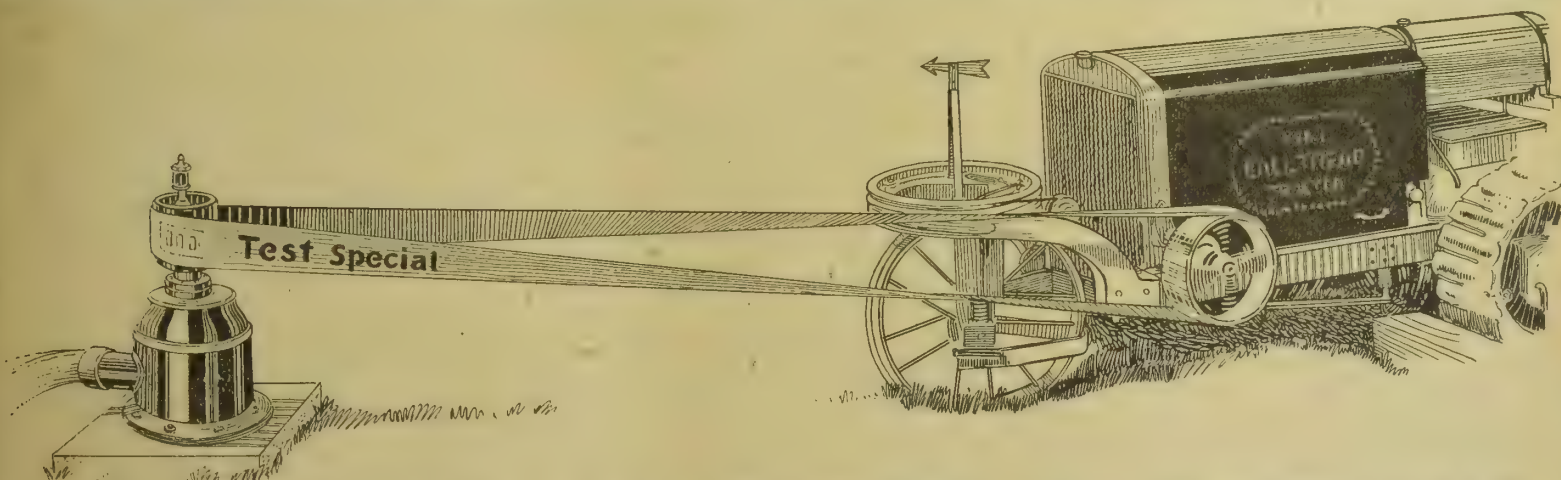
Hogs Prevent Irrigation.

A dollar a foot for a ditch right of way to irrigate new developments in Placer County proved too much for the P. G. & E., which company had been allowed by the Railroad Com-

mission \$15,000 with which to buy 47,200 feet of right of way. One hog asked \$9,200 for five or six acres of uncleared land worth a maximum of \$80 per acre. Such unreasonableness on the part of some farmers prevented others from getting water after the P. G. & E. had bought 18,600 feet of right of way for \$19,000. The farmers who suffered tried to get the Railroad Commission to order completion of the job and delivery of water. The commission refused to feed the hogs (by ordering completion of the canals), but suggested that their appetites be reduced first, by pressure from their neighbors who want water.

WHAT DO YOU KNOW ABOUT THIS?

A business man who had become a prune grower was told by an independent buyer, just when he was going to lose money by letting his fruit remain in the Prune and Apricot Growers' Association, and offered him 8½ cents for his crop back in April—just to help him out of a hole. The grower is said to have appealed to the Association to have his contract cancelled so as to be able to get this grand price, which request was naturally refused. He is now able to realize how important it is for every single member of a marketing organization to "stay put." It looks as though the man who remains on the outside now is something like those men who evolve a "system" to beat the races. But the only way they can ever win is to take a flyer and quit after grabbing off a long shot. This year the odds were too wild for anyone to take a chance and win. But the bookmaker has got to live, and he can only live on what he makes from you fellows who speculate.



CUT YOUR MACHINERY EXPENSE

The belting with which you equip your machinery can be the largest item of your running expense. If you continue to use the ordinary makeshift kind you can expect a continuation of the usual breakdowns and lay-offs. The belt that will give you less trouble and last longer is the one that will save you money, time and labor, and prove the most valuable in the end.

That belt is the **TEST SPECIAL**. For years it has been recognized as the standard and has won its popularity through its merits and superior wearing qualities. It is a guaranteed belt for hard service. No matter how great the strain or what the weather conditions may be a **TEST SPECIAL** will do the work as though the conditions were the most favorable.

TEST SPECIAL is made of long fibre cotton, specially woven into strong plies. Each ply is vulcanized with high-grade Rubber Friction. High pressure is maintained during the process of vulcanization, which forces the rubber through as well as between the plies. This assures a permanent adhesion. **TEST SPECIAL** will positively never separate between plies.

We guarantee it to give better and longer service than any other Rubber Belt manufactured. Our guarantee is your protection. Do not purchase Belting for any purpose whatsoever until you have investigated the **TEST SPECIAL**. It means a saving to you. Send in the coupon for samples of the grade belt we will guarantee for your work.

If you are having belt trouble of any description, write us. Give us the details and a rough drawing, showing location of machinery and trouble, if possible, and we will tell you what is wrong. Nine times out of ten belt trouble is due to its improper use. Write us today. Our services are free.

New York Belting and Packing Co.
519 Mission St., San Francisco. Dept. 10.

Send me samples of Belting that you will guarantee to give satisfactory service on my work, and quote prices delivered at

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NEW YORK BELTING AND PACKING COMPANY

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SAN FRANCISCO

HOME OFFICE: NEW YORK CITY. Branches in all principal cities.

Grasses Along the California Coast

(Written for Pacific Rural Press by Sam'l E. Watson.)

At the first convention of the California Dairy Association, in 1894, Prof. E. J. Wickson gave a talk on grasses, in which he specially commended the perennial grass, *Danthonia Californica*. In the Rural Press, about the same time, a correspondent from Marin county also gave it the following tribute, when there was considerable discussion as to grasses suited for dry regions:

"In the search for pasture grasses that will endure drouth why do they not cultivate *Danthonia Californica*? It is the most valuable pasture grass that we have in this county, but unhappily it can hardly produce seed, because the animals eat it so greedily. Last fall, when there was not rain enough until after Thanksgiving to start seeds, *Danthonia* grew and flourished, and helped by the fogs and mists on the high hills, it was the mainstay of the animals. It keeps green longer than anything else in the spring, freshening with every shower, and I have no doubt it could be converted into a lawn grass. I have seen beautiful, smooth stretches of it when conditions were favorable and when conditions are unfavorable it makes the bravest struggle of any plant I know."

These statements impressed me so that I have tried to observe it in my work along the coast and have found it generally distributed from Bolinas to Russian river and inland as far as the ocean influences permit enough permanent moisture to continue growth after the common annual grasses have turned brown.

Pastures Along the Ocean.

It is certainly true that through the centuries rank growth of vegetation, due to ocean influence, has filled the soil with humus or decayed roots and herbage. This gives it moisture-holding qualities through the dry seasons, and this fact has a direct bearing on the great problem of maintaining the pastures along the ocean.

It is a question of relying on perennial growths that send roots down to permanent moisture and the direct problem is to find grasses and forage plants with abundant leafage and minimum seed-stems, such as the bunch grasses of perennial type. Blue-grass of the middle states, buffalo-grass of the western ranges, and *Danthonia* of the Pacific Slope may be relied upon as the mainstay of dairy pasturage.

Prof. Jepson's "Flora of Western Middle California," with its section on the "Grass Family," edited by J. Burtt Davy, which has enabled me to identify many of our common grasses, says that *Danthonia* is the prevalent grass on dry hills, especially along the coast from San Francisco Bay northward and southward.

Prof. Geo. H. Vasey, while botanist of the U. S. in 1893, in his work on "Grasses of the Pacific Coast," says it extends from middle California northward and also eastward to Nevada and beyond.

The Mainstay of the Dairyman.

The practical dairyman along the ocean knows that there is a bunch-grass which is the mainstay of his herds, but gives little notice to its habits and has never heard of Etienne Danthoine, a French botanist of the 18th century, in whose honor the great perennial was named. Excepting for a mass of fine green blades close to the ground and a few seed-stems, as it has escaped the eager nipping where a maximum herd of dairy cows is cropping it twelve months in the year, the casual observer will scarcely notice this inconspicuous grass, that maintains its hold through the centuries.

In the Australian building, at the Panama-Pacific Exposition, *Danthonia* was displayed in several species peculiar to that country, indicating that it is important on that continent, similar in climate to California. The one deficiency of the grass is that it is a shy bearer of seed and therefore difficult of introduction and propagation. However, dairymen along the region facing the Pacific need not

worry as to this shortcoming, as it was here long before themselves and will continue in the centuries to come.

In reply to any question as to how we may improve the coast pastures, there is but one answer, and that is to make conditions as favorable as possible to this great perennial; investigate its habits and aid in combatting the foreign growths that have lessened its importance and crowded it out, with the assistance of overstocked ranges. At least the dairyman should be able to identify it and cultivate the habit of understanding something about the qualities of the various plants that cover his dairy ranch, thereby lending a helping hand as it may be required.

In order to aid in this identification I have made a collection of the grasses in this vicinity, most of which are annuals and compared with the perennials of little value as pasture plants. These may be classified into three tribes, as follows:

Oats Tribe.

Danthonia, or Oat-grass; Wild oats (*Avena fatua*); Mesquit or Velvet grass (*Holcus lanatus*).

Barley Tribe.

Barley-grass or foxtail (*Hordeum murinum*). Meadow Barley-grass (*H. nodosum*). English Ray-grass (*Lolium perenne*), a perennial, commonly used for lawns in all places, probably valuable for bottom pastures. Italian Rye-grass (*L. multiflorum*), an annual or biennial, extensively sown in bottom lands of Humboldt county for summer feed. Darnel or cheat, (*L. temulentum*), common in grain fields and probably a good grass in its early stages. Various considered as toxic. English farmers believing it harmful if brewed with barley. Most recent opinion is that it is sometimes affected with ergot, a black fungus, poisonous if eaten. Rancheria-grass (*Elymus condensatus*), a good grass but not very prevalent in this vicinity.

Fescue Tribe.

Branch-grass (*Bromus maximus*), useful in early stages, but its terrible awns make it useless when mature, though in regions of California, where better grasses are deficient, it is used extensively for dry stock. Poverty-grass or soft chess (*B. hordaceus*). Common everywhere in California and apparently of little value when mature, though it is highly praised by a prominent farmer in Humboldt county. (*B. cardinatus*) not plentiful here, but increasing farther north and regarded by the same Humboldt farmer as well-suited for dry land and a good pasture grass, as it is a perennial. Rattlesnake-grass (*Briza maxima*), an ornamental grass in gardens. Weedy Fescue (*Festuca myuros*). *Dactylis glomerata* (Orchard grass), perennial, affording good pasture.

As most of these are annuals and do not prevail in the coast pastures they have but little interest to dairymen along the coast, but at twenty to fifty miles inland they are the important range grasses and some of them constitute the winter pasture, turning brown and dry, with seed-stems from one to six feet high. In these semi-arid districts the perennials do not thrive, usually, though the rye-grasses continue green long after the annuals have dried up and become woody.

Miscellaneous Growths.

In such favorable regions as on the coast ranges it is to be expected that there is great variety in plant-life, but the fact that perennials have taken the ground and survive the long summer period, where annuals do not penetrate to moisture, gives the former class of plants an advantage. While there is considerable wild clover (*Trifolium tridentatum*), mixed in the pastures and a weedy fescue (*Festuca myuros*) is becoming a serious competitor with *Danthonia*, though apparently cropped by cattle, the great problem for ranch owners is to make an effort to destroy such



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unpalatable and harmful plants as the sedges, lupines, and especially the English plantain (*Plantago lanceolata*) or ribwort, which is rapidly covering the best pasture lands. In reference to this invader, Prof. Jepson states that it is a naturalized Euro-

pean species, which has seriously diminished the carrying capacity of cattle pastures in the Point Reyes country and northward to Humboldt county. These various growths should bring a full discussion here and later investigation as to practical efforts to redeem the coast pastures from all injurious plants.

WORLD WHEAT CONDITIONS.

If the world supply of wheat has any bearing on its market value, figures just gathered by the U. S. Bureau of Markets will prove interesting. The average world production for the three years, 1911-13, preceding the world war, was 3,825,096,000 bushels. 1918 crop totaled 3,788,926,000 bushels. The United States produced more than any other country—about one-fourth of the world's production. Russia and Siberia together raised about 200,000,000 bushels less than the United States, and the next biggest producer, India, raised only half as much as Russia. From the 1919 crop, however, Russia will be able to furnish the world with practically none as against her pre-war average of 128,000,000 bushels. India, instead of exporting 35,000,000 bushels, as she did in 1918, or 60,000,000, as she did annually in the pre-war period, is importing wheat from Australia, owing to her crop failure. The only exporting countries for the period July, 1919, to June, 1920, are Argentina, Australia, Canada, Algeria, and the United States, but they have an estimated total of 1,287,807,000 bushels for export to the rest of the world which does not feed itself.

FARMERS MAY KILL BAD BIRDS.

In answer to inquiries as to the farmers' right to kill birds which are actually injuring his crops, we give below an extract from the law which shows that the farmer is allowed to protect his crops:

"All other species of wild birds, either resident or migratory, shall be considered non-game birds; provided, that the English or European house-sparrow, the great horned owl, sharp-shinned hawk, Cooper's hawk, duck hawk, butcher bird, blue jay, house finch, commonly known as the California linnet, are not included among the birds protected by this act; and provided, further, that in fish and game district one, in fish and game district two, and fish and game district three the blackbird is not included among the birds protected by this act; provided, further, that nothing in this section shall prohibit the killing of a robin, or other wild bird by the owner or tenant of any premises where such bird is found destroying berries, fruit or crops growing on such premises, but the birds so killed shall not be shipped or sold."

FARM OWNERS' AND OPERATORS' NATIONAL ASSOCIATION.

One of the staff of the Farm Owners' and Operators' Association has been in the office of the U. S. Grain Corporation studying the latest and official methods of grading and classifying grain. Every courtesy and aid was received from the officials. His office will be at the association headquarters, Farmers' and Merchants' Bank Building, Stockton. Although the grading done by the association grader will not be "official," farmers say it will be a great satisfaction to have a test made before they offer their wheat in the market. The service will be free to members, but a charge will be made on samples graded for non-members. Equipment for a complete grader has been ordered and will soon be installed. Chairman Albert Lindley has still other plans for extension of the work. Vice-chairman J. M. Bigger and all the directors are giving their enthusiastic support.

Hessian fly has been found in some of the coast county wheat fields, not doing a great deal of damage so far as we have heard. The chief item in its control is to burn the stubble or plow it under as early as possible. Stubble burning should be done under instructions from the local or State Fire Wardens.



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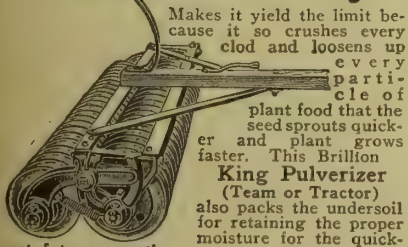
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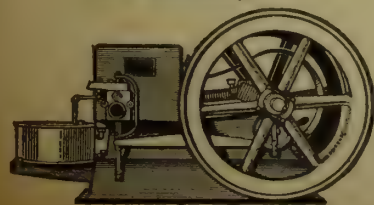
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Some Types of Air-blast Evaporators

(Written for Pacific Rural Press by Professor M. V. Cruess, Univ. of California.)

Most of the large evaporators in California are of this type. They are used for a wide range of materials and products from fish and laundry to rain damaged prunes and raisins. The design and construction of these evaporators are practically never alike in two cases. Some are of excellent design, especially those used for fish; others are very inefficient and of improper design. Many of those used for prunes, I am sorry to say, ignore most of the fundamental principles of evaporation and consequently give very poor results.

In planning any style of evaporator, several fundamental principles must be considered:

1. There must be an adequate supply of heat.

Heat is the sole cause of evaporation. Every pound of water evaporated requires about 1000 British Thermal Units, or about ten times the amount of heat to raise one pound of water from the freezing point to the boiling point. The burning of one pound of oil liberates about 18,000 B. T. U. But we can count on not more than fifty per cent. of the heat liberated being actually used. For example, if air at 80 degrees F. is raised to 150 degrees F., artificially, and is blown over the fruit and leaves the dryer at 120 degrees F., about 57 per cent is lost in the air leaving the evaporator. It is usually estimated that only about 40 per cent of heat generated is actually utilized.

2. The Humidity.

The humidity of the air in the evaporator is very important. Humidity means the amount of moisture in the air—100 per cent in humidity means air saturated with water vapor at a given temperature; 50 per cent relative humidity means air with only 50 per cent enough moisture to saturate it. In practice, it is not advisable to completely saturate the air before leaving the evaporator; this would too greatly slow up drying.

On the other hand, the air must not be allowed to leave the drier without absorbing a reasonable amount of moisture. We have found many evaporators that have no provision made for the regular escape of the saturated air. It is blown through the evaporator over and over and the air finally becomes "dripping wet" actually, and deposits water on the fruit at the end of the tunnel remote from the fan. The wet air must be removed.

3. Ample flow of air is essential.

Do not choose too small a fan or too small a ventilator and also be sure that your heating system is large enough for the air supply. An improperly balance fan and heating system will cause much exasperation, loss of temper, and what is worse, loss of fruit.

Sixty-nine thousand cubic feet of air at 212 degrees F. falling 1 degree F. is necessary to evaporate one pound of water. Each 27 degree F. rise in temperature doubles the moistures absorbing power of the air. Thus air at 150 degrees F. will absorb twice as much moisture as air at 123 degrees F. and so on for the other temperatures.

4. Good ventilation.

For removal of the exhausted air is essential. Not only must the air flow rapidly in the evaporator but it must also be removed and not allowed to "back up" or to recirculate. Get it out of the evaporator's system as soon as possible once its work is done.

5. Do not make the evaporator too long.

For your fan and heating system. The last half of a long drying tunnel may often serve as a depositing place for excess moisture from the air passing through. The fruit may actually "sweat" under such a condition, indicating a deposition of moisture. Two drying tunnels, 40 feet long, represent in the writer's opinion all of the space that a 60 inch disc fan should be asked to take care of.

6. Other important considerations.

Are the following: The arrangement of the evaporator should be such that the temperature may be controlled closely. Several good thermometers should be arranged in the evaporator, a recording thermometer at the entrance being very desirable. Make the air pass over your trays and not down wide channels between the stacks. The writer has seen a space of two feet between two lines of loaded cars in a drying tunnel. The air naturally followed down this wide channel and escaped through the ventilator without doing any work. A screen tray is much more satisfactory and efficient than a wooden tray. By all means, use screen trays if they can possibly be afforded. Wooden trays permit drying on one side only and use up great quantities of heat.

PRUNE DRIERS AND DRYING.

(Written for Pacific Rural Press.)

Nineteen years ago Anderson combination prune dips and graders were sold in 17 counties of California; and over 100 per year of the same type are being sold now, according to the inventor, W. C. Anderson himself. This season a great many people are coming to Anderson-Barngrover and saying that they had their prunes dried by neighbors last season but want an outfit of their own this year. Such outfits are made in five different sizes, so that anyone with ten acres of prunes or more may profitably use one. They are made in standardized parts so that a man with young trees bearing uniform-sized prunes may get a furnace and dipper to use on the first few crops and add the grader and spreader later.

Perforators Better Than Lye.

Needle perforators are necessary for all prunes, according to Mr. Anderson, who has been drying fruit of his own for 25 years. Prunes shaken from the tree will check by use of lye, especially around the stem end and particularly with Imperials, but he says that when they are old enough to drop, even in the Santa Clara Valley (where they do not cling to the trees so long as in some other districts), lye alone does not check them properly for a satisfactory job of drying. Lye in the prune dip is properly used only to remove the bloom and waxy covering of the skin. Then running the fruit over a perforator makes minute openings to permit proper evaporation of moisture. Prunes not perforated but put out in hot weather may ooze from the stem end if no other rupture in the skin is provided. The ideal way is to use weak lye, say a pound per 100 gallons, replace it with entirely clear water and new lye every day, and perforate the prunes. Mr. Anderson takes the cloth off the perforator needles every 20 minutes to clean them. He also does not believe in rinsing after dipping in weak lye as all the lye will disappear in the drying. But no excuse is to be tolerated for the use of the same muddy water day after day; and where strong lye is used, there is need of rinsing.



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Agricultural Notes.

Corn is showing splendid growth in the Vina district of Tehama county.

Hay was selling in England at the equivalent of \$38 to \$48 per ton about June 1.

The United Kingdom was the destination of over a million bushels of rye shipped out of New York in the week ending June 14.

Nearly 8,000,000 pounds of barley malt were exported from New York city to the Netherlands during the week ending June 14.

Irrigated crops around Los Molinos are normal owing to abundance of irrigation water; non-irrigated areas averaged two-thirds of a crop or less.

The Exeter district is shipping cantaloupes on a commercial scale for the first time this year. Seventy-five cars is the estimated crop.

Rice irrigation water drains onto an alfalfa patch and thence into a ditch and onto other rice lower down as arranged by S. M. Joslin of Placer county.

An exportable surplus of more than 2,000,000 tons of grain had accumulated in Siberia, as reported January 31, 1919, by the American consul at Vladivostok.

Lodi shipped the first carload of tomatoes this season. The car left last Saturday for Eastern consignees. Packers have made preparation for a bumper crop in the State.

Eastern shipments of watermelons totaled 2,800 cars last week. Dinuba, Turlock and Imperial Valley were the most active districts. The shipment of prime fruit is starting now.

The first carload of cantaloupes shipped from Turlock this season brought \$4.25 for standard crates in Portland, Ore. Over a hundred cars daily are now being shipped from the Turlock district.

Cantaloupes in Stanislaus county have been affected by mosaic, a disease common in sugar beets. Plant pathologists from the State Horticultural Commission and University of California are working on the disease.

Dr. Elwood Mead of the University of California has been asked to prepare the sections dealing with farm credits, in the proposed law for bank credits on short time for farmers and industrial workers. The committee on this work was formed in New York.

Bean movement to the warehouses of Stockton and San Francisco during June was 27,765 sacks more than were moved out. A total of 101,518 sacks were received at San Francisco. There were over 2,000,000 sacks of beans in the State June 1. There were 317,493,000 pounds of beans in the United States June 1.

California bean acreage is estimated to be 415,000 acres, a decrease from the 1918 acreage of 597,000. The difficulty of marketing is the main cause of this decrease. Los Angeles, Orange, Ventura, and Santa Barbara counties, with half of the State's bean acreage last year, planted 85 per cent of the 1918 acreage.

All stocks of Merced tomatoes were condemned in San Francisco wholesale commission markets this week as a result of irregular grading. The Deputy County Horticultural Commissioner is holding the tomatoes as evidence and the packers may be prosecuted. With effective laws fraud in fruits and vegetables will be reduced to a minimum.

Lima beans from last year's hold-over have been recleaned and will be held in stock in view of the short crop this year, by the lima bean selling agency. Secretary Essig estimates this year's crop at 50 per cent of normal, and he expects the thirty cars of limas and thirty cars of baby limas held by the agency to bring more than the current nine cents a pound.

Leases on 10,000 acres of land are to be obtained for a big rice project in Sutter county. Six thousand acres are already provisionally contracted for, and it is reported that this land

will be leased for a three-year term to Japanese, who will pay \$32 an acre per year for it. Water for irrigation will come from the Sutter-Butte Canal Company if the project goes through.

The baled hay law went into effect July 22. The law establishes 2,000 pounds net weight as the standard ton of hay and provides for the marking with a tag the true weight of each bale. It prohibits the malicious breaking of bales and provides for settlement when bales are broken. The addition of foreign matter is prohibited. The law will be strictly enforced.

COMPLETE TRACTOR CATALOG.

A most valuable feature of the State Fair tractor exhibit, from the standpoint of tractor users, is to be the catalog of all makes, showing in detail and in condensed form the size, specifications, and equipment of each machine. Questionnaires have been sent out by Geo. Collins of the Cali-

fornia Tractor and Implement Association State Fair committee including 66 questions about each machine. This will be a great reference book, suggesting many points that a buyer of tractors should look into and can see at the State Fair.

The first fig trees were introduced into California probably in 1769 when the first Catholic Mission was founded in San Diego. The Mission fig grows all over the State practically and still holds its popularity as a producer.



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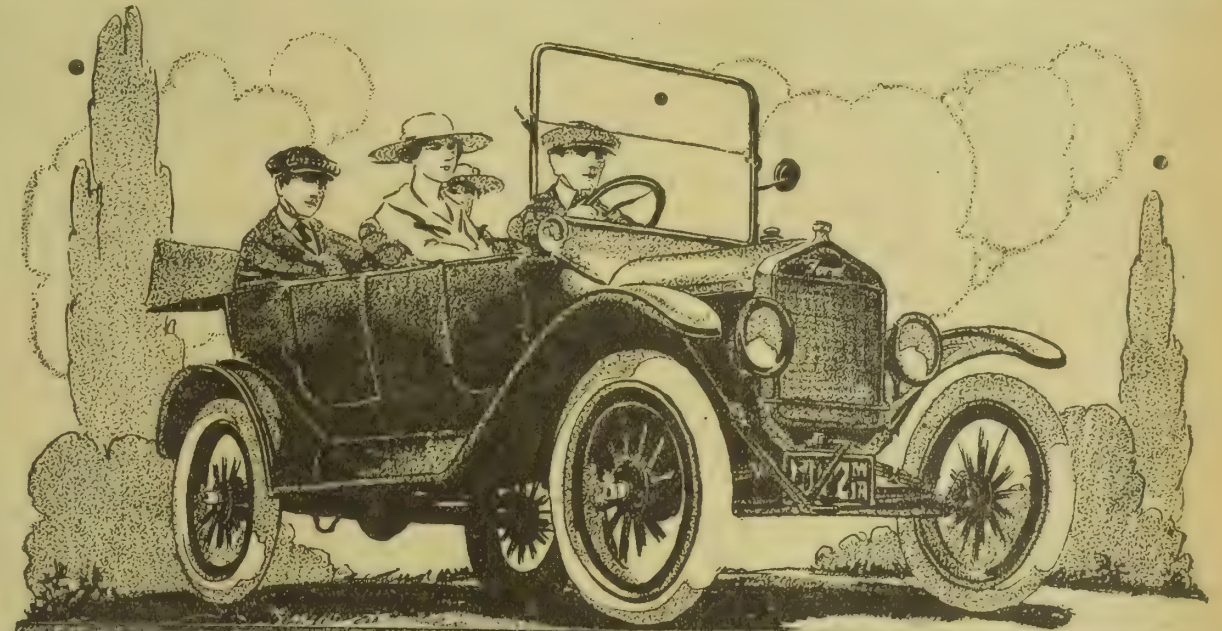
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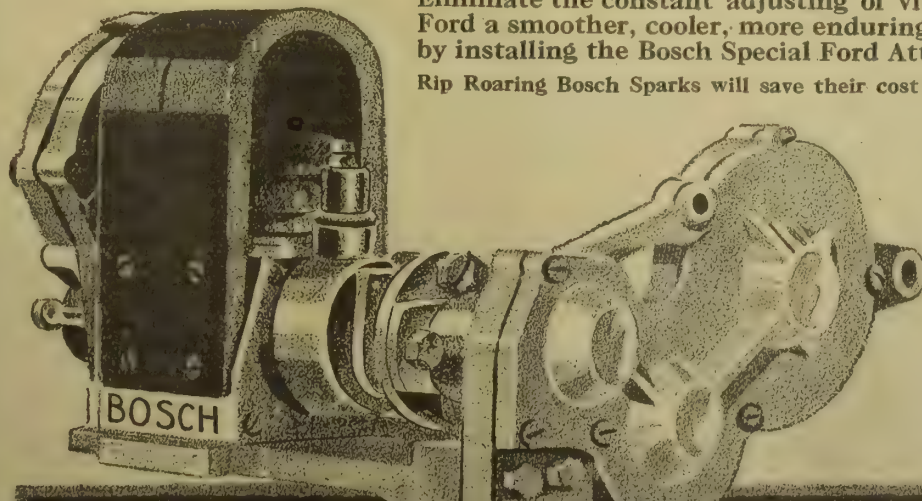
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NEEDED BIGGER TRACTOR.

"My 12-20 h. p. tractor did splendid service, but I want a 20-35 machine of the same kind now, because I figure I can do twice as much work with it in about the same time," said I. N. Miller of San Joaquin county. "I bought the 12-20 for my own use on 250 acres, but so many folks around me wanted the use of it that I plowed 1300 acres of grain and orchard land last winter and spring. Part of that was Bermuda sod. After plowing it I angled a seven-foot double-disk as much as possible and worked it down. Part of the plowing was done with 50 inches of plows going ten inches deep.

Planked Out of Mud Hole.

"I bogged down once in a mud hole. All that was necessary was to put a plank under the front end of one track, brake the track on the other side and throw the engine into gear. This brought the plank back under that side and then the same thing was done on the other side. Then with both tracks in gear, the machine pulled out easy enough."

TRACTORS CULTIVATE HILLSIDE ORCHARDS.

Tire pumps were required on the fuel tanks of two 20-35 tractors to force fuel into the carburetors on the steep hillsides included in 950 acres of young almond trees which were saved from drying out by the tractors this summer. Lack of rain made lots of cultivation necessary to save the trees, but horses and men were scarce. The Associated Almond Growers of Paso Robles ordered one tractor on the guarantee that it could negotiate 75 per cent of the hillsides. Within a month they ordered another. Manager G. A. Nehrhood is enthusiastic about the work done by these tractors with ten-foot double disks and twelve-foot spring-tooth harrows, which cultivated practically the whole orchard. Part of it was cultivated as many as five times.

THE SONG OF THE ENGINE.

(By G. W. Morrison.)

One listens in the dark more intently to the rhythm of the engine, then learns its language. The story the engine is telling all the time is of moderation in all things. "Give me food and drink in moderation; don't choke me. Give me good digestion so I may thoroughly consume my food, which is gas-mixture, and show my best power. Do not give me over-rich doses of gasoline and a weak and vacillating battery spark that will choke me up with carbon and make me sluggish and panting when I have to run up over the hills, but give me less gas, more air, and a big, fat magneto spark of the hottest kind that will keep my cylinders clean and make me take the hills as mere play. Then I will 'purr' in my happiness, and from sheer joy will sing you songs of love and devotion, giving such good service you can truthfully tell all scoffers that I run sweeter, not only at night, but all the time, because my magneto gives me the vitality of life and the 'pep' of will-iness and joy."

ELECTRIC SHORTAGE COMING.

There is going to be a shortage of electric power about as serious this year as last in Central and Northern California, according to Power Administrator H. G. Butler of the Railroad Commission. The larger steam plants of the power companies were already in operation early in July and the smaller plants were being put into condition to operate as water flow decreases. The amount of electricity to be generated is six or eight per cent greater than last year with no prospect of reduced demand or of early rains which helped out last year. The winter snows came too late to keep

the water power up, and though more water was stored this season than last, the power companies have had to draw on it two weeks earlier than last year. Were it not for the completion of the line in Sacramento canyon which last winter connected central California with the dynamos of the California-Oregon Power Co. and added about 7,000 horsepower to our electric resources, the new steam turbine of about 20,000 horsepower capacity being installed by the Pacific Gas & Electric Co. would be the only hope for keeping up with the demand. It is necessary but unfortunate, that in proportion as reduced water flow reduces hydro-electric generation, to about the same extent is irrigation reduced and therefore the demand for power for pumping increased. No conservation orders such as were put into effect last summer are contemplated. If any rancher loses one crop of alfalfa hay from 40 acres, he will have lost more money than would have paid interest on investment in a gas engine plus the cost of gasoline to run it plus the cost of the engine itself.

AFTER LONG IDLENESS OF ENGINE.

After a gas engine of any kind has long stood idle its film of oil between the pistons and cylinder walls has caked, and perhaps sweating has rusted the walls. It must be run some time before its splash oil system or even a force-feed oil system will get the proper lubrication between piston and cylinder walls. Meanwhile there will probably be too much friction, heating, scraping of

metal, and loss of power. To avoid this, it is recommended that before starting the engine, its spark plugs be removed and half a cup of lubricating oil put on each piston. Turn the engine over rapidly by hand until the walls should be lubricated, replace the plugs and run the engine idle under its own power slowly for five minutes.

GUNSHOTS FROM AUTOMOBILE.

Time was, when the writer hurriedly turned out of bed around midnight and sought the tragedy supposed to have resulted from several sharp gunshots. He has been awakened many times since by the same noise, but it does not worry him now.

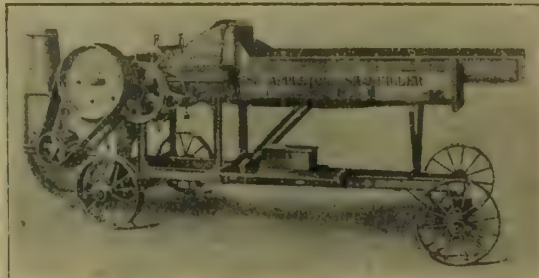
An exuberant auto driver going at high speed suddenly shuts off his spark and advances it again. A charge of gas goes through the firing chamber and into the exhaust without ignition by the slow spark. The advanced spark ignites the next charge and its exhaust explodes the live gas in the muffler.

DONE BY A SMALL TRACTOR.

A nine-eighths tractor, pulling three ten-inch plows, turned 15 acres in good shape for Theodore Stirewalt of Tehama county in 22 hours. It pulled an eight-foot double-disk angled to the limit and weighted down for hard rough ground. It ran a hay press all day when the temperature

Appleton Silo Filler

2 Sizes
18 inch
and
26 inch
Feed



Cuts hay
and all
green
stuffs

We Guarantee

that under the same conditions as to speed and power applied, condition of fodder, etc., the APPLETON SILO FILLER will do MORE and BETTER work, size for size, than any other silo filler on the market; that it is simpler of construction, easier and safer to feed, and requires less power for successful operation.

IMMEDIATE DELIVERIES.

C. S. Anthony

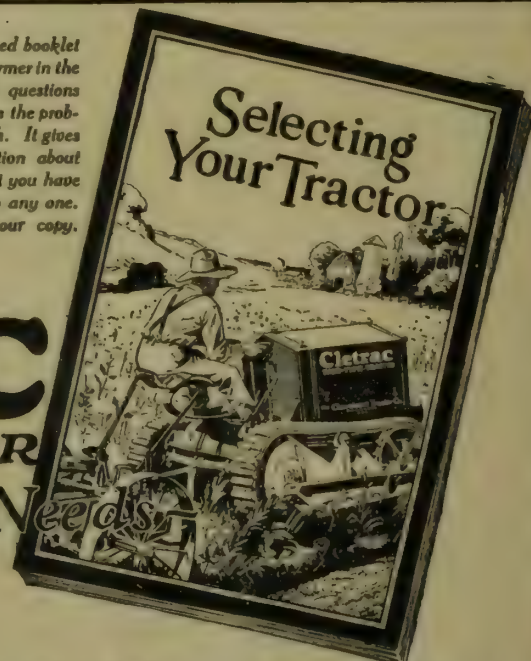
TRACTORS—TRUCKS—FARM MACHINERY

219 N. Los Angeles St.,

Los Angeles, Cal.

Why the Cletrac TANK-TYPE TRACTOR Best Meets Your Needs

THIS thirty-two page illustrated booklet is of vital interest to every farmer in the United States. It answers the questions you have been asking. It solves the problems you have been wrestling with. It gives you just the kind of information about tractors and tractor farming that you have been looking for. Sent free to any one. Mail the coupon today for your copy.



The Cletrac is a "year round" tractor

We believe that we can conclusively demonstrate to the average farmer that he can get more work out of the Cletrac more days in the year than out of any other tractor on the market. The Cletrac is invaluable in winter as well as in summer. It pays you dividends in the fall as well as in the spring. It is a "year round" machine. Send for the booklet shown above. It will open your eyes to the tremendous possibilities of tractor farming with a machine that serves you twelve months in the year.

The Cletrac has a wider range of use

It is small enough to be used economically on light jobs, yet powerful enough to handle the majority of the so-called heavy work about the farm. It plows, harrows, plants, reaps, binds, threshes, hauls, cuts ensilage, fills silos, saws wood, and does practically all the work formerly done by animal and stationary power.

The Cletrac is built to stand hard usage

It is rugged—and powerful. It is designed and built by practical men who know what a farm tractor must stand. It is economical in its use of kerosene and oil.

Don't wait! Get your Cletrac now

Orders are coming in fast and we are filling them as rapidly as we can. In another month we will be behind again. If you want your Cletrac promptly order it now—today! Don't wait! Every day's delay means a later start in reaping the greater profits that are bound to come with year round Cletrac farming.

Send for this booklet "Selecting Your Tractor." It goes into your problems—and solves them. It doesn't do a lot of theorizing but gets right down to cold hard facts that are of real live interest to every progressive farmer. Fill out this coupon now—and mail it today.

The largest producers of tank-type tractors in the world.

The Cleveland Tractor Co.

19079 Euclid Avenue, Cleveland, Ohio

CLEVELAND TRACTOR COMPANY
19079 Euclid Avenue, Cleveland, Ohio

Please send me your thirty-two page illustrated booklet "Selecting Your Tractor."

Name _____

Address _____

stood at 114 degrees F. in the shade, and lost only a quart of water. It was used to plow various places in the neighborhood last winter and to bale hay last season and this one for neighboring ranches.

PAID TO BUY TRACTOR.

"My father used to run three 8-mule teams the year around and then didn't get his work done," said Wm. H. Boyd. "Now with a 22-45 tractor he gets the work done right. We have run that machine 22 hours per day for eight weeks at a stretch. You bet it paid to buy that tractor."

RICE IRRIGATION BOXES.

Making boxes to let water through rice irrigation levees becomes a tremendous chore if boards are sawed by hand and not put together systematically. S. M. Joslin and E. Paillex of Placer county, in preparing something over 800 acres for rice last spring, hauled thousands of feet of lumber to a convenient place at headquarters, and sawed them with a circular saw and a six-horsepower engine into standard lengths. At the same time other men were setting these pieces on molds prepared for the purpose and nailing them. Waste motion and duplicated effort were avoided and the engine did the otherwise tedious work.

POWER NOTES.

Keep tire pressure up to 20 pounds per inch diameter of the tire and don't guess at it.

When the rear tires show wear, put them on the front wheels or change them to the other side.

Dirt covers a multitude of strains, loose nuts, cracked castings. Kerosene is the dirt remover for the outside of any gas engine.

He saved an hour a day by overloading his tractor until he came to a time when he lost more days and dollars than the number of hours he had saved.

A booklet illustrating various tractor hitches for farm implements has been published by the Avery Company of Peoria, Ill., and will be sent to any tractor man who asks for it.

Loosened wire connections are the cause of many a weak spark which is the cause of much fuel not burning, which is the cause of thin lubricating oil and the cause of lost power.

Byron S. Swearingen has recently been appointed sales manager for Smith Bros. of Los Angeles, who are distributors for Cletrac Tank-Type tractors, formerly known as Cleveland tractors.

A tractor baling hay in Tehama County became hot unaccountably. It was found that chaff and light hay had been drawn against the front of the radiator until it prevented enough air passing through.

H. G. Knapp & Son, power-lift disk plow manufacturers, have bought 250 feet frontage on the railroad in San Jose, and will move their plant to bigger quarters to be built there. They have outgrown their present facilities.

It is with great sorrow that we announce the death of President F. W. Krogh of the Krogh Pump and Machinery Co., in San Francisco, July 7.

Meters are to be put in for all consumers of electricity generated by the California-Oregon Power Co. in order to save some juice for transmission to needy districts in central California.

Dixon and Griswold, the well-known implement dealers of Los Angeles, retired from business June 30. This firm has for several years been very active in selling several well-known lines of agricultural tools, chiefly the P. & O. line of goods. It is to be regretted that such a live wire organization quits the field, and at this time they make no announcement as to their future activity.

Cheer up! We all have our ups and downs. Try again.

CULTI-PACKER

TRADE MARK REG.

It Cultivates — It Packs

The Largest Wheat Farm in the World



MONTANA FARMING CORPORATION

MARDIN, MONT. October 23, 1918.

The Dunham Company,
Berea, Ohio.

Gentlemen—

We have *over 600 feet—60 Machines* of Dunham Packers on our work, and next to our plows consider them the most important agricultural implement in handling fresh breaking and packing old ground.

We have just finished seeding on our first unit of 7000 acres, every foot of which has been packed twice with Dunham Packers. We first used the packer directly behind the plow and again used them directly behind the drills, seeding and packing at the same operation. By using these machines we were able to plow the sod and turn it over perfectly flat, thereby eliminating air spaces and helping to a great extent to retain the moisture.

Through a delay in shipment during the summer part of our land was plowed without packing and the difference in the moisture content of the soil as a result was very noticeable. The field which was packed having moisture practically for ten inches, while the unpacked field had no moisture below the plowed ground. We plowed in each case about four and one-half inches deep. We packed every acre we seeded directly after seeding and feel that this will give us a yield of two to three bushels more per acre.

The packer not only seems to compress the soil but seems to pulverize it also leaving a very finely powdered surface. It is our belief that all fresh breaking should be packed and in sections known as dry farming sections we think that all seeded lands should be packed.

Very sincerely yours,

Thomas D. Campbell
President

C-L

Culti-Packers For Sale by
Your Local Implement Dealer

The Dunham Company, Suburb of Cleveland Berea, Ohio

Dependable Pumping Plants

When you install a pumping plant you want water—plenty of water—full-rated production and more, if possible. And that's what you get when you install.

AMERICAN CENTRIFUGAL PUMPS

These pumps produce the full guaranteed amount of water and they keep power bills down to a minimum! That's more than a claim—it's a guaranteed fact.

Write for Catalog C-1

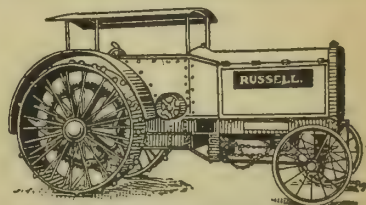
—which illustrates and describes the entire line of American Pumps and proves their advantages beyond a question. The American Catalog points the way to irrigation efficiency.

Open territory for live dealers.

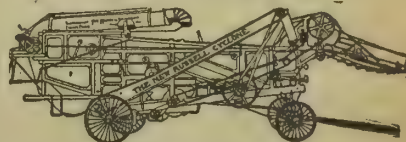
**California Hydraulic
Engineering and Supply Co.**

68 Fremont St. Dept. A, 420 E. Third St.
SAN FRANCISCO, LOS ANGELES

—Horizontal Pumps
—Vertical Pumps
—Deep Well Heads
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—Oil Engines
—Direct-connected Motor and Pump
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—Motors



THE RUSSELL TRACTOR
BUILT IN ALL SIZES



THE RUSSELL THRESHER
BUILT IN ALL SIZES

RUSSELL ENGINES
BOILERS
SAW MILLS
THRESHERS
TRACTORS

BEAN AND PEA THRESHERS
— CLOVER HULLERS —

CALL OR WRITE FOR PARTICULARS
The A.H. AVERILL MACHINERY CO.
SAN JOSE, CALIF.

Roots Improve the Dairy Ration

(Written for Pacific Rural Press.)

Follow the work of the Sacramento Cow Testing Association carefully and you will find that the herd owned by A. E. Greene of Hood generally stands at the head of the list for heavy production. His grade Holsteins have excelled registered cows of all the different breeds, and both the general average and the records of individuals in this herd have been exceptionally high. Mr. Greene attributes the high production not only to rigid culling, but also to the fact that he feeds a large amount of carrots.

In the California State Dairy competition, the records made by Humboldt county dairymen will be remembered by all, but how many remember that Iver Iverson of Arcata fed his cows from 125 to 150 pounds of carrots daily during September, October and November, and similar quantities of beets from December to March? Also that he fed only 6 lbs. grain and 10 lbs. alfalfa hay per day? Mr. Iverson's grade cows averaged 531.9 lbs. fat and 10,184 lbs. milk, so his method of feeding brought good results.

Mr. Iverson's case was not an isolated one. The grade cows of G. E. Trigg of Ferndale averaged 553.3 lbs. fat and 9,505.3 lbs. milk and were fed heavily on roots. Mr. Trigg began feeding 80 lbs. carrots a day to each cow about August 1, and during the latter part of November changed to beets, feeding about the same quantity.

J. W. Coppini of Ferndale, whose herd also produced very heavily and won several prizes, fed oxheart carrots when grass became short, and later on substituted beets.

So much for high-record grade cows. Now let us consider the greatest registered cow on earth—Tilly Alcartra—with her wonderful yearly record of 1,322.99 lbs. butter from 33,424.8 lbs. milk. To roll up this record she was fed 5,872 lbs. mixed grain, 2,550 lbs. beet pulp, 3,000 lbs. corn silage, 5,000 lbs. alfalfa hay, and—get this—21,000 lbs. beets. Think of it—an average of nearly 60 lbs. beets per day right through the year, and as high as 80 lbs. during the time of her heaviest production.

Is there a lesson in this for the average California dairyman, who feeds alfalfa hay almost exclusively during the winter season, or perhaps only silage with it? Every feeder who has changed cows from a dry ration to one including roots testifies to the heavier flow of milk resulting. He finds not only that the cows consume large quantities of roots, but that their appetites are whetted for heavier consumption of roughages which, in turn, lead to larger and more economical production.

The average dairyman's most difficult problem nowadays is to furnish cheap concentrates for his cows. Henry says that roots should be regarded not as roughages, but as watered concentrates, high in available energy for the dry matter they contain. He cites experiments to show that a pound of dry matter in roots has the same feeding value as a pound of dry matter in grain. It was found that mangels could replace half the grain ordinarily fed in a ration of hay, silage and grain without reducing the yield of milk, and that with grain at \$30 per ton, mangels were an economical substitute when they could be grown and stored for \$4 per ton. At present each of these figures would be about doubled.

When any of our common root crops—mangels, carrots or beets—are grown to take the place of silage, the comparison of cost is in favor of silage. That is, it usually costs less to grow a ton of dry matter in the form of silage than in the form of root crops. But when we consider the root crops as concentrates to add to hay and silage, or to take the place of concentrates in the ration, the cost of raising them may be high and yet they will be an economical part of the ration—at least during that part of the year when green alfalfa or pasture is not available.

Roots also have a beneficial tonic effect upon animals. They are laxa-

tive and cooling to the digestive tract, and help to keep the cows in prime condition. As a rule a good dairying section is a good root-growing section, and it seems as though root crops deserve a wider recognition for their milk-making qualities. It seems as though they can economically fill a larger place in the dairy ration than they are now given.

NEW ZEALAND STUDIES OUR DAIRYING METHODS.

New Zealand, whose dairymen have the most perfect dairy organization in the world, has succeeded in producing all the products that can be consumed at home, and has sent five representative men to California to study our advanced methods of making by-products, such as casein, sugar of milk, dried milk and poultry feeds.

One of the men, Wm. Dempster, secretary of the National Dairy Association of New Zealand, gave an interesting talk at the recent meeting of the California Dairy Council. He said that it is the custom in his country to have cows milked on shares, the milker getting from one-third to two-fifths of the total receipts. New Zealand has the reputation of leading the world in mechanical devices, and milking machines have solved her dairy labor problem. Over 60 per cent of the 800,000 cows are milked by machines. Most of the milkers own their outfits and take them wherever they go. The machines are quite different from those used in this country, one difference being that the milk goes directly into the cans instead of into pails, and thus carrying is largely eliminated.

The New Zealand milkers are a prosperous lot—often more so than the owners. The average milker has his automobile, while the owner may not be able to afford one. We would not like to see dairy laborers more prosperous than their employers in this country, yet perhaps our dairymen can learn a lesson from this and make their help better satisfied by providing better working and housing conditions. This seems to be the first step necessary to better conditions here at home.

CALIFORNIA STOCK WINS IN HAWAII.

Prof. Gordon H. True, of the University Farm, who recently judged livestock at the second annual territorial fair of the Hawaiian Islands, reports a great improvement over the stock shown last year, and a much larger and better show.

A very gratifying feature was the number of prizes won by California bred animals. The senior and grand champion Holstein cow was from the Napa State Hospital herd; the champion Jersey heifer was bred by J. E. Wherrell of Riverside; the champion Jersey bull and the junior champion Angus heifer were bred by the University Farm; the champion Duroc boar by H. P. Slocum & Son of Wil-lows; the champion Guernsey heifer by A. J. Welch of Redwood City. Two Hereford bulls sold by H. H. Gable, Esparto, for range bulls were shown against eastern and island bred animals and were within the money.

Another proof that a wonderful market can be developed in the Hawaiian Islands for California stock. Let's go after this business that rightfully belongs to us. We won't get it unless we do.

Don't feed calves the froth which rises from skimmilk from a separator. It may cause bloat, scours or indigestion.

EASTMONT FARM

Young Jersey bulls from Register of Merit dams with records up to 621.2 lbs. butter fat. Financial King breeding.

GRANT A. BROWN,

509 E. MAIN ST., EL MONTE, CALIF.

Holsteins for Production

Our herd appears thirty-three (33) times in the list of PRIZE WINNERS of the OFFICIAL RECORDS given by the HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA for the year 1918-19, which is a greater number than any other herd on the Pacific Coast and tenth highest in the United States.

Some of our Leading Winners

Place	Division	Class
1st	30 day butter	Full age
2nd	30 day butter	Sr. four
3rd	30 day butter	Jr. two
5th	7 day butter	Full age
5th	7 day butter	Sr. four
4th	7 day butter	Jr. four
1st	30 day milk	Full age
3rd	30 day milk	Sr. four
4th	30 day milk	Jr. two
2nd	30 day milk	Jr. two
1st	7 day milk	Full age

Number of Cows Competing.

Full age class	2607
Sr. four class	578
Jr. four class	749
Sr. three class	812
Jr. three class	1055
Sr. two class	1040
Jr. two class	1778

We Have for Sale Some Great Young Bulls

from Prize-winning dams and sired by our twice Grand Champion Bull, King Segis Alcartra Prilly, or our Senior Sire, King Segis Alcartra Abbecker, whose three only daughters to freshen average on official test over 21 lbs. butter in 7 days at an average age of 22 months.

BRIDGFORD COMPANY, Knightsen, Calif.

Large Production and Fine Type



are combined in the get of Prince Riverside Walker Aggie Acme of Riverside 2nd and Miss Valley Mead De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

KING KORNDYKE PONTIAC 20TH

our young \$6,500 sire, whose great individuality, fine type, are hard to beat. Come and see the result of this breeding or write us for further particulars.

Our Entire Herd is Tuberculin Tested.

TULARE HOLSTEIN FARM

W. J. HIGDON, Owner

TULARE, CAL.

H. L. REDD, Herdsman

A FEW CHOICE BULLS FOR SALE

KOUNIAS' AVALIA KING

From a 22.53 lb. Dam.

Two of her sisters made over 1100 lbs.

Butter in a year.

KOUNIAS REG. STOCK FARMS, Modesto, Cal.



King Korndyke Hengerveld Ormsby 7th, Grand Champion.

JERSEY BREEDERS.

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit Cows. Write for information.

W. J. HACKETT,

Ceres,

California

T. B. PURVINE & SONS

PETALUMA, CALIFORNIA.

Breeders of

Registered JERSEYS

Young bull calves for sale. Fine individuals with Register of Merit backing.

N. H. LOCKE CO.

LOCKEFORD, CAL.

Choice young bulls of King's Valet Blood, backed by Records.

Call at the ranch and make selection.

RANCHO SANTA MARGUERITA

D. F. Conant, Prop., Modesto, Cal.

Register of

MERIT JERSEYS

A limited number of bulls for sale.

FOR LARGE AND ECONOMIC PRODUCTION

Get one of my young Jersey bulls from a high producing dam. They are rich in the blood of Gertie of Glynlyn and Lady Letty Lambert. Occasionally one old enough for service.

A. A. JENKINS,

Tulare, Cal.

Livestock Queries

(Written for Pacific Rural Press.)

Foundered Cow.

To the Editor: A cow took sick about two weeks before calving. She had been fed on alfalfa hay and seemed to be impacted, so I gave her injections and drenches. She got stiff in her legs and had little appetite. She has partly recovered, but is still stiff, has difficulty in getting up and down, and when she stands her forelegs are bent forward. She used to give about six quarts at a milking, but now hardly gives sufficient for the calf.—W. A. P., Fernley, Nev.

(Answered by Dr. E. J. Creely, San Francisco.)

Stand her in some kind of moisture, such as mud or a running brook during the day time and keep her in a dry, well-bedded stall at night. Give her a heaping tablespoon of granular

sal nitre twice daily. Flaxseed tea will prove good and a thick mucilaginous tea might be given daily. Allow her all the cool water that she will drink and provide an abundance of greens in preference to dry food, including carrots, if you have them.

Lumps on Neck of Steer.

To the Editor: A young steer eight months old has lumps all over his neck and brisket. They are of a dirty white color and as large as cherries. What can I do to remove them?—H. V., Carbon.

(Answered by Dr. E. J. Creely, San Francisco.)

Paint the lumps with iodine; then cut into them and apply an ointment made of four ounces zinc ointment, two drams iodoform, 3 drams Balsam Peru. At the same time give internally one-half ounce of Fowler's solution of arsenic daily.

Cows Eat Bones.

I have a little dairy in the marsh and feed my cows hay and grass which grows here. They get plenty of salt, yet they chew bones whenever they can get hold of them. What is the reason?—G. M. B., Belmont.

(Answered by the Live Stock Editor.)

The feed which your cows are receiving is probably deficient in lime and phosphorus. These ingredients are needed in large amounts by cows producing milk, and probably it will pay you to buy alfalfa to feed in connection with your native hay. If you prefer to feed nothing but the latter you should provide your cows with a little ground bone or bone meal, which can be procured at any feed store. Ground rock phosphate is excellent, but you may not be able to procure it.

Potatoes for Hogs.

To the Editor: Are potatoes good to feed hogs?—W. L. R., Manteca.

(Answered by the Live Stock Editor.)

Potatoes fed alone are not an efficient hog feed, either as a growing or a fattening ration. Grain must be fed with them, and it will pay to use a protein supplement, such as skimmilk or tankage. Use from one-sixth to one-fourth as many pounds of grain as potatoes and the usual amount of skimmilk or tankage, which is 3 pounds of skimmilk to one of grain, or one pound of tankage to 10 of grain. When finishing off the hogs, one pound of tankage to 20 of grain is generally sufficient.

Pin Worms in Horse.

To the Editor: I have a horse that has been troubled with pin worms for two years. Have tried all kinds of medicine, but nothing seems to help him. He eats well, but is weak and run down. What can you suggest?—M. F. M., Union.

(Answered by Dr. E. J. Creely, San Francisco.)

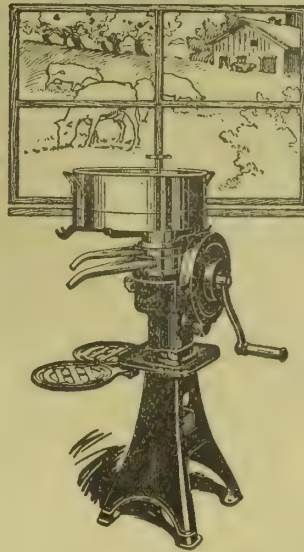
Give a teaspoonful of the following each morning in grain: Iron sulphate (desiccated) 1 lb., bicarbonate soda 1 lb. Every tenth day give a rectal injection of 1/4 lb. pulverized quassia chips boiled in one gallon of water. When lukewarm inject and with a cloth hold it in for 10 minutes.

LAST CALL FOR BUTTE CITY SALE.

All aboard for the big sale at Butte City Ranch, Saturday, August 2. A great variety of stock will be offered, including 50 registered shorthorns, 50 registered Berkshire hogs, 125 registered Shropshire sheep and 10 Shetland ponies. This ranch has developed into one of the leading breeding establishments of the state, and its stock and blood lines are too well known to require any comment. The sale offers a wonderful opportunity for beginners to obtain choice foundation stock or for established breeders to secure new blood. Let's go.

Two good feeds mixed together are better for hogs than double either one of them fed alone.

Get All the Butter Fat



PRIMROSE and **Lily** cream separators skim clean. They give you the exact density of cream you want. The large fat globules are never crushed or broken.

They are the **only** cream separators provided with **two wide open cream outlets**. There is no screw to interfere with the full flow of the cream. The cream outlets are not stopped up in any way, because the regulating screw is in the skim-milk outlet.

Asplash oiling system reduces friction to a minimum, lubricating every part, **forcing oil through every bearing**, and adding years to the life of the machine.

The only way to know how superior these separators are is to see them yourself. A nearby dealer will go over every point with you and prove to you that whether your herd of cows is small or large, you can save money with a **Lily** or **Primrose** cream separator.

Full information on separators or any other machines in the list below will be gladly furnished.

The Full Line of International Harvester Quality Machines

Grain Harvesting Machines

Binders Push Binders
Headers Rice Binders
Harvester-Threshers
Reapers Shockers
Threshers

Tillage Implements

Disk Harrows
Tractor Harrows
Spring-Tooth Harrows
Frog-Tooth Harrows
Orchard Harrows
Soil Pulverizers
Cultivators

Power Machines

Kerosene Engines
Gasoline Engines
Kerosene Tractors
Motor Trucks
Motor Cultivators

Haying Machines

Mowers Tedders
Side Delivery Rakes
Loaders (All Types)
Rakes Bunchers
Combination Side
Rakes and Tedders
Sweep Rakes Stackers
Combination Sweep
Rakes and Stackers
Baling Presses

Planting & Seeding Machines

Corn Planters
Corn Drills
Grain Drills
Broadcast Seeders
Alfalfa & Grass Seed
Drills
Fertilizer & Lime
Sowers

Corn Machines

Planters Drills
Cultivators
Motor Cultivators
Binders Pickers
Ensilage Cutters
Shellers
Huskers & Shredders

Other Farm Equipment

Cream Separators
Feed Grinders
Manure Spreaders
Straw Spreader
Attachments
Farm Wagons
Farm Trucks
Stalk Cutters
Knife Grinders
Tractor Hitches
Binder Twine

INTERNATIONAL HARVESTER COMPANY

OF AMERICA INC.

BILLINGS, MONT. CRAWFORD, NEB. DENVER, COLO. HELENA, MONT.
LOS ANGELES, CAL. PORTLAND, ORE. SALT LAKE CITY, UTAH
SAN FRANCISCO, CAL. SPOKANE, WASH.

HAVE SOME NICE YOUNG BULLS

Sired by **SIR VEEMAN KORNDYKE PONTIAC**

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.

Dairymen and Stockmen

NOTICE—

Call at once to see

AGGELER & MUSSER SEED CO.

DEMONSTRATION PLOT

In the 1500 block on West 16th street, Los Angeles California.

AUCTIONS

A postcard with your name and address will put your name on my mailing list for announcements of sales worth attending.

ORD L. LEACHMAN, THE AUCTIONEER

1004 Fifth St.

Sacramento.

HOLMES STOCK FARM

WATERFORD RD., MODESTO, CALIF.

Registered Holstein Friesians.

YOUNG SERVICE BULL FOR SALE

Prince Abbecker Aralla Walker,

No. 204267—Three-quarters white.

Write for pedigree and price. Inspection invited and satisfaction guaranteed.

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.

R. D. "A." Box 437.

Two miles out North First Street.



Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1890 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.

See actual figures showing you how to increase your calf profits.

Write for New Data

COULSON CO. - - - Petaluma, Cal.

We have issued a convenient little book for the keeping of breeding dates of cattle, **BREEDING DATE BOOK** hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it.

CALIFORNIA BREEDING SALES AND PEDIGREE CO.
C. I. HUGHES, Sales Manager, Sacramento, Cal.

Edgemoor Farm Guernseys



Imported Itchen May King
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PRETTY PRODUCTIVE PROFITABLE

Noted for the highest natural colored dairy products, the best flavored milk, the most economical production of cream and butter.

A Few Animals of
Either Sex
For Sale

SANTEE, CALIF.

W. H. DUPEE
Pres.

Workings of Cattle Protection Act

(Written for Pacific Rural Press.)

Have you studied the cattle protection act to see how it will affect you? Its object is to protect all cattlemen against theft. To do so, of course, there must be a positive means of identification, and the surest way to identify cattle is to brand them. So each cattleman is supposed to have his own brand, and it is illegal for anyone to use a brand without first having it recorded by the State Cattle Protection Board. The State has been divided into districts, and the same brand cannot be used by two different persons in the same district.

The sale or transfer of any cattle or hides should be accompanied by a bill of sale showing number, kinds, marks and brands on the animals or hides. The bill of sale must be signed by the owner, and should two witnesses who have been freeholders in the county for at least two years.

Any cattle offered for shipment by rail must be inspected while in the shipping yards just prior to shipment, and a certificate of inspection filed with the railroad agent. He is not allowed to accept the shipment unless this is done. Hides offered for shipment must also be inspected and accompanied by a certificate. The inspector should be notified at least 24 hours before shipment is made, and a bill of sale, properly filled out and signed, must be shown to him.

A rancher may kill his own cattle without having a license, and he may sell the meat. However, he must keep in a book a record of all cattle slaughtered by him, and must make a monthly report by registered mail to the Cattle Protection Board of all cattle slaughtered or skinned by him. He must also exhibit this record on

demand to any officer of this state. Hides removed from slaughtered or dead cattle should be kept at the ranch for 15 days before selling unless they have been previously inspected.

A person actually engaged in the slaughter business must get a license from the Cattle Protection Board and file a bond in the sum of \$1000. A rancher who buys and slaughters stock to make a profit comes under this head. It is illegal for any person to get a license to kill at a designated place and then kill at some other place without first obtaining permission from the Cattle Protection Board to change his location.

The licensed slaughterer must ask to have his cattle inspected for marks and brands prior to killing. If after 24 hours' notice the inspector fails to appear the slaughterer may kill, but must retain the hides for not less than 15 days. All the rules concerning records and reports named for ranchers are also applicable to the licensed slaughterer.

The retailer must keep a record showing date of purchase, from whom purchased, quantity and kind of all meat of any bovine animal purchased by him. This also includes meat brought from his own abattoir. This record is to be kept in a book for that purpose.

This cattle protection law is now being enforced in 36 counties of the State, and other counties are included as fast as inspectors can be secured. This is no easy task, however, for the inspectors are allowed only 5 cents per head, and often this is not half enough to pay for gasoline. An inspector may have to drive 20 miles to inspect 20 head of steers, for which he receives the munificent sum of \$1. He uses up two hours of his time and has the expense of a 40-mile trip.

The sooner the entire State can be put under inspection the better it will be for cattlemen, but in some sections the inspectors resign about as fast as they are hired, and to keep them on the job it seems necessary to adopt one of two plans.

First, let the cattlemen in a certain section get together and guarantee the inspector a minimum amount per month. This is done at Bakersfield, where the inspector is guaranteed \$150, and even though the cattlemen have to dig down into their pockets occasionally, they feel that the protection which the system gives them is well worth this additional amount.

Second, forget the monetary end and offer to be an inspector for the good of the cause. A cattleman living near a shipping-point can well afford to devote the time necessary to inspect the shipments, or it would pay a grocer or other dealer through the extra trade that he would get by accommodating the cattlemen.

Secretary Jas. B. Newsom of the State Cattle Protection Board, 612 Underwood Bldg., San Francisco, has copies of the law for free distribution, and applications for brands or slaughterer's licenses should be made to him. There have been numerous delays in getting out the "Book of Brands," on account of the difficulty of photographing so many brands, and probably it will be a few weeks longer before the book will be ready for distribution.

THE OTIS HERD

Milking Shorthorns
WILLOUGHBY, OHIO.



LADY OF THE GLEN.

Bred by us and acknowledged the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison,

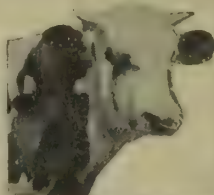
Santa Rosa Stock Farm, Santa Rosa, Cal.
California Representative.

CATTLE RANGES

ARE YOU
INTERESTED?

In knowing facts about Central British Columbia Cattle Ranges and mixed farming, improved and non-improved, large and small? Write your requirements, resources.

J. H. BROWNLEE, Canadian Land Surveyor,
Peoples Savings Bank Bldg.
Phone Main 2335J. Sacramento.



Herefords

LEADING HERD OF THE STATE

My stock is the result of nearly 40 years of careful breeding and selection. Have for sale a carload of registered bulls and a carload of heifers—1917 calves, grandsons and granddaughters of Beau Donald 31 No. 109885 and Mr. Perfection No. 215575.

They will go quickly. Write or call at once.

Wm. Bemmerly

Woodland, Cal.

Butte City Ranch

OWNED BY W. P. DWYER AND W. S. GUILFORD
BUTTE CITY, Glenn County, CALIFORNIA

SECOND ANNUAL SALE

Saturday, August 2d, 1919

50 REGISTERED SHORTHORNS

38 FEMALES—12 BULLS

These Shorthorns present a splendid selection for the breeder who wants to found a registered herd with modest investment. They are of uniformly good type, in excellent physical condition, and are sired by Victor Stanford, Vermillion, Gloster Archer, Roan Chancellor, Crescent Dale, Gibson's Goods, Ringleader, Sir Type, and other bulls of approved breeding.

There are choice cows with calves at foot, bred heifers, and a very desirable lot of open heifers. All of the bred females are in calf to the Butte City Ranch herd sire, Victor Stanford, who is one of the best sons of Whitehall Sultan and out of a Stamford dam.

Every Shorthorn sold as a single lot is guaranteed to be a breeder, and is tuberculin tested; every young animal permanently immunized against blackleg by Purity Blackleg Agglutinin made by the Kansas process.

125 Registered Shropshires

35 MATURE EWES—40 EWE LAMBS 35 YEARLING RAMS—20 RAM LAMBS

This is the first time within the history of public sales in California that buyers have had an opportunity to buy such well-bred registered Shropshires of splendid type at public auction. The offering is in high-class condition throughout, and represents Broughton, Cavendish, Minton, and Wardwell breeding, the best obtainable. The owners of Butte City Ranch have selected some of their very best Shropshires for this sale, for they believe that nearly every farm in California can profitably own a farm flock, and that the foundation should be of the best.

50 Registered Berkshires

The Berkshire offering is composed of a choice selection of gilts and young boars, in thrifty, vigorous condition, well grown and of the breeding and type that will meet favor with buyers on sale day. An outstanding feature of the offering is the uniformity of breeding. Every animal in the sale is sired by a son of the world's famous imported English boar Epochal, or by a grandson of the world's grand champion boar, Grand Leader 2nd. Besides this the animals in the sale are out of some of the very best breeding sows ever owned at Butte City Ranch.

Every Berkshire in the sale is permanently immunized against hog cholera by Purity Hog Cholera Serum and Mixed Vaccine.

10 Shetland Ponies

Scores of youngsters have been made happy by the purchase of Shetland Ponies from Butte City Ranch, and the owners have selected some of their very best for this sale.

Catalog of sale free on request

Management—CALIFORNIA BREEDERS' SALES AND PEDIGREE CO.
J. M. Henderson, Pres. C. L. Hughes, Sales Mgr. Sacramento, Calif.
Auctioneers—COL. BEN A. RHOADES, Los Angeles; COL. GEO. W. BELL, Tulare.

HILLCREST STOCK FARM

Shorthorn Cattle Shropshire Sheep Merino Sheep

RAMS AND BULLS FOR SALE

Single or in Carload Lots

T. S. GLIDE, - Davis, Calif.

INNISFAIL DAIRY SHORTHORNS



GLENSIDE ROYAL 408155.

Grand Champion, Sacramento, 1916-1918, and at P. P. I. E.

Farm on Grizzly Island.

Won at Sacramento:

ALL Championships.
Grand Championships,
Reserve Championships.
22 OTHER PRIZES, INCLUDING
15 FIRSTS.

We offer for sale a few choice young bulls sired by Glenside Royal and out of large cows of good milk production.

Entire Herd Tuberculin Tested.

ALEXANDER & KELLOGG,
Suisun, Cal.

ORMONDALE SHORTHORNS

All are heavy boned, and of Scotch and Scotch-topped breeding.

Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED.

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road.

We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE ORMONDALE CO. REDWOOD CITY, CAL.

DUROC-JERSEY SWINE R. D. No. 1

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. E. Clay.

Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.

A few yearling heifers of same breeding.

Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY, Perkins, Sacramento Co., Cal.

Along the Livestock Trail

(Written for Pacific Rural Press by Thos. F. McConnell.)

Hand's "Keep On" Herd.

Here is a herd of Jerseys, owned by Dr. H. W. Hand, Orland, that superlative adjectives are inadequate to describe. Matrons and heifers, all are good, and the doctor "keeps on" adding good ones. It would require the eye of an expert to find a more beautiful cow than the 10-year-old Imp. Lady La Source. She has a wonderful conformation and unsurpassed quality—oh, well, she was champion of the Island of Jersey twice, so what would you expect?

Prolificacy of Yates' Polands.

Behold Stella! Not the one shown in picture at the Panama-Pacific, but the great Poland-China sow in the herd of R. J. Yates of Orland. During her long and useful career she farrowed 155 pigs in 12 litters and raised 149 of them. From these pigs over \$5,000 in cash was realized, and two splendid daughters of Stella are still in the herd.

Keep your eyes on A Buster, a young boar in the Yates' herd that has tremendous size even in this day of big hogs. But he ought to be big, as he was sired by Long Jumbo and out of Stella. What more could you ask?

Burr Starts New Duroc Ranch.

F. D. Burr of San Francisco is starting at Orland a Duroc-Jersey ranch that promises to be a big one and a good one, too. Some of the pens are already erected and more are going up. The herd at present consists of 40 brood sows and their season's offspring, and they are bright red ones at that.

H. M. Jerome, manager of the ranch, is a great lover of animals, and the animals know it. Besides the Durocs there is a beautiful Percheron stallion that Mr. Jerome drives to town hitched to a small truck without thills and without reins or even a jerk line. The horse is controlled by a system of signals and there seems to be perfect harmony between master and horse.

Bassett's Pigs Grow.

When size, good bone and real quality are looked for, Bassett & Son of Hanford have 4 pigs sired by Kings Timm out of Model Maid that will take the cake. They weighed at 3 months, 86, 91, 93½ and 94 pounds, respectively. They are as much alike as the proverbial "peas in a pod" and of almost perfect form. Also there are 3 October boars sired by Model Fellow out of the sow Hopeful, that weighed 83, 87½ and 90 pounds, respectively, at 3 months of age. These young fellows have been coming right along and are a very good trio.

As an example of how the small animal may outgrow the larger, the pig that weighed 83 pounds at 3 months weighed 269 pounds at 7 months; the one that weighed 87½ pounds at 3 months only weighed 261 pounds at 7 months, but the pigs that weighed 90 pounds at 3 months weighed 286 pounds at 7 months. These figures show gains of 1.44 pounds, 1.55 pounds and 1.63 pounds daily for 4 months. This is not fat, either, and they all look as though they might ultimately reach the 1,000 pound mark.

Poland-Chinas in Paradise.

Judging from the looks of the Poland-Chinas in the herd of J. H. Cook at Paradise, the original Paradise has nothing on California's spot bearing this name. They grow everything there from peas to pineapples and pleasant people, but Poland-Chinas stand out prominently. One of the good ones in Mr. Cook's herd is Whiz Bang, a grandson of Caldwell's Big Bob, and if he develops as he promises he will make some of the eastern boars look like small potatoes. The sow, Molly Wonder 2nd of Pfander and Mouw breeding, is a corker and one that would hold her own in the best company. Mr. Cook is in a fine section and he certainly raises fine hogs.

Quigley's Herefords.

About 12 miles from Paso Robles at Linne (pronounced Lin-nay) is the ranch of Benj. Quigley, where, scattered around under the spreading oaks or ranging over the hills and through the dales, is found one of the best herds of registered Herefords on the coast. The herd sire is Lemuel by Harris Standard 2nd, and he is a good one. As an illustration of constitution and prepotency it should be mentioned that the aged cow, Mercedes, has a beautiful calf at foot by Harris Standard 2nd and another 11 months old by Debonair 6th—two classy calves in 10 months.

Barnhart's Shropshires.

C. E. Barnhart of Suisun, breeder of pure-bred Shropshires, sold wool in 1893 for 4 and 6 cents per pound and dandy black face lambs for 75 cents per head. This year his wool brought 55 cents per pound and the same grade of lambs \$9 per head. Certainly some contrast.

To illustrate what is possible and also probable in the sheep business at present, Mr. Barnhart bought 1,600 ewes last year, paying \$15 per head for them, and the lamb and wool crop brought over \$24,000 this season, thereby bringing back the purchase price in one year. This was under range conditions, but of course, the range is of the best.

LAKE VIEW FARM SHROPSHIRE SHEEP

Hardy northern grown. Woolled from nose to toes. Ship on approval.

Our First Offering:

20 RAM LAMBS.

25 EWE LAMBS.

Apply to or Address

Wilson E. Elliott

Box 73,

Loleta, Cal.

Shropshire Rams

Pure blood yearling rams—singles and carload lots. Also pure-blood lamb bucks, ready for service by Sept. 1st. These bucks and rams are from pure-blood ewes (formerly registered) and the best registered rams to be purchased in the United States.

J. R. BLOOM, DIXON.

RHOADES & RHOADES

EXPERT LIVESTOCK AUCTIONEERS

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

BEN A. RHOADES, Auctioneer

1501-S-5 So. Main St., Los Angeles, Cal.

SHROPSHIRE RAMS

The kind that produce the large uniform black face lamb so much sought after in the markets.

Call on or write to

C. E. BARNHART,

Suisun, Calif.

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

St. Helena, Calif.

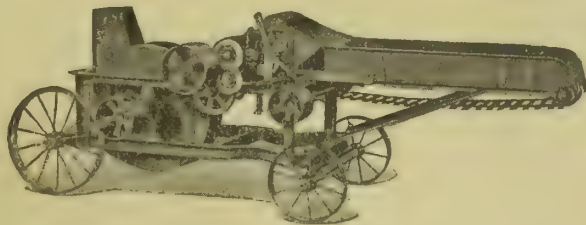
One mile east of town.

For Clean Cut Silage—

ACME Feed Cutters

BEFORE you purchase a silo filler, be sure to get our cutter catalog. Study it. Know *why* this Steel Frame Cylinder Cutter excels in the following essential requirements of a reliable feed cutter.

1. Quality Cutting.
2. Convenience.
3. Durability.
4. Safety.
5. Light Power Requirements.



The Acme Combined Silo Filler, Hay Chopper and Alfalfa Meal Machine

DE LAVAL DAIRY SUPPLY CO.

61 Beale St., San Francisco

Live Oak Stock Farm

F. A. MECHAM ESTATE

P. O. Address:

Petaluma, Sonoma County, Cal.

Take Electric Cars at Petaluma or Santa Rosa for Live Oak Station

Importers and Breeders of

**Red Polled Cattle,
Shropshire Sheep,
American Merino**

AND

Rambouillet Sheep



**SHROPSHIRE,
RAMBOUILLETS**

AND

**AMERICAN
MERINOS**



We have for sale this season 350 HEAD OF PUREBRED SHROPSHIRE RAMS, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age, and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouillets are all from prize-winning rams at the P. P. I. E. Strong, hardy, range-raised stock. We have a fine lot of yearling American Merinos of our own breed.

ALL STOCK SOLD SINGLY OR IN CARLOAD LOTS.

Livestock and Dairy Notes

Livestock breeders all over the state are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

LIVESTOCK SALES DATES.

August 2—Butte City Ranch, Butte City. Shorthorn cattle, Berkshire hogs, Shropshire sheep and Shetland ponies.
August 6—Francis T. Underhill, Santa Barbara. 100 head Hampshire hogs.
August 16—Camithers Farms, Lave Oak. 70 head young Berkshire sows and boars.
August 20—Fresno County Poland-China Breeders' Association, Fresno. Consignment sale of bred sows and gilts.
September 17—John M. Bernatein and W. L. Haas & Son, Hanford. Poland-China bred sow sale.
September 19—San Joaquin Poland-China Breeders' Association, Stockton. Consignment sale, 60 head.
September 30—Dimmick Bros. and De Raad, Hanford. Disposal sale of Poland-Chinas.
October 4—H. I. Marsh and Les McCracken, Modesto. Poland-China bred sows and gilts.
October 7—M. & A. L. Bassett, J. A. Crawshaw and F. D. Ross, Hanford. 75 head of Poland-Chinas.
October 11—Kings County Poland-China Breeders' Association, Hanford. Consignment sale.
October 16—H. M. Elberg, Roselawn Stock Farms, Woodland. 45 head of Shorthorns.
October 18—Trewitt, Vaughan and Nehls, Hanford. Poland-China bred sows and gilts.
October 20—Tulare County Poland-China Breeders' Association, Tulare. First consignment sale.
November 7—Pacific Coast Hereford Breeders' Association, San Francisco. Third sale of Herefords.

FALL FAIRS AND SHOWS.

August 15-16—Livestock and Agricultural Fair, Patterson.
August 26-28—Placer County Farm Bureau Fair, Roseville.
August 30-Sept. 6—California State Fair, Sacramento.
September 16-18—Humboldt County Fair, Ferndale.
September 17-20—Antelope Valley Fair, Lancaster.
September 27-30—San Diego County Farm Bureau Fair, San Diego.
September 22-27—Kings County Fair, Hanford.
September 22-27—Glenn County Fair, Orland.
September 30-October 4—Fresno County Fair, Fresno.
October 4—Contra Costa County Farm Bureau Fair, Brentwood.
October 6-11—Land Show, Martinez.
October 6-11—Tulare Livestock Show, Tulare.
October 15—Kings' County Pork Producers' Contest, Hanford.
October 7-11—Southern California Fair, Riverside.
October 13-18—Tulare County Fair, Visalia.
October 18-26—Los Angeles Livestock Show.
November 1-8—San Francisco Livestock Show.

The Dairy.

W. J. Higdon of Tulare has sold a Holstein bull calf to J. W. Snodgrass, Oxnard.

Stockholders of 10 creameries in the San Joaquin Valley have already ratified sales to the San Joaquin Valley Milk Producers' Association.

King Pontiac Hengerveld Payne, the famous Pequest Farms Holstein bull, has been purchased by R. E. Haeger of Algonquin, Ill., for \$100,000.

For the first six months of this year the butter receipts at San Francisco were 11,578,400 pounds as compared with 14,773,700 pounds for the same period in 1918.

A bulletin on milking machines is being issued by the State Agricultural College. The conclusions are that the machines will give satisfaction when operated by competent men.

Recent sales by the Edgemoor Farms, Santee, include 2 Guernsey calves to the Adohr Stock Farms at Owensmouth; a bull calf to Russell S. Cox, Escondido, and one to A. Marone, Oceanside.

The practical value of the new inter-state tuberculosis law is proved by the results of a shipment of 33 cattle from Illinois to Utah. They passed the test before shipment, but on a retest, after arriving at Ogden, 16 were found to be tuberculous.

G. M. Brown of the Burr Creamery, Los Angeles, is very happy over the arrival of a fine heifer calf sired by Matador Segis Walker, the famous Carnation bull, and out of Carnation Rag Apple De Kol, the heifer purchased at the Sacramento guaranty sale.

E. C. Gammon of Hood has joined the Guernsey ranks and has established a fine herd at the head of

which is Escalon Golden Jewel, formerly owned by A. B. Humphrey, Es-

calon. Mr. Gammon has extensive orchard interests and is adding a dairy to keep up the soil fertility.

The Hidden Valley herd of registered Guernseys at Redwood City, owned by A. J. Welch, has been sold to Palo Alto Stock Farm, Palo Alto. It consists of about 55 head, includ-

ing 25 milk cows. The sire is Dairy Maid's Prince. Many excellent records have been made in this herd.

Beef Cattle.

R. L. English of Pasadena, prominent for years in show horse circles, has purchased 10 bred Hereford heif-

Start With Hampshires

THE HAMPSHIRE HOG is the farmer's hog. The sows are prolific, good mothers, excellent rustlers, quick maturing. Because of their high quality and dressing percentage Hampshires are eagerly sought after by packers. If you want to make all the money there is in hog raising, start with Hampshires.

The next step is to get the best of the breed. Individuals of nondescript breeding are apt to be lacking in merit and prepotency; and no pedigree, however attractive, can compensate for a poor individual.

ATTEND THE BIG SALE

In this sale you will find sows with attractive pedigrees and outstanding individuality to back up their blood lines. They are the fruit of a \$25,000 investment in foundation stock alone, and represent the scientific mating of some of the greatest animals of the breed.



65 Bred Sows and Gilts

Four 3-year-old sows, 24 2-year-olds, 21 yearlings, 17 fall gilts. All guaranteed safe with pig; most of them carrying their own guarantees. Everything royally bred and from four great blood lines—Gen. Tipton, Lookout, Gen. Allen and Cherokee Lad. You can't beat this breeding.

The boars to which the sows are bred include Gen. Tipton's Masterpiece, the best son of the grand champion; Exalted Ruler, a Lookout boar by Exalted Lad, 1918, grand champion of Iowa; Draper Laddo, a Cherokee Lad boar; and Gen. Allen's Counterpart, by Gen. Allen, undefeated grand champion.

Wednesday, August 6th

Sale will be held at the Ortega Underhill Rancho, 4 miles east of Santa Barbara on the Coast Highway, near Montecito. Free transportation from Santa Barbara. E. C. Stone will be there. A State Hampshire Association will be organized in the morning. Free barbecue at noon. Sale starts at 1 o'clock. Be sure to attend. For catalog and full information address

THOS. T. DINSMORE, Manager,

Ortega Underhill Rancho Santa Barbara, California

FRANCIS T. UNDERHILL,
Proprietor

COL. ORD L. LEACHMAN, Sacramento,
Auctioneer

Hats Off to the HAMPSHIRE

The Hampshire has become America's most popular hog by sheer force of merit. The 1918 International Livestock Show was his last great record, winning grand championship over all other breeds, and selling for \$2.25 per hundred above his nearest competitor.

The Hampshire is the ideal hog for California conditions, as he is a natural foraging, green feed hog, and thrives well on our alfalfa and other succulent grasses, therefore requiring less grain than other breeds.

If you are looking for the greatest meat producer, investigate the Hampshire. Send for free information and literature about the progress of the breed and its adaptability to California conditions to

WALTER FOLK, Western Representative, American Hampshire Record Association.
SANTA BARBARA, Route 2, CALIFORNIA

ers from W. D. Johnson & Son of Kansas City as foundation material for a herd that he is establishing in southern California.

Elmer Murphy of H. L. & E. H. Murphy, Perkins, has gone to the middle-west to bring out a bunch of high-class Shorthorns.

L. A. Nares of Fresno, president of the California Cattlemen's Association, and H. A. Jastro of Bakersfield, (Continued on page 114.)

LIVESTOCK DIRECTORY

Rate in this directory 3c per word each issue.

SWINE.

Berkshires.

CATTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Bookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

TWO SOWS AND A BOAR—\$100 the trio. Two sow pigs from ten raised sired by Baron Duke 201st, 780-pound, \$1100 Grand National Champion, from Rival B Princess, a prize-winner at San Francisco, Sacramento, Oregon, and Omaha National Swine Show, and a boar sired by the Grand Laurel Champion boar from Symboler Belle, and of Superbus blood lines. A boar from a litter of ten raised, big, long, typey, stretchy pigs. Sandcock Land Co., in charge of Natoma Land Sales, 23 Montgomery Street, San Francisco, Cal.

GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. E. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH—Top Berkshire gilts. Bred right, prices right. Satisfaction guaranteed. Geo. E. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

REGISTERED BERKSHIRES—Write R. D. Hume, Dos Palos, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

MARCH BOAR PIGS—Out of sows selected from the best herds of the corn belt. One line-bred Big Bob pig sired by Bridges' Bob Wonder, Missouri, grand champion, and out of my great sow Bridges' Bobby. Two sired by the noted Boulder Buster and out of the splendid sow Bob's Giantess. These are real tops and guaranteed to please. H. C. Shinn, R. F. D. 1, Tulare.

EL PROFITO—Our great herd boar, will put profit-making qualities into your herd. His offspring have size, stretch, bone, good backs and feet, and easy feeding qualities. To make the right start with big-type Poland Chinas, get one of his boar pigs. Prices right. Correspondence cheerfully answered. Viola L. Renwick, Santa Barbara, California.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

3 CHOICE GILTS November 7th farrow—\$40.00 each; 3 January 21 farrow—\$30.00 each. Registered and crated, Edward A. Hall, Route 1, Box 39, Watsonville, Cal.

HARTSOOK BIG TYPE POLANDS—A fine lot of young boars. Both bred and open gilts for sale. Tegenburg goats and Holstein bulls ready for service. Fred Hartsook, Lankershim, California.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

MCCARTY & STARKWEATHER
FALL BOARS—Big type, smooth and classy. Cholera immune. Box 2250, San Francisco, or Paradise Road, Modesto.

POLAND-CHINA BOAR—Orange Blossom breeding. Ten months old. A crackjack. Satisfaction guaranteed. L. Leest, Van Nuys, Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for sale. Giant Buster and President Stock. Prices right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large smooth and big-boned Poland Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. M. Bassett, Hanford, California.

FOR SALE—Large-type Poland-Chinas. March pigs, \$35 to \$40 each. D. L. Smith, Gridley, Calif.

ELDERSLEY FARM—Big type Poland-China hogs and Aberdeen Angus cattle. J. H. Ware, Live Oak, Calif.

PURE-BRED WEANLING BOARS, \$20—L. R. Adams, Island Mountain, Calif., on Northwest Pacific.

BIG-TYPE POLANDS—Spring pigs from prize-winners. J. H. Hansbrough, R. A. Box 22, Modesto, Cal.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old—"A Wonder" bred boar.

KEAOKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

RIGHT TYPE POLAND-CHINAS—Weanling boars. Registered and immunized. W. T. Dice, Hanford, Calif.

LARGE TYPE POLAND-CHINAS. Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

POLAND CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Nothing this month. Eight spring boar and 5 spring sow pigs to offer during August. All young stock is now immune. At the State Fair this year will show a full exhibit of good ones. Drop in and see them and get some real big typey ones. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

DURHAM STOCK BREEDERS' ASSOCIATION.

DUROC JERSEYS—Thirty-five registered boar pigs have been selected by the committee from fifteen herds on the Durham State Land Settlement, ranging in age from 3 to 5 months old. Each animal is an excellent individual with blood line of careful selection.

Our first offering for immediate acceptance from \$25.00 up. Inspection or correspondence invited. Geo. C. Kreutzer, Supt. State Land Settlement Board, Durham, Calif.

DUROC-JERSEYS AT IRELAND—Home of Cherry Volunteer II, Grand Champion Boar at Riverside. Ireland's Orion Defender and Orion's King of Ireland are excellent sires in service. Booking orders for spring delivery. Ranch at Owensmouth. City office, 1219 Brockman Bldg., Los Angeles, Calif.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route G, Fresno, Cal.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

PATHFINDER AND KING'S COL. stock—immune. Weanlings, \$25 each. Bred gilts and service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento, Calif.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

DUROC JERSEY SWINE FOR SALE—Best blood lines. Bred sows and gilts. Service boars. Jersey Queen Farm, San Jose, Calif.

DUROC JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Ethanac, Calif.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

REGISTERED DUROC JERSEYS—Open and bred gilts. August and November boars. Great herd headers. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Dos Palos, Cal.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulham & Sons Visalia, California

DUROC-JERSEY SOWS with first litter, \$30 to \$45. B. Redaker, Napa, Cal.

A FEW A-1 MARCH BOARS. Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Uneeda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

MY HAMPSHIRE are money makers. Stock for sale. Buy now. L. W. Denker, Saugus, California.

Miscellaneous.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

DAIRY CATTLE.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckles Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co. Valley Ford, Cal.

AYRSHIRES—Quality bulls at farmers' prices. Redwoods Ayrshire Farm, La Honda.

Guernseys.

EDGEWOOD FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgewood Farm, Santee, San Diego county, Calif.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Jerseys.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2½ years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

A PRICE ON EVERY ANIMAL.

Herd free from tuberculosis. All sales subject to sixty days' retest. Sons of Findern Solene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

Toyon Farms Association.

REGISTERED Holstein bulls and grade cows for sale. Bull 2½ years old, by a 44.96 lb. bull and out of a 16.78 lb. two-year-old daughter of a 29.67 lb. cow. Females young, mostly Holsteins, and bred to above bull. Choice stock. For particulars write E. Maracini, Dos Palos, Calif.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEIN CATTLE—E. M. Freeman, Route B, Modesto, California.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

CREAMCUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A Box 437, San Jose, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. B. Spires, Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Young stock for sale from A. R. O. dams. La Driver Stock Farm, Nicolaus, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS—We breed for production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif. Breeder of registered Holsteins.

GOTSHALL & MACGRUDER—Breeders of registered Holstein-Friesian—Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. B. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Calif. John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Props., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

SIMON NEWMAN CO., breeders of Registered Hereford Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords. Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

REGISTERED SHORTHORNS—Julien Ranch, Grenada, Siskiyou Co., California.

SHORTHORNS—Carruthers Farms. Live Oak California

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch Esparto, California

HORSES AND MULES.

A WELL-MATCHED TEAM of black mares; also extra mare; three two-year-olds, and four yearling colts; all of Percheron stock. J. Bernard, Calistoga, Cal.

FOR SALE—A-1 Breeding Jack. Bargain. Have quit raising mules. W. P. Harkey, Gridley.

PERCHERONS—Registered Stallions, Mares and Fillies; three, four, and five years old. Cora S. Secrest, Escalon, Cal.

SHEEP AND GOATS.

PURE-BRED RAMBOUILLET RAMS, large smooth frames, extremely heavy shearers, from the very best strains of this country and France. Immediate delivery from ranch at Ord Bend, Glenn county. P. O. address, Windell Orchards, Glenn, Calif.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

HAVE FOR SALE fifty head of fine yearling Shropshire rams. Also 25 head of high-grade Rambouillet rams. These are big fine woolled rams. E. D. Dudley, Dixon, Calif.

500 GOOD TWO AND THREE-YEAR-OLD breeding ewes for sale, in good order. Write James J. Connell, 399 North 3rd St., San Jose. Phone 3763.

J. R. BLOOM, DIXON, CAL.—Breeder of Shropshire rams out of pure blood ewes and imported registered rams. Single and car load lots.

SHROPSHIRE—43 yearling, purebred, registered Shropshire rams for sale. Harry L. Huston, Winters, Calif.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

BISHOP BROS., SAN RAMON CALIF.—Breeders and importers of Shropshires.

KAUFKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying Butte City Ranch. Box P. Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale. Shorthorns; Shropshires; Berkshires; Ponies August 2, 1919

"The first the worst, the second the same, the last the best of all the game." So goes the children's rhyme. In milking, it's a good thing to remember that the milk drawn last is the richest in butterfat. To keep up the quantity and quality, milk the cows thoroughly.

GREENWOOD DUROCS

You may find as good Durocs as ours elsewhere, but none better. If you are looking for the big-boned, smooth, rangey kind with wolds of quality, heavy flesh and great prolificacy, it will pay you to write to

GREENWOOD FARM

R. F. D. 1
LIVE OAK, SUTTER CO., CAL.

Pays to Feed Out Culls

(Written for Pacific Rural Press by Geo. L. Horine, Winton.)

In the Rural Press of June 28 is a story regarding the methods used by two breeders of registered hogs in marketing their culls. Likewise the question is raised, whether it is better business to sell culls or feed them out until ready to butcher before disposing of them.

To my mind there are several reasons why the breeder should feed his culls instead of selling them as shotes. The breeder—that is, the successful breeder—is admittedly able to produce better hogs in less time than the mere feeder. There is no chance for argument here—breeding stock speaks for itself. The breeder understands the individual characteristics and peculiarities of his particular strain of hogs better than anyone else. Some hogs will eat slop feed; many will not. Some will fatten on pasture; others will hold their own and no more in stubble. Skimmilk and blackeye bean culls will fatten one bunch, and cause sickness in another. No feeder can buy up a lot of hogs from a dozen herds and feed them so as to get the greatest possible returns from each individual hog.

Another point against selling feeders is the reflection cast upon the breeder. A pure-bred hog in the feed lot is sure to be pointed out as a "registered hog from Mr. So-and-So's herd," and as such is bound to be a poor advertisement wherever he goes. A cull on public display, as it were, is an admission that the particular herd he is from is a producer of culls. He may be only one out of a dozen or a hundred, but the psychological effect upon the would-be pure-bred prospect is the same.

Closer culling at farrowing time is

a great step in solving the question. Saving all the pigs possible is of course imperative, but if after the litter is a day or so old the weaklings are discarded, those that are left have a much better chance to develop into breeders, and thus the general average is raised. Saving runts may pay on some ranches, but it does not for me. As a result I have few culls.

As to feeding those that are absolutely culls and nothing else, I have been able to get 200 pound hogs in 6½ months. On a recent bunch of eight barrows marketed at 196 days of age, averaging 191.7 pounds apiece, I made a good profit. Knowing how to feed and finish my particular strain at this early age paid me 18 cents per pound, f. o. b. shipping point, when the market was 17¼c. These barrows were fed grain in self-feeders until 10 weeks of age, when they were cut down to 2 pounds per day per hog. This was continued until six months when they were fed 8 pounds per day for 15 days. The grain was rolled barley, soaked, and they were on good alfalfa pasture after three weeks of age.

Figuring barley at 2½ cents, the grain cost per hog was as follows:

First ten weeks, including sows' feed	60 lbs.	\$1.50
10 weeks to 6 months...	210 lbs.	5.25
6 months to 6½ mos...	120 lbs.	3.00
	390 lbs.	\$9.75

This means a grain cost of almost exactly 5 cents per pound live weight of finished hog. Of course the alfalfa pasture, the upkeep of the sow before farrowing, etc., should be figured, but no one but a pessimist can see loss in such a proposition.

Tulare Duroc Sale Another Success

(Written for Pacific Rural Press.)

Breeders from all over the state responded to the potent lure of quality at the second sale of the Tulare County Duroc-Jersey Breeders' Association, held at Tulare, July 16, and the average of \$114 for the first sale was beaten by over \$5, as the 57 head offered brought an average of \$119.30.

A short program to dedicate the new sales pavilion preceded the sale. Then Col. Geo. W. Bell took the box, and when it comes to crying hog sales, he certainly can "ring the bell." He did not allow interest to wane for an instant, and the bidding was spirited.

The top of the sale was the tried sow Ohio Lady, bred by Elmer Lamb of Ceres, consigned by Joe M. Chinowth of Visalia and bought by Alex-Whaley of Tulare for \$300. Mrs. W. L. Fisher of Visalia was the heaviest buyer, taking 8 head for a total of \$840. J. W. Schmitz of Madera secured 6 head for \$820. Other buyers were J. R. Weisenberger of Terra Bella, H. E. Spires of Caruthers, Post Card Ranch of Corcoran, Sturgeon Bros. of Lemoore, A. E. Poston

of Tulare, J. C. Rogers of Wasco, F. D. Burr of San Francisco, Allen Thompson of Tulare, Chas. Hubbard of Riverdale, C. C. Putman of Honolulu, A. B. Trech of Bakersfield, J. G. Roberts of Madera, W. F. Thompson of Porterville, W. J. Higdon of Tulare, Elmer Lamb of Ceres, S. M. Padias of Santa Ana, M. C. Allen of Bonita, W. A. Jenkins of Tulare, W. L. McDowell of Strathmore, R. C. Sturgeon of Tulare, C. W. Townsend of Bakersfield, W. L. Caldwell of Visalia, W. A. Meyer of Sacramento, Oscar McDowell of Strathmore, Frank Hesse of Tipton, C. P. Morgan of Shafter and R. E. Chinowth of Visalia.

Several new breeders were started and many of the hogs went to distant homes—to San Diego and Glenn County in this state and across the waters to Honolulu. The Tulare County breeders are putting their section on the map as a red hot center. The affairs are in the hands of live wires who are backing up good hogs with good business methods. Watch their smoke!

Hog Feeding Method Sounds Good

(Written for Pacific Rural Press.)

E. C. Green of Coleno, Mendocino county, writes us: "In reading the California Hog Book I came across the following: 'It is unfortunate that the dairy hogs cannot have some of the grain from the stubble hogs and that, for a part of its life at least, the

stubble hog cannot have some of the milk that the dairy hog has in excess.'

"Those who have handled hogs on stubble know that the growth and gains under the best conditions are slow, the reason undoubtedly being that they do not get a balanced ration. Last summer I tried an experiment to see if I could overcome this difficulty. I took alfalfa meal and moistened it with buttermilk and whey from the creamery, and hauled it daily to the hogs on stubble, being careful to feed on hard ground.

"The hogs took to it immediately. I was able to feed the fields closer; put faster gains on the hogs, thus insuring earlier marketing; in fact, I turned two carloads off the stubble where ordinarily I could figure on only one. No record was kept of the actual gains, but from close observation I am satisfied that the experiment was a success."

TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM

W. O. Pearson, Prop. Woodland, Cal.

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM

P. O. Box 177, Lancaster, Cal.

MONTELENA HERD —OF LARGE— YORKSHIRES



LAKE PARK KING 25211

Grand Champion Boar—California State Fair, 1917.

Due to the ever increasing popularity of the breed, Yorkshire breeders are almost entirely sold out, and it would behoove the prospective purchaser to place his order soon. We are only able to offer at the present time a very exceptional lot of fall pigs, some sired by "Lake Park King," others by "Montelena Prince 2d." They are out of such sows as "Deer Creek Nena 8th," present Grand Champion sow of the State, who has averaged a fraction over 17 pigs per litter for nine consecutive litters; "Riverina Nena 9th," one of her best daughters, and "Lake Park Lady Frost 291st," the top sow at the Thomas H. Canfield sale last year.

We solicit your correspondence.

A. L. TUBBS CO.

CALISTOGA

CALIFORNIA

IF—

Your sows farrowed 18 to 30 live pigs per year—Your market hogs averaged 200 lbs. in 6½ months—Your herd contained the blood of CRIMSON MONARCH, GOLD MODEL, CRIMSON WONDER, ORION CHERRY KING, and GREAT WONDER—You had a DEMAND for BREEDING STOCK that you could not supply—

Would you talk about it?

To help any California farmer who wants to make a start with REGISTERED DUROC-JERSEYS, I am selling until August 10th, weaned pigs, open and bred gilts, bred sows and herd boars on easy terms. A small payment secures such stock as you desire, balance on a time basis without interest.

Write today for full particulars, including prices, pedigrees, etc., stating sex and number of animals interested in.

GEO. L. HORINE,

WINTON, CALIF.

Duroc Jersey Hogs

250 - Spring Pigs - 250

That have been mated with extreme care and properly raised and fed. The big, tall, rangy, high-backed, big-framed kind that can carry an awful load of pork and walk off with it. We have on our Orland ranch, the sires and dams of the \$1100 sow and \$1000 boar recently sold at San Jose sale.

WHEN YOU NEED GOOD DUROCS—WRITE US

F. D. Burr Company

235 Montgomery Street,

San Francisco

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER

GARDINER'S KING'S COL.

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH

ROUTE 4, BOX 735.

SACRAMENTO, CAL.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

ASK YOUR DEALER FOR

El Dorado Coconut Oil Cake

for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address

EL DORADO OIL WORKS

493 California Street,

San Francisco.

SAN JOAQUIN COUNTY POLAND-CHINA BREEDERS' SALE.

Not to be outdone by the other county breeder organizations, the newly formed San Joaquin County Poland-China Breeders' Association will hold a sale at Stockton, September 19. There will be 40 outstanding fall and spring boars and 20 choice bred sows and gilts of Big Bob, Ursus, Jr., and Golden Gate King breeding. The consignors will be Young & Clark, Langhorst Bros., Eugene Miner, John Hazel, Geo. V. Bechman & Sons and J. F. Lehman.

FRESNO POLAND-CHINA SALE.

Some breeders form county associations and plan big things, but never carry out their plans. Not so with the live wires who organized the Fresno County Poland-China Breeders' Association a few months ago. They immediately got busy and planned for a sale of corking good sows and gilts that would win them fame from one end of the State to the other.

Although the association is young, the men behind it are old-timers. They have bred Poland-Chinas for years, have been prominent winners at shows, and have some of the best stock in the state. The choicest of this will be offered at the sale of 50 bred sows, bred gilts and open gilts, to be held at the Fair Grounds, Fresno, Wednesday, August 20th. It will be a big even, and those interested in money-making hogs should plan to attend.

ANOTHER HANFORD POLAND-CHINA SALE.

When it was announced that different groups of Kings County Poland-China breeders would hold fall sales, it was supposed by many that this would end the association sales. Not much. The association is bigger and stronger than ever, having recently taken in eight new members, and will hold one of its regular sales at Hanford October 11. But the mem-

bers are raising Poland-Chinas in too large number to include all of their offerings at this one sale, so it will be supplemented by sales of combinations of breeders—four already being announced for September and October, as will be seen from our list of livestock sales dates in another column.

"This shows you that Kings County is establishing herself as the real Poland-China center of the Pacific Coast," says W. Bernstein. Looks so, doesn't it?

THE BIG HAMPSHIRE SALE.

The 65 bred sows and gilts that will be offered at the Underhill Hampshire sale at Santa Barbara, August 6th, represent the mating of some of the greatest individuals of the breed by a man who has made a study of the science of breeding for over 35 years, and never breeds a sow without a definite purpose in view. They are not the culls, but the surplus stock, due to a natural increase of the herd.

Their blood lines are of the four great strains of the breed, and you can get live-bred animals of any of these strains, or straight bred animals with the blood lines crossed. You can find prize-winning prospects or breeders for pork production, as you prefer.

If you are not sure about the Hampshire hog, attend the sale and investigate. Be at the Hampshire meeting in the morning, and don't overlook the big barbecue at noon. You will be welcome whether you intend to buy or not.

CARRUTHERS' BERKSHIRE SALE.

Here is an opportunity to get good young stock from the herd that holds the coast record for the two top sales of Berkshires. Nothing will be reserved. About 40 young sows and 30 boars will be offered, among which will be some that can be developed into prize winners. Yet it will be strictly a breeders' sale and high prices are not expected. There is

hardly a better way to make money than by buying young stock and growing it out, so be sure to attend this sale, August 16th, at the Carruthers' Farm, three miles west of

Live Oak, Sutter County, California.

Keep the pigs growing every day until they are ready for market; it makes big interest on the investment.

The BIG Poland China Sale

Hogs are selling at the highest prices ever known—\$23 at Chicago and \$21 right in the San Joaquin valley. The dearth of meats and fats abroad assures a high market for years. Now is the time to get into the game. The Poland-China is the hog to start with, and the kind of stock you want is raised by the

Fresno County Breeders

Seventeen of the leading breeders of the county have consigned the tops of their herds in order to make a big success of this first sale of the Fresno County Poland-China Breeders' Association.

50 BRED SOWS, BRED GILTS, OPEN GILTS

Wonderful brood matrons, with great stretch, strong backs, heavy bone, well-sprung ribs, easy-feeding qualities—everything you look for in profit-making hogs. Bred to outstanding boars.

Nearly every consignor secured his foundation stock from the Corn Belt, and in the pedigrees of the animals offered you will find the most noted blood lines of the breed.

Wednesday, August 20th Fair Grounds, Fresno

Come early and look over the stock. Free lunch at 11:30. Sale starts promptly at 12:30. You can't afford to miss it.

FOR CATALOG, ADDRESS

ALFRED BUCKLAND, President.
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A FEW GOOD DUROC BOARS FOR SALE

Sired by California's Defender No. 181269 and out of Tagus OK Lady No. 649796, Tulare Belle, No 655690, Tagus OK Def. 1st, No. 752198, Tagus Girl Def. 6th, No. 752208, Tagus Lady Defender II, No. 752184.

Weanlings, \$25.00 each
4 months old \$35.00 each
6 months old, \$50.00 each

Serviceable Boars over
6 months,
\$60.00 and up

DIABLO STOCK FARM

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Lendorris Ranch Poland - Chinas

**PUT PROFIT IN FARMING**

Our herd is the result of careful selecting and constructive breeding, and combines size, bone, easy-feeding qualities, prolificacy—everything you want for a profit-making hog.

GREAT BATTERY OF BOARS
YOUNG JUMBO (see picture), the great son of Jumbo Bob, who is all that his name and breeding imply; also the sensational young boar, LENDORRIS LIBERTY BOND, a son of Liberty Bond, for whom \$10,000 was refused. He promises to become one of the Coast's greatest sires. This is the blood you need to insure your success.

W. L. HAAG & SON
Hanford, Calif.

Buy Your Berkshire Boar Now

and grow him out for spring service. We are offering a few exceptionally good ones, 4 months old. These will make real herd headers. They are sired by our 700-lb. first prize winning son of Laurel Champion, and out of large stretchy sows. All sow pigs either sold or reserved. Also have for sale a 14-months-old boar, that weighs around 450 lbs. He is good enough to head any herd, and is priced right. Write us at once for further particulars.

IMPERIAL STOCK FARM

R. J. MERRILL & SON,

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DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

The Chester White Will Start You Right.

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

UNEEDA GLENN COUNTY HERD OF Duroc-Jersey Hogs

KEY HERD OF PACIFIC COAST

Won at Sacramento:
Grand Champion Sow, Senior Champion Sow, Junior Champion Boar, seven Firsts, 23 other prizes.

CLASSY STOCK FOR SALE.

40 sows and gilts, many bred to our great eastern boar, Experimental Defender, by old Defender. Also a few choice service boars, and some topy pigs of King's Col. and Defender breeding. Just the kind you need.

H. P. SLOCUM & SON
WILLOWS, CAL.



UNEEDA QUEEN MODEL,
Grand Champion State Fair, 1918.

HOG AUCTIONS.

TULARE—JULY 8th.			
No. Hogs	Total Wt.	Avg. Wt.	Price
56	10555	203	\$18.45
10	1505	150	17.45
8	2805	350	16.95
7	14480	190	18.70
76	14805	187	18.50
84	17100	204	18.40
VISALIA—JULY 9th.			
4	890	205	18.75
69	11075	201	18.50
17	2570	140	17.50
4	1320	330	17.00
TEGNER—JULY 11th.			
76	15690	209	19.50
37	12235	215	19.50
7	1355	196	19.75
16	3135	196	19.75
37	5835	156	18.80
14	4690	335	18.30
5	780	156	17.80

LIVESTOCK AND DAIRY NOTES.

(Continued from page 111.)

formerly president of the American Livestock Association, say there is no justification in the present beef prices now charged by the butchers to the consumers. Mr. Jastro believes that if the Kendrick bill passes the evil will be remedied.

Conaway Ranch, Woodland, has purchased the entire well-known herd of Shorthorns owned by A. W. Foster of San Francisco. It will be remembered that C. Harold Hopkins, the manager of the Conaway Ranch, was the purchaser of the \$5,500 Shorthorn bull at the Davis sale last spring. He is getting together one of the greatest herds of Shorthorns in the state.

Swine and Swinememen.

The sale of the Poland-China breeders of Fresno County will be held August 20 instead of 26 as previously announced.

Cloverdale Farms, Escondido, have just delivered 10 weanling Poland-China pigs to the American Beet Sugar Co., at Chino. A service boar was recently sold to the same parties.

Mrs. Viola L. Renwick of Santa Barbara, owner of El Profito herd of Poland-Chinas, is expecting a Big Bob gilt from E. D. Frazier, Drexel, Mo. She will be bred to the great boar Buster Model.

Recent sales of registered Durocs by the Charnock Ranch at Hemet include 2 gilts to Newman & Bush at Riverside for \$175 each; 4 bred gilts to the Agua Mansa Ranch at Colton, and 15 fall gilts to Mr. Hulse, San Jacinto.

Mr. Eastman, of the Eastman-Dillon brokerage firm of New York, is starting a Poland-China ranch on Chatsworth Boulevard near San Fernando. Homer L. Graham, formerly swine herdsman at Santa Anita Rancho, has the work in charge.

Sales of Berkshires at the Lark Meadow Ranch, Geo. E. Stingle, proprietor, El Monte, include: One gilt of Master Gabriel and Superbus breeding to Frank M. Hinton, Santa Fe Springs; 1 boar of the same breeding to C. N. Esender, to go to Moapa, Nevada, where Mr. Esender is starting a Berkshire ranch.

Tom M. Bodger, Gardena, reports sales of Hampshires as follows: Two gilts and 10 weanlings to E. F. Mitchell, Tranquillity; 1 weanling boar and 1 sow to W. W. Crockett, Covelo; 1 weanling sow to Mrs. F. W. Rublie, Inglewood; 1 weanling sow to D. M. Towne, Gardena.

A. D. McCarty, secretary of the California Poland-China Breeders' Association, has scattered the announcement throughout the east that if visitors to the coast will call at his office he will see that they are escorted through the fields of tall alfalfa to the spots where the best Polands are grown. This is the kind of breed promotion work that gets results.

H. C. Witherow of Greenwood Farm, Live Oak, says that his best pigs are by Johnson's Defender, Jr., and out of daughters and granddaughters of Model Col. and their old sow, Col. B's Queen 4th. This represents the mating of sows of uniform breeding to a good boar of a prominent branch of the same family. Mr. Witherow considers this practice essential in building up a strong herd

and the results seem to prove that his theory is correct.

Sheep.

The Second Annual Western Ram Sale will be held at Denver, September 30 to October 3.

F. A. Ellenwood of Red Bluff recently sold 200 spring lambs to a San Francisco butcher for \$10 per head.

The Department of Agriculture announces that collection of excess profits from wool dealers is proceeding and that their distribution to wool growers will begin in the near future.

The Fourth Annual Ram Sale of the National Wool Growers' Association will be held at Salt Lake City, August 26-29. Bullard Bros. of Woodland will consign 25 Rambouillet stud rams and 100 range rams. Ellenwood & Ramsay of Red Bluff will consign 25 half-blood Corriedale rams.

Livestock Miscellaneous.

Stockmen from the 13 western states gathered at Salt Lake City this week to discuss matters of interest to the cattle and sheep industry. It was planned to offer a resolution advocating the passage of a bill by congress to place public grazing lands under federal supervision.

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?

Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

SAN FRANCISCO

Calco - modern farm products



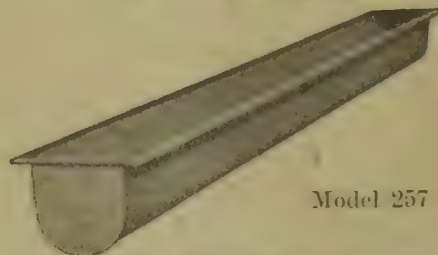
Model 250

Calco Automatic Hog Grain Feeder



Model 244

Calco Hog Trough



Model 257

Calco Sheep Trough



Model 200

Calco Stock Watering Trough

CALCO PRODUCTS are made of all metal construction—built of Armeo Iron and cast iron. Every piece is rigidly made, strong, durable, sanitary—built to give long service.

Calco Automatic Hog Grain Feeders are made with capacities from 2 to 14 bushels. Give automatic supply of clean, fresh grain. No waste. Long service.

Calco Hog Troughs—for healthy hogs—are made in sizes from 24 to 120 inches in length. Armeo Iron and Cast Iron construction throughout. Safe, clean, durable.

Calco Sheep Troughs—made for sheep, deep troughs with capacities from 51 to 131 gallons. Ready to go on supporting frame.

The Calco Stock Watering Trough is made for cattle and horses. Built ready to go on supporting frame. Capacities from 18 to 153 gallons—right prices.

Calco Automatic Hog Watering Fountains give constant supply of fresh water. Clean, durable and give long service. Illustrated Fountain (Stock number 751); diameter 44 inches.

These products are profit-producing, long-service, all-metal farm necessities. Write for price lists—TODAY.

California Corrugated Culvert Co.

LOS ANGELES
417 Leroy StreetBERKELEY
406 Parker Street

Model 252

Calco Automatic Hog Watering Fountain

PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

**Western Meat
Company**
SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

Poultry and Rabbits for Profit

Conducted by R. H. Whitten.

CULLING THE FLOCK.

If you have not already begun culling the flock it is time to begin. Feed is still high and prices for hens are higher than they will be later on when the surplus stock is marketed. As a rule, it is advisable to put hens on the market before it is "flooded."

The production of a hen is usually greatest during the first two laying seasons; also mortality increases with age. Consequently, as a rule it is best to keep only what two-year-old hens you desire for breeders and to dispose of the balance. However, the heavier breeds generally keep up productions longer than the lighter breeds, and if you have Rocks, Wyandottes, Reds, or Orpingtons, it may pay you to keep through the third laying season hens that show good vitality, moult late and measure up well according to the Hogan system.

Vitality is the chief consideration in selecting hens to keep. All showing symptoms of disease or low vitality should be culled, irrespective of breeding or good points. The actions of the hens usually indicate their physical condition. The weak are inactive and dull and are likely to sit around a great deal. They are the first on the roost at night and the last off in the morning. They do not range for feed and do not sing like busy birds. A hen with a long neck, thin beak, narrow head, long slender body and long legs and thighs can be put down as one low in vitality; while a strong, vigorous bird will be found just the opposite. The active bird usually has a short stubby beak and toenails, as these become worn while she is scratching for feed.

The hen to keep should have a bright, prominent eye, a well-developed, blocky body, an erect carriage, bright comb and wattles, and should be active at all times. A good layer is never idle.

Next, consider the time of year the hen moults. One that stops laying in the summer and moults early is not a high producer. When a hen moults during warm weather it takes much longer for the moult to become complete, and consequently her period of idleness is much longer. Hens that moult late in the fall usually lay right up to the time they moult; the moult is rapid, and they get to work again in quick time.

The color of the skin, shanks and beak should be considered. Of the yellow-shank breeds the poor-producing hen will be found to have bright yellow shanks and beak at the end of the laying season; while the persistent layer will have these parts faded out and of a whitish flesh color.

When the Hogan method of culling is used the distance between the pelvic bones and the condition of these bones should be taken into consideration. If they are thick and close together the hen is not a good layer and should be discarded. If they are thin and wide apart, showing flexibility and great abdominal capacity, the bird may be considered a good layer and one well worth keeping.

It is a pretty good plan to spend a little time each day looking over the flock, instead of waiting for a definite culling time and doing it all at once. In this way you can pick out all of the inactive birds, those that are in any way diseased, and those that are starting to moult too early. These can be marked and when the time of culling comes it can be done with less work and in less time.

SUMMER CARE FOR GROWING CHICKS.

Although chicks may be hatched from eggs produced by strong, vigorous hens and may be carefully brooded, their growth will be retarded unless they receive the proper attention during warm weather. They should be provided with plenty of nutritious food, including green stuff, dry mash and grain, according to the formulas which we have already

given. If the rations are varied better results will be secured, and a mixture of grains will always give better results than any one alone, irrespective of the nutritive value.

Charcoal, grit and oyster shell should be available at all times. If skim milk is available it should be fed, preferably sour, and in this case the beef scrap in the mash may be reduced about one-half; in fact, unless this is done when the pullets begin to mature it will cause too early laying.

Whenever possible growing chicks should be allowed free range so that they may obtain natural green feed, such as grass, alfalfa and clover, and also bugs and worms. Green feed is not only an excellent tonic but absolutely necessary for the proper development of chicks, and when they can not obtain it on range it must be provided.

The matter of clean, fresh water cannot be over-emphasized. Where running water is not provided the supply should be changed twice daily and the water should be kept in the shade. The pans should be cleaned daily before fresh water is added.

Keep the coops and houses clean and sanitary. Disease most frequently starts in unclean quarters. Houses should be cleaned at least once a week, and clean sand or straw should be scattered over the floor. Lime is good to scatter over the droppings if they are not cleaned up daily. When chicks are confined to a pen the ground should be spaded at frequent intervals so as to provide fresh ground for them to scratch in. The chicks should be examined occasionally for lice, and if these pests are present immediate steps should be taken to kill them.

CARE IN HANDLING EGGS.

Good fresh eggs put in a basket and stored in the hot kitchen for a day or two may reach town in such condition that they must be used at once to be available for food. A basket of perfectly fresh eggs left on the back of the wagon and exposed to the sun during a 10-mile drive to town may reach the country merchant in such shape that not even immediate chilling will make them available for long shipment to the cities. This is the story constantly revealed by the candle on the egg car. Eggs of which the farmer's wife is very proud will show that they have been allowed to remain 24 or 48 hours in the nest or at some point in their history have been exposed to heat, which lowers their value. It is evident, therefore, that if the egg is to be palatable to the city consumer care in its handling must begin on the farm. The farmer must gather his eggs twice a day and must keep them cool afterwards, just as he would cream or milk, until they are delivered in town. There the merchant must at once put them into a dry, cold place, or, if he wishes to be strictly up to date, must chill them in his own little refrigerating plant of the town, to a temperature well below 40 degrees.

Heat is the great enemy, for once a good egg has stood for any time at a temperature of over 68 degrees it begins to incubate if it is a fertile egg, or to spoil if it is an infertile egg.

DUCK-O-GRAMS.

If ducklings are allowed to swim when small, many will get cramps and die or else become stunted and never make good, large ducks.

It is estimated that it costs about five cents per pound to feed ducks up to ten weeks of age, two cents for labor, two cents to market, and three cents for eggs, etc., making a total of twelve cents per pound. All over that is clear profit.

Very small ducklings should never be allowed out in a shower as they will often stay out until they get so chilled they cannot walk, and sometimes will sit outside a coop with

their heads up in the air and drown. Ducks are liable to stampede in the dark when frightened by an intruder. When raising large flocks of ducks, allow a lantern to burn all night in the house and keep dogs or cats away. Many valuable ducks may be killed in a stampede.

Water should be given before feeding ducklings as they eat so greedily they may choke if they do not have the water to wash the feed down.

Poultry Breeders' Directory

WHITE LEGHORNS are the most profitable breed of poultry. If you are in the business for profit, you will eventually have them. Early broilers; early layers; early profit; we sell only White Leghorn Baby Chicks 1919; heavy-laying Hoganized hens. Safe delivery of full count live chicks guaranteed. Prices per 100: February \$15; March \$14; April, \$12.50. The Pioneer Hatchery, 408 Sixth St., Petaluma, California.

DON'T BE TOO LATE BOOKING fall chicks, reduced. Get ready for high-priced broiler, roaster holiday trade. Seven varieties clearing customers \$5.00 yearly. 200-290 egg strain. Chicks every week in year. 70,000 capacity hatcheries supplying chicks. All booked some weeks. **HUNDREDS LAYING PULLETS**, breeding hens, roosters, reduced July, August. Valuable circular with proof free. J. Beeson, Pasadena, Calif.

THE MISSION HATCHERY

August and September Baby Chicks—White and Brown Leghorns, R. I. Reds, White and Barred Rocks. Reasonable prices. Quality stock. Supply limited. Book early. Box 17, Campbell, Cal.

ATKINSON'S PEERLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels, \$5 and up. 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties every week. Only good, strong youngsters shipped. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto.

EGG BRED—Buff Brown, White Leghorns, Golden Campines, Dark Cornish. Winners wherever shown. Send for circular. Percy Ward, 3142 Ward St., Fruitvale, California.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hoganized and Trapped stock. Won 1st, 2nd, and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Voden, Box 3, Los Gatos, Calif.

BABY CHICKS—We have the large heavy-laying S. C. White Leghorns, severely culled last year. Send for prices. Tupman Poultry Farm, Ceres, California.

EASTMAN'S BRED TO LAY Hoganized and trapped Barred Plymouth Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

FOR SALE—72 purebred S. C. Rhode Island Red pullets. April hatch; Eastern stock. Two dollars each. Mrs. Alice Jeter, Esparto, Cal.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GEES, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch Rt. 2, Box 144D, Pomona, California.

HIMALAYAN WHITE FUR RABBITS. Mock Ermine. Mrs. Leroy Hackett, 3306 "P" West St., Oakland, Calif.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

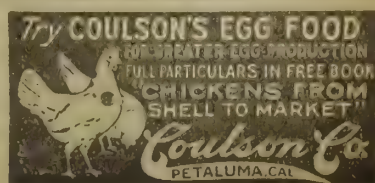
RABBITS.

I HAVE the following rabbits for immediate delivery, 6 mo. and over. Pair Himalayan and litter, 6 does, 5 white bucks, 13 white does, 18 New Zealand does and bucks, 25 Belgian does, 16 three-quarter Flemish does, 2 black, 1 gray, 1 steel Flemish bucks; 7 checked does; also the following, 3 to 5 mo. old: 37 pedigreed New Zealand bucks and does; 2 black, 1 steel Flemish buck, 2 3/4 Flemish does, 1 gray, 3 steel Flemish does; also many others and several hundred young, all breeds; prices right; health guaranteed; ship anywhere, guarantee safe arrival and satisfaction. V. C. Howe, E 14th St near Knox Ave., San Leandro, Cal. Mayward car to door.

RAISE RABBITS—Most profitable and popular small animal in America. Big demand. Clean, fascinating work. Send 10c for copy of leading rabbit magazine and our Rabbit Books, P N 5. Gilmore's Rabbit Farm, Santa Barbara, Calif.

NEW ZEALAND REDS—First class utility does bred \$5.00 each. Young does, \$2.50 each. F. R. Caldwell, Broadmoor, San Leandro.

RAISE RABBITS FOR US—We supply the breeding stock. Send stamp for particulars. H. E. Gibson Co., Arcadia, Calif.



THE HOME CIRCLE

LIFE AND TEARS.

When I consider Life and its few years—

A wisp of fog betwixt us and the sun;

A call to battle, and the battle done
Ere the last echo dies within our ears;
A rose choked in the grass; an hour
of fears;

The gusts that past a darkening
shore do beat;

A burst of music down an unlistening
street—

I wonder at the idleness of tears.

Ye old, old dead, and ye of yester-
night,

Chieftains, and bards, and keepers of
the sheep,

By every cup of sorrow that you had,
Loose me from tears, and make me
see aright

How each hath back what once he
stayed to weep;

Homer his sight, David his little lad.
(Author unidentified.)

A FARM WATER SYSTEM.

It seems hardly necessary to urge upon Californians the necessity for an adequate water supply, inasmuch as this is a land of irrigation, and most ranchers and farmers of this particular edge of the world are familiar with the use of a gasoline engine for pumping water over their lands, and they have also learned that such an engine is most practical for many other things besides pumping water for irrigation purposes. One of these uses is to furnish the power for supplying running water through the house. And while the majority of rural dwellers have long since seen the wisdom of, installing their own water systems, there are still some who cling to the old laborious method of carrying water by hand from a well, or hauling it from a distance by horse power; and it is the ear of these that we would gain in this dissertation.

A sanitary water system for the home has four distinct features, viz.: (1) a pure water supply; (2) pumping, storage and distribution; (3) a durable and simple plumbing system; (4) a safe disposal for sewage; and we shall take them up in this order.

Pure Water Supply.

A sanitary water system is the most important feature for every farm home. Whatever other advantages in the way of modern equipment the farm may enjoy, they rank second in importance to a pure water system for family use. Indeed, many diseases (particularly typhoid) are directly traceable to an impure water supply. Farm waters particularly are more susceptible of pollution than are waters from other sources; this is due to poor surface protection. Wells are usually located for convenience near the barn, stable, or back door, where waste water is thrown out. Through seepage the water is contaminated by the organic filth which percolates through the soil. A well should be above stock pens and barns so that the surface drainage is away from the well. Even cistern water does not escape pollution, for the accumulation of months of germ-laden dust, decayed leaves, etc., which are deposited on the roof during the long dry season here in California is a constant menace. For this reason every cistern should have provision made for proper straining and filtering of the water before it is allowed to run into the cistern. There should also be an overflow drain and a close-fitting cover over the top to keep small animals, rodents, etc., from falling in.

Springs as a rule draw their water supply from great depths, which is usually filtered through beds of sand or gravel, and are therefore good sources for pure water. However, this is not an absolutely reliable source of water supply, for springs are subject to the same pollution as are wells—through seepage of impurities, and the same precautions should be taken as in the case of

wells. A spring should be thoroughly cleaned out, and then walled in with stone and cement, and covered with a double slant roof with a door in one gable. If one is disinclined to do this, the spring should at least be fenced to keep out stock.

Pumping, Storage and Distribution.

After an adequate supply of pure water has been made available for the home, a suitable pumping equipment must be selected, and then means for distributing and storing the water must be provided. The quantity of water will depend on the power used, whether it be a windmill, electric motor, gasoline engine, hydraulic ram, or gravity pressure. A storage tank should be of sufficient capacity to hold at least 200 gallons if the water is to be used for household purposes only, or 500 gallons if the barn is to be supplied; this varies, of course, according to the number of stock to be watered. These above-mentioned amounts of store water do not provide for protection against fire or other emergencies.

Where gravity pressure is used, and the spring or storage tank is, say, 600 feet distant from the house, its height should be somewhere about twenty-five feet higher than the highest point to which the water is to be carried. A three-inch pipe in this case carries a strong pressure except in the very dry season. The height of the water source, and the distance the water travels (as considerable pressure is lost in pipe friction), determine the amount of the pressure; also the size of the pipe reduces or increases the amount of pressure—the larger the pipe, the greater the pressure, and vice versa.

Simple Plumbing.

The water pipes should be placed so as to carry the water in as nearly a straight line as possible to the point of discharge. In such a small system as is under discussion, strict avoidance of all lead in either pipes or receptacles should be religiously observed. All the plumbing should be thoroughly tested before use; this can be done by filling with water to detect any leaks. When in use the discharge pipes should frequently be flushed to insure the carrying off of all waste material.

Sewage Disposal.

Sewage can be disposed of either by septic tank, cess pool, or filter bed, although the septic tank is probably more desirable because it is more sanitary. Grease from the kitchen or dairy should not be allowed to enter with the sewage, as it clogs the system and soon puts it out of commission; therefore a grease tap should be provided which eliminates this difficulty.

With such a water system as outlined in the foregoing, the farm house can be equipped with a modern bath room, lavatory, toilet, kitchen sink, and hot water tank connected with the kitchen range. If desired, the hot water tank can be placed in one corner of the bath room, thus obviating the necessity for further heating the room for bathing purposes.

One man claims that he installed a water system on his place about ten years ago at a cost of \$75.00. Another man's system, with the aid of a plumber, cost him \$175.00. This was also about the same number of years ago, which systems it goes without saying, could not be installed at the present time at so little cost. However, no farmer or his wife who has once known the advantages of an adequate water supply, would deem any expense too great when they stop to consider that it is fully compensated for in the saving of physical and mental energy.—Z. D. H.

TO MAKE SURE.

"Were you very sick with the flu, Rastus?"

"Sick? Sick? Man, Ah was 'so sick mos' every night Ah look in dat casualty list for mah name."

TASTY RECIPES.

Sauce for Puddings—Rub together a half-cup of butter and a cup of sugar to a cream; add the well-beaten white of one egg and a cup of strawberries or other fruit mashed through a sieve; put all together and beat well.

Fruit Jelly—3 tablespoonfuls granulated gelatine; 1 scant cupful cold water; 2 cupfuls boiling water; 1 orange; 1 cupful sugar; 4 lemons; 1 sliced banana. Soak gelatine in cold water until soft. Shave very thinly the lemon rind, using none of the white. Steep it in the boiling water 10 minutes. Then add the soaked gelatine, sugar and lemon juice, and when dissolved, strain. Put layer of jelly in a mold. Let it stiffen, add a layer of fruit, then carefully pour in some liquid jelly. Let stiffen; add fruit and liquid until mold is full. Set on ice to harden.

Nut Cakes—One-half cupful butter; 1 cup sugar; 2 eggs; ½ cupful milk; 2 teaspoonfuls baking powder; 1½ cupfuls flour; 1 teaspoonful vanilla; 1 cupful chopped nuts, floured. Cream butter, add sugar. Add yolks of eggs, well beaten. Mix flour and baking powder and add alternately with the milk to the first mixture. Add chopped nuts, rolled in flour, and fold in stiffly beaten whites of eggs. Bake in small tins, 15 to 20 minutes.

Chicken a la King—2 cups of cold cooked chicken cut in cubes; 2 cups of cream sauce; 2 pimentos cut in long strips with the scissors; salt and pepper to taste. Add chicken and pimentos to the hot cream sauce and place over hot water until ready to serve, then pour over toasted bread cut in triangles.

Blackberry Jam—Pick over and wash the berries and mash with a wooden spoon. Bring gently to the boiling point, then press through sieve. Add 1 cup boiling water to the portion that does not pass through the sieve. Reheat and again pass through sieve. Weigh the strained blackberry juice and pulp, add an equal weight of sugar and boil until thick, stirring frequently.

CRUELTY TO ANIMALS.

No matter what the argument animal trainers may put forth, it is elemental that wild animals do not like to be caged for their entire lives. It is equally obvious that elephants do not relish being chained by the legs, as they are day and night in exhibitions. They weren't born to do that, and it isn't their natural state. Humans do not yearn to be caged and chained, and much less do beasts of the fields. Furthermore, it is a fact known to all showmen that ferocious animals are beaten cruelly, frightened by pistol shots, and burned with irons before they become submissive enough for exhibition purposes. As for dogs, this writer asserts of his own personal knowledge that many trainers—more especially the foreign ones—are unbelievably cruel to them, not only in the course of training, but in the event of shortcomings in exhibitions.—The Morning Telegram, N.

HEARD 'EM TALK.

One negro soldier in the Argonne was as pale as circumstances would permit, and visibly shaken.



The PREMIER BURNER

Makes a Clean Gas from Kerosene

(common coal oil)

If there was a better oil burner than the PREMIER, we would be offering it for sale.

We have so many pleasant things said to us about the PREMIER that it makes it a pleasure for us to offer it for sale.

Any one can install it;
Every one can operate it;

One and one-half minutes to start—then its action is automatic. Before you provide your winter's fuel, would be well to find out how much money and how much work a PREMIER will save you; then there are your hands to consider—the PREMIER does not make any soot or smoke, and of course there is no ashes.

Complete Outfits, \$12.50 and up, according to requirements.

No obligation in asking for information.

VAUGHAN & MATTISON, Pacific Coast Agents

225 MARKET STREET,

SAN FRANCISCO, CALIF.

"It's de tawkin' shells what gits me," he confided to the lieutenant.
"Nonsense, Sam; shells don't talk."
"Don't you tawk thataway to me. I kin hear 'em plain as day. Four dese ole G.I. cans jus' whizzed by and I heard 'em say: 'Niggah, you ain't going back to Ala—BAM!'—Stars and Stripes."

CAUTIONARY.

A Georgia colored preacher has more than one way of making sure that none of his parishioners let the contribution plate pass unnoticed.

"We have a collection for foreign and domestic missions dis morning, bredren and sisters," he announced, one Sunday morning, "and for de glory ob heaven, whichever one ob you stole Widow Johnson's sheep don't put a cent on de plate!"

TIRES BARGAINS

STANDARD MAKES

These tires are all new, fresh goods and NOT retreaded or so-called rebuilt tires.

	Plain Tread Seconds Guaranteed	First Non-Skid Standard Guaranteed	Tubes Gray
28x3		\$10.75	\$2.05
30x3	\$9.20	10.95	2.05
30x3½	11.50	13.50	2.50
32x3½	12.85	15.85	2.70
31x4	16.30	20.65	3.15
32x4	16.60	21.15	3.25
33x4	17.30	22.00	3.35
34x4	17.80	22.50	3.45
36x4		26.60	
34x4½	24.00	30.35	4.20
35x4½	25.00	31.65	4.30
36x4½	25.45	32.20	4.45
37x4½		35.75	5.10
35x5	28.70	36.15	5.25
37x5	30.25	38.30	5.40

SPECIAL

6000 Miles Guaranteed

30x3½	\$17.85
32x3½	19.95
32x4	27.95
33x4	29.00
34x4	29.85
35x4½	39.65
37x5	49.75

All other sizes in proportion.

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Open Sundays and Evenings



Tannin is all right for tanning leather, but nobody wants it in tea.

The way to get tea-flavor without tannin is to buy a fine tea and then not boil it—steep it just long enough to get the tea-flavor.

Get Schilling Tea and make it this way, and you have a fine rich invigorating drink at the very low cost of 1/3 cent a cup.

There are four flavors of Schilling Tea—Japan, Ceylon-India, Oolong, English Breakfast. All one quality. In parchment-lined moisture-proof packages. At grocers everywhere.

A Schilling & Co San Francisco

"WHO'S WHO" IN THE PINEY WOOD.

Camping out in the Piney Wood, Dick, and Jimmy and me—
A noise that none of us understood
Came down from a tall old tree.

Jimmy he called, "Who's that up there?"

The rest of us hollered too.
(At night a holler will keep off scare.)
The answer came back, "Who?"

That sounded fresh! Dick called,
"Who's Who?"

You'd better tell us, quick!
We're after you—we mean it, too!"
"Who? Who?" came back to Dick.

Then Dick caught up a blazing brand,
And marched off toward that tree!
(We all went with him, understand,
To see what we should see.)

And what d'you think? 'Twas a great
gray owl!

And we boys understood,
When we faced the glare of that
proud old fowl,

"Who's Who" in the Piney Wood!
—Our Dumb Animals.

SINKS AND TABLES RIGHT HEIGHT SAVE WOMAN'S TIME.

The height of a woman's kitchen sink and work tables are important factors in her well-being and well-doing. She can't do as much or as good work and feel well and strong with her sink and table so low that she has to bend over to work, or so high that she has to "reach up," as she would were they the proper height. As a general rule, 32 to 36 inches from the floor is the height for general work tables and the bottom of the sink should usually be 30 to 31 inches from the floor, the home economics kitchen of the United States Department of Agriculture suggests. However, each woman ought to find out for herself the height of the table at which she can work most easily and efficiently, and see that her work tables and sink are adjusted accordingly. Legs which are too long can be cut off, and those too short can be raised by blocks under them.

WAR-TIME-ECONOMY.

"At least the war has taught us economy," remarked ex-Secretary McAdoo recently. "I call to mind a friend of mine who works in New York, but lives in Brooklyn. He has been lecturing his wife on the gentle art of saving, and she, after deep pondering, advanced a really bright idea. Quite often the husband was not able to get home in time for dinner at night. He told his wife that he would phone her every day as to whether he could leave the office or not. Mrs. Benson was of a very thrifty disposition and the following was her solution of the problem: 'Sam, if you find that you can't be home for dinner, phone me at exactly 6 o'clock. If the telephone rings at that hour I'll know it is you and that you are not coming for dinner. I won't answer it and you'll get your nickel back.'—Chicago News.

CHECKING OUT THE SILVER.

Here is a ray of hope for those timid diners who dreaded trying to guess what all the silver implements of attack were for and who would rather have broken all ten commandments than meet a hostess' eye after picking up the wrong spoon or fork. Dame Grundy is said to have decreed that only the linen and china shall be on the table when the diners are seated. The silver is to be brought in and handed to the guest with each course.—Selected.

TO CLEAN ALUMINUM PERCOLATOR.

To the Editor: How can I clean the interior of an aluminum percolator, which is badly discolored?—Mrs. J. E. H.

Use bon ami. If this is not effective, try steel wool, which can be purchased in ten and fifteen cent pack-

DREADNAUGHT

BLAZING-AWAY-IN-COST-DEFENCE!



COST DEFENCE

Home defence—a cost defence that will continue to operate as during the war, is what our Government wishes to encourage lest we forget the lesson of profitable thrift that the necessity enforced.
What a saving goes into effect the moment you install a Dreadnaught. Kerosene is your fuel with the result concentrated in a clean gas of the highest degree. Nothing has been lost; you burn all that is in the oil, even its odor. The Burner can be installed in any stove without any changes—no plumber needed. Your dealings are with the manufacturers and sole owners at the home office, backed by a written guarantee. A circular dealing with the fuel problem and the ease with which it can be overcome, will be sent upon request—a postcard will do.

BURNER AND VALVE

Mailed Anywhere \$6.50

THE VALVE IS A HEAVY COMBINATION
NEEDLE VALVE AND DRAIN—TWO IN ONE.

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MAKES ANTS DISAPPEAR

Unanimously selected
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League of Housewives
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"Household Sentinel"

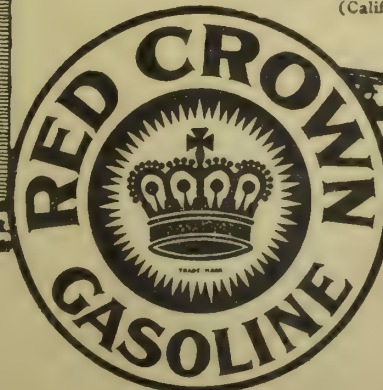


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(California)



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More Light Than 20 Oil Lanterns

AT LAST—the light of lights! A lantern that lights with common matches just like the old style oil lantern, but makes and burns its own gas from common gasoline, giving a brilliant, steady, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE

Brighter than the brightest electric bulb. More light than 20 oil lanterns. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lantern. The Coleman Quick-Lite.

No wicks to trim—No globes to wash. No dirt or grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger if tipped over. Will last a lifetime. Write our office for Catalog 21-R. P. COLEMAN LITE & SALES CO., 216-18-20 East 41st St. Showrooms, 324 S. Hill St., Los Angeles.



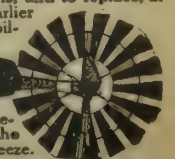
BOOK ON DOG DISEASES

And How to Feed

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118 West 31st Street, New York

THE SELF-OILING WINDMILL

has become so popular in its first four years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil, preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws. Write AERMOTOR CO., 2500 Twelfth St., Chicago



Market Comment

1,000,000 Sheep Drowned in Argentina.

Floods in Argentina have caused the loss by drowning of 1,000,000 sheep and 100,000 cattle. Such a loss this year is keenly felt.

Canned Fruit Marked Up.

Canned fruit prices have risen from 25 to 40 per cent above the opening prices in 1918 as announced by the California Packing Corporation.

Livermore Lambs Bring \$12.

A record price for spring lambs under six months old was set this month when 1,500 lambs from Livermore averaged \$12 a head in Oakland.

Alameda Pears, \$80.

Alameda county members of the Pear Growers' Association are receiving \$80 a ton for their fruit. Most non-members are selling at \$75. The differential exists because Alameda pears ripen so quickly in the canner's hands.

A Peach of a Crop.

With an average of 3 cents a pound higher for dried peaches this season and a crop of 40,000 tons twice last season's crop, peach growers will receive more than \$7,000,000 above the total of the 1918 crop.

Bean Bags Advance.

Prices for large bean bags advanced from 15 to 16 cents this week, and the small bags from 12½ to 13½. Calcuttas on the spot are quoted at 14 cents and higher prices are being asked for later delivery.

Guarantee Wheat Price \$2.30.

The guarantee wheat price has been raised to \$2.30 per bushel at Galveston and New Orleans by President Wilson. No wheat or wheat flour may be imported or exported after July 1 except under limitations to be fixed by Wheat Administrator Julius Barnes.

State's Prune Crop Sold.

The bulk basis of 13.56 cents per pound for prunes to Association members will bring to the members approximately \$25,000,000. The organization controls about 75 per cent of the State's prune output. The entire yield is estimated at 230,000,000 pounds and is practically disposed of.

Citrus Growers' Plan Box Factory.

Options have been closed by the Fruit Growers' Supply Co. to purchase 41,414 acres of timber land in Lassen county, where they will erect a box factory. The total investment will be \$2,800,000. The debt will be financed by an assessment of 2 cents on each packed box of oranges for some years.

Farmers' Hog Sale Brings \$21.

The top price of \$21 per hundred for hogs in California outside of San Francisco and Los Angeles markets, was reached at the farmers' auction sale in Bakersfield last Saturday. Previous to that Hanford had reached its record of \$20.05 in the same week.

Watsonville Apple Crop 100 Per Cent.

"The apple crop here is still very close to 100 per cent—at any rate it is estimated about 10 per cent greater than last season," says Carrol J. Rodgers, grower and packer. The orchard run price being paid at present is about \$40 per ton, some higher sales being reported, but very few apples remain in the hands of the growers for sale.

Bumper Crop of High-Priced Melons.

Tulare county growers experimenting with cantaloupes are having fine success. Manager Kuhn of the Tulare County Cantaloupe Association, says that intensively cultivated fields will produce 400 crates to the acre, which at \$5 per crate gross, means an income of \$1200 an acre. Because of the immediate success this season officials estimate a planting of 2,000 acres next season. The Ripon section figures \$3 a crate net to the grower. In this district cantaloupe cutters are scarce and are being paid \$5 a day and board.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, July 23, 1919.

WHEAT.

There is little feature to the local wheat market its strength being based principally upon the firmness of the eastern markets.

No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
Re-cleaned, per cwt.	
California	\$3.07½ @ 3.75
Early Bant	\$4.15 @ 4.20

BARLEY.

Prices of this grain have been marked up again this week. Buying is mostly speculative and for shipping account, the local demand showing but little increase.

Feed	\$3.15 @ 3.20
Shipping	\$3.15 @ 3.25

OATS.

While there is not a large demand for oats, the continued advance in the price of barley increased the price of red feed 20 to 25 cents this week.

Red feed, per cwt.	\$2.90 @ 3.00
Red for seed	Nominal
Black for seed	Nominal
Re-cleaned Red or Black for seed	Nominal

CORN.

In the absence of any particular demand, the price of California corn remains the same. No good Egyptian is offered and the limited supply of mulo is poor and attracts no attraction.

California	\$3.30 @ 3.50
Egyptian, choice	Nominal
Mulo	Nominal

HAY.

Receipts of hay for the past week were 1886 tons compared with 2141 the previous week. Some difficulty is already noted in obtaining cars, which indicates that a shortage of rail equipment may have quite an effect upon the future market. The demand has been fair with the result that receipts have moved readily. This is particularly true of wheat hay, most of the arrivals of which have been of No. 1 quality. Choice Quality Red oat hay is coming in quite freely. Some sales of round lots of alfalfa have been made in the country, which market has taken on considerable strength and is quoted higher. Wild oat and barley hay have both been marked up also from a dollar to two dollars a ton.

No. 1 Wheat, per ton	\$15.00 @ 17.00
No. 2 Wheat, per ton	12.00 @ 14.00
Choice Tame Oat, per ton	15.00 @ 17.00
Wild Oat, per ton	10.00 @ 13.00
Barley Hay, per ton	12.00 @ 15.00
Alfalfa, per ton	14.00 @ 18.00
do, new, 1st cutting	
Stock Hay, per ton	9.00 @ 11.00
Barley Straw, per bale	.50 @ .80

FEEDSTUFFS.

The market on feedstuffs is very firm as a result of increased demand now that green feed is becoming scarce. Quotations have been advanced on practically all offerings except alfalfa, coconut and oil cake meal, the sharpest increase being on rolled oats, which had been quoted \$56 to \$58 and is now \$60 to \$61.

Bran	Not being marketed
Shorts	Not being marketed
Cracked corn	73.00 @ 74.00
Roller barley	63.00 @ 64.00
Roller oats	60.00 @ 61.00
Alfalfa meal	33.00 @ 35.00
Coconut meal	48.00
Oil cake meal	71.00 @ 72.00
Millmix	58.00 @ 60.00
Millrun	44.00 @ 45.00

POTATOES, ONIONS, ETC.

The supply of potatoes and onions exceed the demand; shipping is light and the market on the street is weak, with a result that prices have been revised downward of certain items of stock. In green vegetables, string beans have developed weakness, the demand being light and the supply very heavy, causing prices to drop to 3 and 4 cents. Small boxes of hothouse cucumbers are not arriving any more and the larger boxes are quoted at 75 cents to \$1. Eggplant is lower than a year ago, and green corn has dropped from \$3.50 to \$4 to \$2.50 to \$3.50.

String beans	3 @ 4c
Beans	5 @ 7c
Carrots, per sack	\$1.50 @ 1.75
Rhubarb, Strawberry, box	\$1.50 @ 2.00
Cucumbers, hothouse	.75c @ \$1.00
do, Los Angeles	.50 @ .75c
do, Bay	\$1.00 @ 1.25
Eggplant, box	\$1.00 @ 1.25
Lettuces, per crate	Nominal
Celery, crate	Nominal
Tomatoes, River, per large box	\$3.00 @ 3.50
do, Merced	\$1.00 @ 1.25
Sprouts	Nominal
Summer squash, lug	.75 @ \$1.00
do, Alameda	\$1.00 @ 1.25
Green Corn, Alameda, sack	\$2.50 @ 3.50

Potatoes—	
Oregon	2.25 @ 2.50
Idaho	2.00 @ 2.35
Garnets, new on street	\$2.40 @ 2.75
Other new on street	\$2.25 @ 2.60
Sweets, new, lb.	.6 @ .7c

Onions, Warehouse Stock—	
Australian Browns	Nominal
Onions new red	\$3.50 @ 4.00
Yellow	\$2.00 @ 2.50
Green Alameda	\$1.50 @ 1.75
Garlic	.15 @ .18c

BEANS.

The demand for blackeyes continued this week and the price has advanced another 25 cents. In other respects the market was quiet and quotations remain unchanged. The bean men are anxiously watching the bean market, which is showing unusual strength.

Bayos, per cwt.	\$5.00 @ 6.10
Blackeyes	\$4.75 @ 5.00
Cranberry beans	5.75 @ 6.00
Limas (south, re-cleaned)	.90 @
Pinks	\$5.50 @ 5.75
Mexican Reds	4.50 @ 5.00
Topary beans	2.50 @ 2.75
Garbanzos	11.75 @ 12.00
Large whites	\$5.85 @ 6.00
Small whites	6.00 @ 6.90

POULTRY.

The general market is steady, with receipts about equal to demand, except possibly on hens. Offerings of extra colored hens are rather light and the demand sufficiently great to cause an advance in their quotation. The rest of the list is unchanged.

Turkeys, live, young spring, lb. Nominal

Broilers, 1½ lbs. and under 33 @ 34c

do, 1½ to 2 lbs. 32 @ 34c

Fryers, 2 to 3 lbs. 34 to 36c

Hens, extra, per lb. colored 32 @ 34c

do, Leghorn 28 @ 32c

Smooth young roosters, per lb. (3

lbs. an over) 40 to 43c

Old roosters, colored per lb. 22 @ 23c

Geese, young, per lb. 22 @ 23c

do, old, per lb. 22 @ 23c

Squabs, per lb. 48 @ 50c

Ducks, young 25 @ 28c

do, old, per lb.25c

Belgian hares 14 @ 16c

Jack rabbits \$3.00 @ 3.50

BUTTER.

The butter market has been firm and active in the past week, with quotations showing an advance of 2 cents, this price today reaching the highest peak for some little time. Government orders, together with some outside demand is causing a temporary shortage of the finer grades. Some butter has been extracted from storage to meet the local demand. Undergrades are plentiful.

Th. Fri. Sat. M. Tu. Wed.	
Extras	53½ 53½ 53½ 54½ 55 55½

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., July 21, 1919.

The general high level of the past week in practically all markets remained unchanged over the week previous, though the prices on Bartlett's declined, due to a freer movement of the stock and under heavier offerings. Prices, however, were in all instances very satisfactory and indications are that though there will be this week and part of next a somewhat lower market on pears on account of the very heavy receipts anticipated, we do not look for any noticeable slump on account of the unusual demand and the opportunities for export. This last factor will unquestionably stimulate seaboard markets.

The shipments and receipts of plums are much lighter than the week previous and will be considerably less from now on, the market on blue varieties showing a sharp advance, and we look for a high level to be maintained for the next three or four weeks.

Owing to a falling off of shipments of peaches from Southern states and on account of the keen demand on the part of the consumers for fruit for canning, California peaches of all varieties advanced generally in all markets, and we predict that the California peach crop now rolling and to be harvested within the next three weeks, will be disposed of to good advantage.

On account of the unusual quality, size, and color of the Malaga grapes that have been forwarded and sold to date, the demand far exceeds the supply and though shipments of

the above varieties from the Imperial and Coachella Valleys will be finished this week, and though the last cars will undoubtedly come in competition with early shipments from the San Joaquin Valley, we estimate that the prices received will be the highest recorded in the history of the State. Inquiries are already numerous and active for Tokays, which, however, will not be ready before thirty days, but there is no question that a strong market on table grapes of good quality and sound arrivals will be maintained throughout the season.

Averages for the week:
NEW YORK—Bartlett Pears, \$5.13; Wilders H-B, \$2.98; Malaga Grapes, \$4.18; Thompson Seedless, \$3.76; Hale Peaches, 77c; St. Johns, 85c; Climax Plums, \$1.70; Santa Rosa, \$1.82; Burbank, \$1.58; Tragedy, \$1.82; Botan, \$1.40; Wickson, \$2.40; Koley, \$3.30.

CHICAGO—Bartlett Pears, \$4.80; Triumph Peaches, \$1.16; Hales, \$1.09; St. John, \$1.91; Crawford, \$1.55; Malaga Grapes, \$4.08; Thompson Seedless, \$4.50; Tragedy Plums, \$2.19; Burbank, \$2.30; Climax, \$2.09; Santa Rosa, \$2.42; Calif. Blue, \$2.05; Botan, \$1.87; Wickson, \$2.51.

BOSTON—Bartlett Pears, \$5.38; Comets H-B, \$2.60; Wilder H-B, \$3.05; Triumph Peaches, 77c; Hales, 78c; St. Johns, 98c; Malaga Grapes, \$4.53; Thompson Seedless, \$3.10; Santa Rosa Plums, \$1.98; Climax, \$1.48; Tragedy, \$1.84; Calif. Blue, \$1.80; Burbank, \$1.43; Wickson, \$2.81; Formosa, \$2.60; Abundance, \$1.35.

Prime firsts	51½	51½	53	53½	52½	53½
Firsts	48½	48½	48½	51½	51½	51½

EGGS.

Monday the egg-market showed an advance of a cent over Saturday's quotation, under the influence of light supplies, several carloads having been shipped East during the previous week and production having dropped off. Tuesday to market seemed bare of supplies and it looked as if the shortage might be continued, so there was active bidding, bringing the price up 2½ cents. Today the demand eased off on increased supply and the price receded a cent.

Th. Fri. Sat. Mon. Tu. Wed.	
Extras	48 47½ 48 49 50 51½
Firsts	44½ 44½ 44½ 45 46 47½
Ex. pullets	43 42 42½ 43½ 45 46

CHEESE.

The local supply of cheese was greatly augmented with the arrival of 352,000 pounds on Tuesday of this week, this being the largest day's receipts in a year or more. Of this amount the greater part was Oregon cheese; to be exact, 305,000 pounds. The other 47,000 pounds were made up of different varieties. The California product, in which the trade is especially interested, continues in short supply, with prices firm.

Extra California, flats, per lb. 30½c

do, Firsts 31½c

California Y. A. 32½c

Oregon Y. A. 33c

Oregon Triples 37½c

Monterey cheese 22½ @ 24c

FRESH FRUITS.

Trading on the fruit market continues quiet active, with but few changes in prices. Plums are a little cheaper on the strength of increased supplies, but peaches and figs are higher. Royal Anne and white cherries are entirely gone, the only offerings of this fruit being a limited amount of blacks. Turkey melons are coming in to take the place of Merced and Imperial arrivals.

California apples	\$3.00 @ 4.00
Northwest apples	3.00 @ 4.00
do, New Red Astrakhan, lug	75c @ \$3.25
do, California, boxes	\$1.50 @ 2.00
Peaches	40 @ 85c
Apricots	\$1.50 @ 1.75
Plums	\$1.00 @ 1.25
Figs	50 @ 65c
Strawberries, chest	\$11.00 @ 14.00
Raspberries	\$12.00 @ 15.00
Loganberries	\$8.00 @ 10.00
Blackberries	\$8.00 @ 12.00
Currants, chest	10.00 @ 13.00
Cherries	
Black, bulk	15 @ 18c
Cantaloupe, Standards	\$2.50 @ 3.00
do, Ponies	2.00 @ 2.50
do, flats	1.00 @ 1.25
Watermelon, lb.	2 @ 2½c

CITRUS FRUITS.

Citrus fruits remain about the same, both in supply and demand, with no change in prices.

Oranges, Valencia \$3.50 @ 5.25

Lemons, fancy \$7.00 @ 7.50

do, choice 6.00 @ 7.00

do, standard 5.00 @ 6.00

Lemonettes 4.00 @ 5.00

Grapefruit 3.50 @ 4.25

DRIED FRUITS.

The market is strong, with a heavy demand for dried fruits, notwithstanding the high prices. Peaches are in particularly strong demand. Prices have been advanced for the 1919 peach crop by the California Peach Growers, Inc., for domestic and foreign trade; September, October and November shipment, sellers' option; guaranteed against decline until January 1, 1920, as follows: Apples and pears have been marked up ½ to 1 cent.

Apples 19½ @ 20c

Pears 10 @ 21c

Peaches 16½ @ 18c

Apricots 23 @ 29c

Prunes 18 @ 19c

Figs, Adriatic 14 @ 18c

do, Calmyria 15 @ 20c

RICE.

An upward price tendency is shown in the rice market, attributed to increased export demands accompanied by steady shipments of comparatively small amounts for home consumption. The 1918 crop of California rice is practically exhausted.

HONEY.

There is little change in the honey situation, receipts of new crop being light as yet, and prices firm. All indications point to a heavy production this year. No new comb honey has arrived, but it is expected to put in an appearance within the next two weeks. Water-white orange blossom 18c

White to water-white sage (subject to production) 18c

Light Amber Mountain (Sage-Buckwheat) 14c

Light Amber Alfalfa 11 @ 13c

WOOL.

The tendency of the wool market is strongly upward. European countries are desperately in need of clothing of all grades, and are eager bidders for wool supplies, especially of the cheaper kinds, thus narrowing the spread between fine and coarse wools. The quotations below are furnished by a large wool-buying firm in San Francisco.

Mendocino 30 @ 35c

Humboldt 40 @ 42c

Sacramento Valley 30 @ 35c

San Joaquin 18 @ 20c

HIDES.

The hide market shows a strong tone, and prices on both packers' and country hides are steadily advancing.

No. 1 wet salt kip, 15 to 30 lbs. 20c; No. 2, do, 37c; No. 1 wet salt calf, trimmed, 70c; do, untrimmed, 65c; No. 2 calf, 2c, lb. less.

Wet salted horse hides—No. 1 large, skinned to hoof, \$7 @ 10; do, medium, \$4 @ 6; do, small, \$14 @ 3.50; No. 1 colts, 50c @ \$1.

FEELS.

Pelts—Long wool, 9 to 12 months' growth, \$2.50 up; medium, 6 to 9 months, \$1.50 @ 2.50; short, 3 to 6 months, 80c @ \$1.50; shearings, good, 1 to 3 months, 25 @ 75c; do, shaved or damaged, 20c; lambs, large long wool, \$1.25 up; lambs, small, 25c @ \$1; milk lambs, 5 @ 25c.

LOS ANGELES.

Los Angeles, July 22, 1919.

BUTTER.

Butter advances another 1c since reported last week. However, the demand continues to be good. Receipts are much lighter than a week ago, and for the week, 337,800 lbs. California extra creamery 57c do, prime first 55c do, first 54c

EGGS.

Pullet eggs advanced 1c since last week's report. Other prices remain unchanged and selling fairly. Receipts lighter; for the week, 927 cases. Fresh ranch, extra 51c do, case count 50c do, pullets 46c

POULTRY.

Broilers show an advance of 1c while prices declined 2c since quoted a week ago. Receipts reported to be very good and the demand holding up fair. Broilers, 1 to 1 1/2 lbs. 25c Broilers, 1 1/2 to 1 3/4 lbs. 29c Fricars, 2 to 3 lbs. 30c Roosters (soft bone), 3 lbs. and up 30c Stakes and old roosters, per lb. 16c Turkeys 34 to 40c Hens 24 to 30c Ducks 23 to 26c Geese 25c

FRUITS.

Berries reported to be very dull. Peaches now listed and selling for 3c and 5c the lb. Plums on the market and meeting with good sale. Apples also appearing on this market and the demand for them is very good. Cherries not quoted because they are about off the market for this season. Apples, new crop selling at 5c and 6c. All fruits in very good demand.

We quote from growers: Apricots, lb. 5 to 7c Peaches 4 to 5c Strawberries—30 basket crates, fancy 4.25 to 4.50 Poor to choice 3.75 to 4.00 Blackberries, case 30 boxes 3.75 to 4.00 Raspberries, case 30 boxes 3.50 to 3.75 Loganberries, case, 30 boxes 3.25 to 3.50 Plums, Santa Rosa 6 to 7c do, Tragedy 6 to 7c do, Satsuma, lb. 6c do, Burbank, lb. 5 to 6c do, Sugar, lb. 6 to 7c do, Nectarines, lb. 7 to 8c Apples, White and Red Astrakhan, lb. 5 to 6c Grapes, Thompson's Seedless, lb. 9 to 10c do, Malaga, lb. 8 to 14c

VEGETABLES.

Potatoes and onions, dull and lower. Beans also lower and dull. Corn sharply lower, but demand is good. Green peppers now coming in quite freely, and lower. Tomatoes selling well. Casabas now on the market and selling well. All melons reported to be good sale. Receipts continue good. Potatoes, new, per cwt. \$2.00 to 2.25 Onions, New Red, per cwt. \$2.65 to 2.75 do, Stockton yellows, per cwt. \$2.65 to 2.75 White silver wax, cwt. \$2.75 to 2.80 Cabbage, per 100 lbs. 75c to 1.00 Rhubarb, per 30-lb. box 75c to 1.25 Summer squash, lug. 35c to 40c Peas, per lb. 8 to 10c Kentucky Wonders 3 to 4c String Beans, wax 3 to 4c do, Green 2 to 3c Tomatoes, lug box \$1.50 to 1.75 Cucumbers, local, lug box 15c to 25c Lima Beans, local, lb. 10 to 12c Cantaloupes, shipped in, Stand. & Pony crates \$1.50 to 1.75 do, home-grown, pony crate \$1.75 to 2.00 Watermelons, 100 lbs. 1.00 to 1.25 Lettuce, crate 70 to 90c Corn, lug box 35c to 40c Peppers, Bell, lb. 15 to 18c do, Chile, lb. 7 to 8c Casabas, lb. 2 to 2 1/2c

DRIED CHILE PEPPERS.

This market is reported to be very dull. California 12 to 14c do, Mexican 20 to 22c

BEANS.

There is little doing in this market. All prices firm and unchanged since last week's report. Limas per cwt. \$8.00 Large white, per cwt. 8.50 Pink, per cwt. 8.50 Small white 8.25 Blackeyes, per cwt. \$3.75 to 4.50 Tepary, per cwt. \$2.00 to 2.50

HAY.

Prices are higher in this market since last week. Demand is fairly good for all choice offerings, while receipts are somewhat light. We quote f. o. b. Los Angeles: Barley hay, per ton \$18.50 to 21.50 Oat hay, per ton \$21.50 to 23.50 Alfalfa, Northern, per ton \$20.00 to 21.00 Alfalfa, local, per ton \$21.00 to 23.00 Straw, per ton 9 to 10.00

ALFALFA.

The following quotations on Alfalfa Hay, f. o. b. Los Angeles, are furnished by the Alfalfa Growers of California, Inc., 525 Central Bldg. No. 1 Dairy \$26.00 to 27.00 Standard Dairy \$23.00 to 24.00 Standard Alfalfa \$21.00 to 22.00 Stock Alfalfa \$12.00 to 17.00

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.		San Francisco		Los Angeles	
Week	Ending	1918	1919	1918	1919
Jan.	2	55.40	66.19	50.16	63.16
	9	51.08	61.00	50.00	64.00
	16	52.33	61.70	50.50	64.16
	23	52.50	55.83	52.00	62.16
	30	53.00	44.91	51.83	49.00
Feb.	6	50.80	43.58	49.66	47.33
	13	52.00	46.80	48.00	47.60
	20	51.41	51.58	48.00	53.16
	27	51.30	53.90	49.33	55.00
March	6	50.66	56.16	50.00	59.00
	13	51.16	55.58	49.50	58.00
	20	47.83	54.41	47.00	56.00
	27	46.30	56.41	43.30	58.00
April	3	43.16	54.23	42.16	55.50
	10	39.25	57.16	39.50	56.00
	17	40.50	57.41	37.16	54.00
	24	40.50	57.41	38.16	54.00
	1	40.83	57.41	39.00	54.00
May	8	40.66	57.91	39.00	54.00
	15	40.46	55.16	41.00	58.00
	22	40.33	57.91	41.00	59.00
	29	42.30	57.91	39.00	59.00
June	5	43.90	54.12	41.58	57.00
	12	44.92	53.58	40.58	57.00
	19	46.50	53.16	41.75	57.00
	26	47.42	52.83	53.00	55.00
July	2	48.08	52.37	46.00	55.00
	9	48.90	52.12	47.50	54.00
	16	50.83	52.71	48.66	56.00
	23	52.66	...	45.16	...
	30	52.16	...	50.83	...
August	7	51.66	...	49.58	...
	14	52.25	...	49.58	...
	21	53.00	...	50.00	...
	28	53.00	...	50.00	...
Sept.	4	54.90	...	50.33	...
	11	57.80	...	51.67	...
	18	61.33	...	56.17	...
	25	64.75	...	58.00	...
Oct.	2	64.50	...	59.33	...
	9	62.50	...	60.00	...
	16	61.75	...	60.00	...
	23	62.50	...	59.50	...
	30	59.60	...	58.83	...
Nov.	7	60.00	...	57.00	...
	14	61.00	...	57.25	...
	21	61.60	...	58.75	...
	28	62.60	...	60.00	...
Dec.	5	63.00	...	60.10	...
	12	63.50	...	61.01	...
	19	64.60	...	62.16	...

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.		San Francisco		Los Angeles	
Week	Ending	1918	1919	1918	1919
Jan.	2	52.80	75.60	48.16	69.50
	9	60.91	69.91	50.66	66.66
	16	65.66	58.70	55.00	62.41
	23	65.66	52.58	58.00	54.66
	30	61.25	48.75	54.00	52.33
Feb.	6	58.50	42.00	51.66	43.00
	13	44.40	40.90	44.83	37.80
	20	44.75	36.41	40.83	39.33
	27	42.40	37.40	39.58	33.60
March	6	36.83	37.58	35.00	37.00
	13	37.91	37.16	38.00	37.00
	20	40.66	38.16	39.63	42.00
	27	39.50	40.41	40.00	42.00
April	3	38.19	42.41	38.33	45.00
	10	37.58	42.91	36.33	45.00
	17	33.16	45.10	36.83	46.00
	24	40.80	45.00	39.66	46.00
May	1	41.66	45.00	39.33	44.00
	8	44.08	46.50	37.00	42.00
	15	39.16	47.91	39.00	50.00
	22	40.50	49.16	39.00	51.00
	29	38.66	47.58	37.41	49.00
June	5	40.80	45.50	38.83	46.00
	12	41.00	45.91	33.75	47.00
	19	48.30	47.60	45.00	51.00
	26	44.32	49.66	39.08	50.00
July	2	44.91	43.97	41.75	51.00
	9	48.30	51.00	45.00	51.00
	16	47.66	47.66	45.50	51.00
	23	47.91	...	45.16	...
	30	48.83	...	46.66	...
August	7	49.50	...	46.58	...
	14	52.08	...	48.00	...
	21	56.33	...	50.17	...
	28	59.20	...	53.00	...
Sept.	4	62.40	...	56.33	...
	11	63.70	...	58.67	...
	18	61.30	...	59.00	...
	25	60.17	...	55.67	...
Oct.	2	65.42	...	59.75	...
	9	65.08	...	60.00	...
	16	71.30	...	62.66	...
	23	78.88	...	70.33	...
	30	86.41	...	79.33	...
Nov.	6	87.90	...	78.00	...
	13	86.00	...	78.00	...
	20	77.25	...	72.33	...
	27	79.80	...	73.00	...
Dec.	4	82.00	...	74.33	...
	11	82.08	...	74.33	...
	18	79.65	...	71.66	...
	25	82.00	...	71.66	...

DRIED PEACH PRICES TO THE TRADE.

Following are the prices of dried peaches for domestic and foreign trade published by the California Peach Growers, Inc., on July 10. These prices are guaranteed against decline on the part of the association until January 1, 1920:

On Yellows: Standard, 14 1/2 cents; Choice, 15 1/2 cents; Fancy, 16 1/2 cents; Extra Fancy 17 1/2 cents; Slabs, 14 1/2 cents. On Muirs: Standard, 15 cents; Choice, 15 1/2 cents; Fancy, 17 1/2 cents; Extra Fancy, 18 1/2 cents. For "Practically Peeled" add 1 1/2 cents a pound (any grade). Above prices are all "bulk prices."

For packing in 50 pound or 25 kilos boxes add 1 cent a pound.

For packing in 25 pound or 12 1/2 kilos boxes add 1 1/2 cents a pound.

For packing in 10 pound boxes add 2 cents a pound.

Bakers' special "Practically Peeled," 16 1/2 cents per pound, bulk basis.

In accordance with their policy to eliminate speculation they will sell, at this time, only a limited quantity to any one buyer. (July 10.)

LOS ANGELES TRACTOR DEMONSTRATION.

Secretary R. M. O'Neill, of The Tractor, Engine, and Implement Dealers' Association of Southern California, makes the announcement that the location for the fourth annual demonstration to be held in Los Angeles September 16-21 inclusive, will be on the corner of Melrose and Crescent avenues. The Field Committee, in charge of securing the land, have, through the courtesy of George Allan Hancock, been granted the privilege of using this tract. The location is easily accessible, the interurban car lines passing through the tract.

Student workers in the canneries of Santa Clara Valley last year made from \$20 to \$25 a week—both boys and girls. They hailed from both Universities, from the San Jose State Normal and from the High Schools. Their services will be again in strong demand this year. Thousands of extra workers will be needed by the new and the enlarged canneries and packing houses this season, as well as in the orchards and vineyards.

The appropriation by the Ventura County Board of Supervisors for establishing an Insectary in their county on the recommendations of H. S. Smith and A. A. Brock, the County

Horticultural Commissioner, was a move that will be appreciated by the growers. It was urged on the Board by Mr. Smith on results already obtained. Mr. Brock is a trained entomologist and is very keen on the new work entrusted to him. Money spent by a fruit county for the advancement of horticulture is a benefit to the whole county and the Ventura county move looks like a step in the right direction.

Classified Advertisements

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MISCELLANEOUS.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weissbaum Pipe Works, 160 Eleventh street, San Francisco.

FOR SALE—Ventura Bean Thresher, Junior No. 2. Equipped with ten-horse-power gas engine. New last season. Used only very short time. Best of condition. One thousand dollars takes it. Phillips & Johnson, Box 93, Mendota, Calif.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

PATENT ATTORNEYS.

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

CORN HARVESTER—One-man, one-horse, one-row, self-gathering. Equal to a corn binder. Sold to farmers for twenty-three years. Only \$25, with fodder binder. Free catalogue showing pictures of harvester. Process Corn Harvester Co., Salina, Kan.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend Sts., San Francisco, Calif.

BEEES FOR SALE—Golden Italians in patent hives. John G. Mee, St. Helena, Cal.

COUNTRY LANDS.

\$16,000.00—80 acres in Honey Lake Valley, Lassen county. All under cultivation. Alfalfa seed, hay, and grain; under good irrigation system. Good improvements. 2 miles from postoffice and bank. School, 1 1/4 mile; high school, 15 miles; S. P. depot, 3 miles. Daily trains. A good buy. Cash only. Have other business prospects. Write to Box 280, Standish, Lassen Co., Cal.

FOR SALE BY OWNER—18 acres improved, about 5 miles south of Williams, 11 miles southwest of Colusa, county seat of Colusa Co., near State Highway. Alfalfa. Abundance of water for irrigation. Ideal poultry and dairy ranch. Address C. A. Hanson, Williams, Cal.

FOR SALE—My Equity of \$3700 in 40 acres alfalfa land. 5 miles from Manteca. Address Wm. Robertson, 869 Fulton St., San Francisco.

WANTED TO EXCHANGE—Improved ranch in Tulare county for stock ranch in northern California. Address 154 So. C St., Tulare, Cal.

Special Livestock Market Report

San Francisco, July 23, 1919.

CATTLE—There is a wider spread in the cattle market than has existed for some time—due to a stronger demand for prime steers and a heavier glut of the poorer grades of cattle to save high-priced feeds.

Steers—Grass Steers, No. 1, weighing 950 1100 lbs. 10 to 10 1/2c Grass Steers, No. 1, weighing 1100 to 1300 lbs. 9 1/2 to 10c Grass Steers, thin 6 to 7c Grass Cows & Heifers, No. 1 8 to 8 1/2c Grass Cows & Heifers, 2nd qual. 6 1/2 to 7 1/2c Grass Cows and Heifers, thin 4 to 5 1/2c Bulls and Stags, good 4 1/2 to 5 1/2c do, fair 4 to 4 1/2c do, thin 3 to 3 1/2c Calves, light weight 12 1/2 to 13c do, heavy 10 to 11c

SHEEP—The sheep and lamb market is strong, and although packers' quotations are unchanged some outside sales indicate the pressure on buyers to pay advanced prices in order to obtain supplies.

Lambs, yearling 10 to 10 1/2c do, milk 13 to 13 1/2c Sheep, wethers 9 1/2 to 10c do, ewes 7 1/2 to 8c

HOGS—The hog market is still buoyant, and the late unprecedented prices still hold, except as to the heavier weights, which have sagged slightly.

Hard, grain-fed, 100 to 150 19 1/2c do, 150 to 200 20c do, 250 to 300 19 1/2c do, 300 to 400 18 1/2c

Los Angeles, July 21, 1919.

CATTLE—All prices remain the same as reported last week. It is still very dull in this market.

Per cwt. f. o. b. Los Angeles: Beef, steers, 1000 to 1100 lbs. \$9.00 to 10.50 Prime cows and heifers 7.50 to 8.50 Good cows and heifers 7.00 to 7.50 Canners 5.00 to 5.50

HOGS—This market quoted higher since last week's report. Receipts light. Demand is only fair.

Per cwt. f. o. b. Los Angeles: Heavy average 275 to 350 lbs. \$15.50 to 16.50 Heavy average 225 to 275 lbs. 17.50 to 18.00 Light 1900 to 20.00

Rough docked 20 lbs. piggy sows 40 per cent.

SHEEP—All prices stationary. The market is steady and firm with fair demand. Prime wethers \$ 3.50 to 9.50 Prime ewes 8.00 to 8.50 Yearlings 8.50 to 9.50 Lambs 12.50 to 13.50

PORTLAND LIVE STOCK.

Portland, Ore., July 22, 1919.

CATTLE—Strong; receipts, 32. Steers, best, \$10.00 to 11.50; good to choice, \$9.00 to 9.50; medium to good, \$8.50 to 9.00; air to good, \$7.75 to 8.25; common to fair, \$7.00 to 7.50; good to choice, cows and heifers, \$8.00 to 9.00; medium to good, \$7.00 to 7.25; fair to medium, \$4.50 to 5.50; can-

Amazing Results from Rural Press Advertising.

I have hardly been able to credit my eyes with the number of answers my ad brought during the first week. Although it is too early to determine the final results, I believe that the entire 35 Duroc pigs will be sold before the end of the month. The Rural Press certainly brings Big Results.

GEO. L. HORINE, Winton.



Take it in the Car

Think how your car shortens those trips to town!

Going or coming—carrying any one of the hundred and odd things you

have to carry, how much it means to you in time saved, alone!

Give it tires that will vouchsafe its greatest usefulness and most economical operation.

Experience has taught hundreds of thousands of folks—both in the cities and on the farms—that United States Tires are good tires; the best tires they can buy.

Last year, when thrift was a necessity and dependability vital, United States Tires showed the remarkable supe-

riority that has always marked their performance.

That is one reason why the 1919 sales of United States Tires are far beyond any previous demand.

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There are five separate and distinct types of United States Tires—among them tires that will meet—and meet exactly—any existing need for tires. This means greatest economy, longest mileage and most satisfaction all 'round.

The United States Sales and Service Depot Dealer in your neighborhood will gladly point out the tires that will serve you best. Let him help you.

**United States
Tires
are Good Tires**



THE PACIFIC RURAL PRESS

SAN FRANCISCO

AUGUST 2, 1919.

LOS ANGELES

Forecast of California's Fruit Harvest

Written for Pacific Rural Press by John J. Fox.



A MONTH FROM NOW the major portion of the orchards and vineyards of California will be harvesting their peak loads. These will include seedless raisins, certain varieties of peaches, pears, prunes and apples. The markets of the world are waiting with the price for all the fruit we can produce.

The large increase in the cannery industry has given an added impetus to the general movement. The merchandising of so large a portion of our crop is one more "division" that is engaged in its wholesale distribution—coaxing an ever-growing consumption, by the delicacy and excellence of the finished pack. These canneries have absorbed a very large amount of labor, but we cannot say it has taken it from the field. For war conditions have enlisted the services of thousands of women and girls, who have learned how to handle fruit and become efficient units in this big man's game. They have learned the peculiar pleasure of working in a body, and above all, realize the benefits of a generous pay-envelope—the proceeds of their own industry. The women who have undertaken work in the fruit harvesting have helped and are helping in no small measure to ensure a fullness of success in the great harvesting campaign of 1919.

Crop Estimates Based on 100 Per Cent Average.

There has been no material change in crop estimates since our last report in spite of sunburn—except in the case of bush berries.

culminating about July 5 and 6, and Lawtons suffered some injury. Bush berries for the State will be short.

Pears perhaps surpass earlier estimates and show better all the time. There was quite a drop through the month, but generally speaking, it has been on heavily laden trees, and will therefore not materially reduce the tonnage even in these orchards. This will be a record year for pears—110,000 tons, worth \$8,000,000, as compared with 100,000 tons last year.

Peaches will measure up to early estimates. It is possible that some of the canning peaches may run small before they are all harvested, on account of shortness of water, but most growers were able to give a good irrigation before the ditches were dry, and a very large number of canning peach growers have supplemental pumping plants to keep the ball rolling. The crop of 450,000 tons should be worth \$27,000,000.

Apricots have come up to our last month's estimate—85 per cent of a crop. This is far above spring estimates. The quality of the fruit has been excellent wherever proper thinning was done. One hundred and fifty thousand tons for the year would be worth about \$10,500,000.

Plums have shown up remarkably well, both in quality and yield and eastern shipments have been heavy. The tonnage will probably show an increase of 10 per cent over last year when cannery returns are available, worth perhaps \$3,500,000.

Prunes will be well up to last month's estimate of 125,000 tons from



The Midas touch of California's sunshine on our fruit orchards brings golden returns. Hundreds of acres of dry-yards such as this, full of trays of peaches and prunes, will soon be a familiar feature in California's entire deciduous fruit section.

Citrus Fruits.—Show up rather better than they did a month ago. In Los Angeles county Navels are much better than last year, with Valencias keeping pace with them. Oranges may reach to 20,000,000 boxes this year, as compared with 17,858,939 last year. At \$2.50 net to the grower this would give \$50,000,000. The return on lemons gross last year was \$19,000,000. This may be duplicated on increased acreage. The Butte county section shows "good" wherever water has been applied in time, as does the Sacramento valley. The Porterville district reports an improvement in condition and so does Southern California.

Olives are a very uneven set—poor in San Diego and some of the valley sections, fair in the heaviest producing districts and good in smaller acreages. Putting a full crop at 23,000 tons, this year's crop may run up to \$1,900,000 in value—say 12,500 tons.

Raisin grapes will be fully up to earlier estimates—200,000 tons, allowing for increased acreage, in spite of some shot grapes and a little injury here and there from sunburn. Less leaf damage than last year is noticeable. Average crop for last 10 years is about 100,000 tons. Last year it was 167,000, and this year may reach 200,000 tons, worth perhaps \$32,000,000.

Berries.—Strawberries have given a good average yield. Logans and Mammoths in the Sebastopol district were badly damaged by a long hot spell,

all appearances worth over \$31,000,000. Considerable loss is reported from northern and interior sections from sunburn and subsequent drop—chiefly on thinner land and orchards suffering from lack of moisture. But the estimate still stands on account of ever-improving quality. There has been some splitting even in unirrigated orchards—unaccountable, but not serious.

Almonds are looking better in the important sections than earlier. In two or three districts we have visited there will be a loss in quality and tonnage from mites, but in the more important sections growers have been spraying and dusting assiduously and the results of their labors show in the condition of the orchards. Our last month's estimate of 75 per cent is raised to 80 and the young acreage may better this. Last year's crop was 5,100 tons, worth \$1,860,000. This year's crop will probably exceed this.

Walnuts.—A full crop and then some. Trees have been dusted and well cared for. Much interest is being taken by all fruit men in these dusting operations and their results. Twenty-five thousand tons of nuts, worth \$15,000,000, is not an excessive estimate for the year.

Apples still show up well and will probably show a full crop on account of the increased bearing acreage in Southern California. The crop may amount to 7,500,000 boxes, worth \$9,500,000 in the lug.

Figs.—Full crop, hard to estimate; may bring \$4,000,000 in 25,000,000 lbs.

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EDITORIAL.

ON SEA AND SHORE.

AS WE write on Tuesday the Great American Peace Fleet is steaming grandly northward from Panama, and will be wafting its influence eastward over the troubled republics of Central America, and possibly peace in the air may distill some peace on earth, where the need of it is always imminent. All this week and part of next the evening's and the morning's suns will set and rise upon more than two hundred craft with their screws continually churning and their rudders set for the northward and westward. We presume the orders are to proceed rather slowly off the coast of Mexico—certainly the more suggestions of the desirability of peace which can be conveyed to that country by wireless the less may be the need of imparting such suggestions in some other way. With a fleet of aeroplanes shooting suggestions from the Texas border and a sea-fleet hydro-planing them from the Pacific, our restless sister republic ought to get training in the joys of peaceful good behavior. That, however, is only incidental.

We have it in mind to write this week of things on shore, because when the glory of the sea rises in the west upon San Diego on August 7 terrestrial affairs will vanish from California sight and thought. For a fortnight, or until the great fleet will emerge from the Golden Gate on August 22 to continue its northward progress, all California will be on the waves until everything upright, from the summits of Whitney and Shasta to the blazing crests of the electroliers along our highways, will be veering hither and yon with the pangs of sea-sickness. The crisis of our State-wide attack will arrive when President Wilson (perhaps) parachutes from an aeroplane to the bridge of the flagship and enters the Golden Gate on August 15—the new Columbus discovering the west of America and taking possession of it in the name of the United States! And, of course, while such marine wonders are transpiring California will have no thought of the things of the shore—therefore the few things which we desire to say before our eyes are filled with brine and our interiors with tumultuous emotions must be said in this issue of our journal.

SAN FRANCISCO: BUY THOSE SHIPS!

Fortunately, there has transpired in this city since our last issue an event which will serve as a gang-plank between sea and shore so that we can get to terrestrial affairs without rolling in the breakers. This event had to do with the significance to our industries and our commerce which a new era of marine activity potentiates. It is very important that, before we lose our heads and hearts in enthusiasm over the great spectacle which is approaching, we should think about what we should do to realize the benefits which the present turning-point in our marine relationships can confer if we befit ourselves to seize them. It is really humiliating to remember how blind we have been in California to the upbuilding of our own marine industry for many years past. Why have we been

content to develop and equip our ports so that the marine fleets of other countries could discharge and gather cargoes in them? Why has this country made it so hard for American ship owners to operate ships that they sold them to foreigners to conduct the carrying trade which our productions required and our overland railways invited for continent-crossing? Have we not been a blind, blundering nation of land-lubbers, content to dig and delve, manufacture and trade, that the people of other lands could be enriched by floating our people and our products back and forth across oceans of whose length of coast lines and multitude of ports and harbors ours were greater than any single country possessed? These are surely things which should be seriously considered and the great spectacle of the fleet in our waters, which will awaken interest in marine affairs greater than ever before aroused, should be viewed in relation to our future in both land and water enterprises. The questions involved are not within our knowledge and capacity for discussion, nor do they belong to our journalistic repertoire, but they appeal to us as irremovable from the symmetry of our industrial development, and we conceive it to be a duty on the part of agriculture to assist in awakening interest in their serious consideration by those who give their lives and money to trade and transportation. Every one owning and operating agricultural lands and looking forward to individual prosperity from food production should make his influence felt for the upbuilding of California's carrying activity and equipment.

To present the matter very concretely and without farther attempt at argument, let us state that last week in this city there was held a meeting of business men of San Francisco and Los Angeles for the purpose of hearing an address on our duty to water traffic by J. H. Rosseter, a prominent shipping man of San Francisco who has recently been serving the United States as Director of the U. S. Shipping Board. As Mr. Rosseter is an old Californian and expects to be soon again, he could speak more plainly than a stranger might and with keener local interest also. These paragraphs from his address will be interesting to remember:

"We have always been proud of San Francisco's importance as a shipping center, but before the war at all ports on the Pacific Coast the companies really engaged in operating ships could be counted on the fingers of one hand.

"You must realize the necessity and importance of doing things for yourself instead of relying on Government aid, if you are to develop as a great shipping seaboard. We are coming to a time now when I hope, in the wisdom of Congress, private people will have an opportunity of getting back what they own. Communities everywhere will have a chance to purchase ships, and when that time comes San Francisco should be ready.

"The Government now has nine ships, which it expects to be through with at the end of next year, all of which are larger and superior to either the Mongolia or Manchuria. Practically every community in the country is trying to secure those ships. But, as yet, I have not heard a demand for them from San Francisco. Now is your time to step in; clamor for them and you may get results. Nothing can be gained by sitting still and looking on."

Think of it: ships built in San Francisco bay at a rate which beat the record from Noah's ark to the present day and yet waiting for the government or foreign owners to serve our trade! Are we not typical tailors, as the proverb goes: covering the legs of all comers—without thought of the gaps in our own rear elevation.

THE FRUIT GROWERS BOX THE COMPASS.

We are all the more ready to slam the great windjammer, "Metropolitan California," for trying to slide down the ways toward great depths of prosperity with a brass band on her deck and her sea-cocks all open, because the fleet "Rural California" is not being launched that way. Practically all our special agricultural industries are advancing to ownership of their own outfits of warehouses, packing houses, manufacturing plants, and everything else that is needed to do their own business with their own outfits. All this makes for independence, self-control and safety in the prime business of production and serves as a basis for extension of production which otherwise might place the producer at the mercy of all who furnished supplies and handled products. Take a concrete instance of this, which is perhaps the great-

est out-reach yet attained by one of our fruit-growing specialties: The Fruit Growers' Supply Company, which is a subsidiary of the Fruit Growers' Exchange (controlling something like 70 per cent of our citrus fruit products), has just purchased a tract of 41,414 acres of timber land in Lassen county, and will erect a lumbering plant and box factory, with a total investment of \$2,800,000. The land is covered by 689,986,000 feet of pine timber and 283,292,000 feet of fir, which at the agreed price will cost the orange growers about \$1.25 per thousand as it stands in the trees. It is figured that the twenty million or more of citrus fruit boxes per year which the growers will require will cost them 15 cents as against 20 cents, the present wholesale price in California, and 30 cents, which is paid by the Florida citrus growers. We give the figures as we find them for purposes of illustration of the fact that our fruit producers can manage long-distance business transactions. The undertaking is financed by the Los Angeles banks and the necessary debt will be covered by an assessment of two cents per packed box of fruit for a period of years. When this debt is thus easily wiped out it may be a question whether the members of the association will be a group of orange growers owning a forest and lumber plant or a group of lumbermen owning orange groves for recreation purposes. It does not matter how it comes out, for they will be the same people who had the sand to rule their own affairs. To the reader who may think the scheme visionary it should be added that these growers who now own their own timber and box factory are the same far-seeing men who have for several years been making money by making their own boxes in a hired mill and paying for the timber they used at stumpage rates, and they now proceed to ownership on the basis of successful experience. This fact has probably much to do with the willingness of the banks to capitalize their proprietary undertaking.

Now if farmers can do this, and it is perhaps more picturesque but not greater in obligations than other things which our producers are doing, why do not our city businessmen pool their idle money and buy the ships which San Francisco should own to give her a look-in of her own in this great ocean traffic on the Pacific which everyone knows is coming? Mr. Rosseter is right when he tells our metropolitan people that "nothing can be gained by sitting still and looking on" and shipping a few things now and then in the "marus" which our Oriental neighbors kindly send to our ports! Unless they get busy it may be necessary for our fruit growers to truck down a fleet of ships from their Susanville forest!

RAILROAD BUILDING RESUMED.

We seem to be running on a transportation line this week, so it is fitting to announce that railroad building in California is to be resumed. It is not a very long road, it is true, but it will do for a start, and it is a whole lot better than we have had for some time. The director of the government railways said the other day that we were going to have a great outbreak of overland travel, and people ought to be patient, because the roads needed refitting from the track upward; there had not been a new passenger car built for four years, and everything was in short supply. The government operation has no doubt secured a lot of patriotic service without which Hindenburg might have pushed his line westward over the Rocky Mountains, and we are fortunate of course in having prevented that catastrophe. But now that that has been accomplished and as we have all been taxed one way or another to meet a wage-scale which would keep railroad hands on their jobs, there ought to be now a progressive and developing policy reinstated in our railway management as soon as possible. The announcement from the executive board of the Southern Pacific Company in New York city is that a branch line eighteen miles long will be built as a spur to the Sacramento-Knights Landing-Marysville line through the center of the Sutter basin within sixty days, to handle this year's rice and bean crops. This action seems to have been entered upon by the eastern directorate on the recommendation of Vice-President Paul Shoup, and those who know Mr. Shoup's long continued interest in making the railway serviceable to agricultural development will not be surprised at the

source of this movement. Now that the Western Pacific has been unscrambled and as all roads will soon be set free to do their level best under the regulation of the California railway commission, we shall expect soon to see extension, re-equipment and electrification—all of which are necessary to make all these grand arteries flow full again of the newer life in which California is now abounding.

MAKE WAY FOR CALIFORNIA.

And being short of ships and of cars is not all of it, for we seem to be shy of barges. There has been a tremendous activity in our flouring mills and plenty of wheat to grind, for much Australian wheat has come to this port, and now Europe wants that flour, but it is said to be stuck in the warehouses for lack of barges to bring it to shipping points. We surely need more water craft on our rivers as well as ships of our own on the sea. Trucks are doing tremendous service in making up for shortage of trains, but until we get hydro-trucks or more railways paralleling our rivers we are likely to be chuck-a-block every time barges get short or water too low to float them. The transportation facilities on highways, railways and waterways are bound to be short now that settlement and development of river lands is proceeding so rapidly. Even garlic, which ought to be strong enough to fly away with itself, seems to have difficulty in moving. Last year's shortage, which pushed the price up about 800 per cent, made all who understand growing this fragrant esculent active to increase the product. They have plenty this year, and shippers to the East and Europe are fighting for it, for they see a great gamble in garlic, now that depressed Europe and prohibitive America seem to require so much effective stimulation. California needs more capacious outlets to the world at large. It seems to be up to the Great Fleet or to the garlic crop to blast them out!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Pollination or What for Garden Trees.

To the Editor: I have a Burbank plum tree planted in 1909. For several years it bore profusely. Then the aphid began to infest it. For the last three years it has borne very lightly. This fall I shall irrigate well and apply stable manure. Will that be sufficient to bring it back into bearing? At the present time it is growing well and appears healthy. I also have a Tragedy prune, also planted in 1909, which though strong-growing and healthy has never borne. Is it due to lack of pollination? If so, could I not graft a few of the branches with some variety which would fertilize the blossom? I also have a Black Tartarian and a Royal Anne cherry tree. The Tartarian bears finely but the Royal Anne does not. What can I do for it?—A. M., Oakland.

Are all the plum trees which were near Burbank when it was bearing well still in place? It will be a good plan to manure and irrigate the tree for the Oakland soils are not over-rich, but if a tree is looking healthy and growing well, there is probably a lack of pollination. We should graft in a Climax. The Tragedy can be brought around all right by grafting in Clyman. Royal Anne can have better pollenizers than Black Tartarian. We have a Royal Anne which bears regularly and the only other cherries in the garden are Purple Guigne and Black Tartarian. Since suspicion of impotency has attached to the latter we have credited Royal Annes profligacy to the Guigne. In experiments at the University Farm, Pontiac has proven the best pollinator for Royal Anne. Governor Wood has done well in other places. We should graft in Governor Wood as a superior home garden cherry.

Pasture on Low Land.

To the Editor: I have some overflowed land that I wish to put into pasture. There is no irrigation. What grasses can I use to be sowed in fall or winter. The soil is clay or adobe.—Subscriber, Willows.

We would depend upon English rye grass and add a little eastern red clover to see if it would hold on. Both will stand overflow. The question is will the red clover stand the following drouth. The rye grass will bunch up and hang on.

Exclusion from Irrigation District.

To the Editor: In the formation of new irrigation districts is there any provision in the law to have the boundary so drawn as not to include an orchard which has been graded and in which has a cement pipe line and pumping plant, and which is located on the extreme edge of the boundary? To regrade the orchard to suit the new irrigation would be the practical destruction of the trees and the work of five years gone for nought—subscriber, Stockton.

We understand that land at the edge of a proposed district and not necessary to the operation of it has sometimes been set out and the owner allowed to install his own system from a local source. In the case we have in mind the land excluded was incapable of taking water from the district system. There is no provision in the law for such exclusions except as in the organization the parties entrusted may draw the lines as they judge best for the general purposes in view. Of course, in your case you need not take the district water even though your land has to contribute to the cost of installation, and therefore you need not upset your land and trees. You ought to retain a lawyer to ascertain what you can do. It is not an easy matter.

Almond Growing.

To the Editor: My orchard is made up mostly of I. X. L.'s with some Nonpareil. How should they be planted so as to pollinize properly. Do bees help pollination to any great extent? How does irrigation this year help the setting of next year's crop and at about what time should the water be applied?—W. F., McFarland.

According to careful experimentation, which has been carried on for several years at the University Farm, the I. X. L. and Nonpareil varieties are not effective as pollinizers of each other and therefore no arrangement of them can serve the purpose. In these experiments the Ne Plus Ultra is apparently the best pollinizer for I. X. L., and it serves well also for the Nonpareil. For convenience in harvesting each variety by itself the pollinizer should be planted in rows—one row to four or six of the others would be ample. Bees are the most active agencies known for pollination. Where irrigation is needed at all, the water helps the crop of the following year by continuing the growth during the current season until good fruit buds are formed for the following year. Such irrigation is usually best applied during July or early in August.

Sunburn?

To the Editor: What is wrong with trees that have this kind of decay down on trunk near the ground? The foliage is a lighter color this year on the trees affected this way.—Grower, Santa Rosa.

So far as we can judge from the few flakes sent us, the bark has been killed by sunburn. If the injury covers enough area around the trunk it would account for the failing foliage. Of course, we are not very confident of the accuracy of this verdict; it is too much like holding an autopsy on the thumb-nail of the corpus delicti. Give the trees a good irrigation, if possible; whitewash all exposed bark; reduce the top by removing branches which can be spared—cutting out those which seem most affected by lack of sap—and put on a good covering of manure this fall.

Covering Tree Wounds.

To the Editor: Is it advisable to paint over the stubs where broken or dead limbs are pruned off? I mean fairly large stubs of cherry or apple trees.—T. W., Sebastopol.

It surely is very desirable. Saw off stubs closely—up to the collar or slight enlargement, which usually marks the connection of a lateral branch with a main branch or of a branch with a trunk. The protective covering now chiefly used is "asphaltum, Grade D," melted alone or with one part of resin or one of paraffine to four of asphaltum. The addition makes the asphaltum less likely to run in hot weather. Lead and oil paint, rather thicker than for house painting, will do if it is handier to get.

Let the Alfalfa Do It!

To the Editor: I am going to put in a piece of alfalfa without irrigation, but one side of the ground is a little low. Would you sow melilotus or some other grass on the low ground, or risk alfalfa.—S. H., Colusa.

We should give the alfalfa a chance at the whole contract.

WILL YOU BE THE ONE?

We are going to add another man to our circulation force. He need not have experience or capital, but must be a red-blooded, dead-in-earnest fellow, who enjoys interviewing people and is not afraid of hard work.

If you have an automobile, are free to travel, believe in the Rural Press and would like to present it to others, perhaps you can qualify for the position. It pays a straight salary and is permanent.

If you think you are the man we are looking for, tell us why. Convince us that you should have the position and we will make you an attractive offer.

Is the Nitrate Holding On?

To the Editor: Last year we put nitrate of soda on some orchard ground, but had to put it on late as our place is all hill land and can only be plowed after the real heavy rains are over because of washing. After putting it on and plowing, this year, we didn't have a good rain to wet the stuff up. Do you think it will benefit the trees when the rains come this fall, or will the strength have left the nitrate of soda by then?—W. T., Forestville.

It is hard for us to believe that old Sonoma is ever too dry for a whole year to touch off nitrate of soda. It does not need much of a rain to do it: a shower which simply makes the soil moist is enough. In fact, if you leave nitrate of soda standing around in a heavy fog it will reach out for moisture enough to deliquesce—which means to run away by itself. For this reason we believe your nitrate did its job long ago and only a chemist could find trace of it now, and probably he could not if there had been what you mean by a good rain. If you can find now the substance which you put on a year ago it was probably not nitrate of soda, or if it was really dry as Arizona and you could still find it visible to the eye, you must have put on enough to kill any useful plant. But perhaps you only wish us to say whether nitrate will lose strength if kept dry. It will lose no strength, but it is practically impossible to keep it dry.

Gypsum as a Fertilizer.

To the Editor: Please send me information as to the use of gypsum on prune trees, method of application and price per ton.—W. P. G., Nicolaus.

Gypsum is a fertilizer in soils which need lime, but you can probably get lime more cheaply in other forms. Gypsum acts as a soil-mellowing, but other forms of lime are more active and efficient. Gypsum acts upon other soil ingredients, and perhaps renders them more available to the plant and thus stimulates their growth, but of course it does not enrich the soil in that way, but enables the plant to use it up more quickly. Because gypsum contains a form of sulphur it conveys to the soil this substance, which has recently been found to be more useful, directly or indirectly, than was formerly thought possible—which will be expounded soon by Dr. Lipman in his series on "Fertilizers and Fertilization," which is appearing in these columns. Gypsum may be scattered and plowed in during the rainy season. Fertilizer dealers advertising in the Rural Press will answer inquiries which you address to them as to the price at which they can supply the finely ground raw gypsum—which is the form needed for use on the soil.

Spring Silage.

To the Editor: What is the best crop to sow in fall for spring silage.—S. S. H., Willows.

You can silo winter-grown grains, oats, wheat, or barley, cutting into the silo when in the soft dough—about in the shape you would cut for hay. If it gets a little dry use more water when filling in. You can silo your first cutting of alfalfa with all the foxtail and other weeds thereunto belonging. You can also silo any winter-growing vetch or clover if you cut and pack down well.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending at 5 p. m. July 29, 1919.

Stations—	Past Week	Rainfall		Temperature	
		To Date	Normal	Highest	Lowest
Eureka .....	.01	.01	.11	62	48
Red Bluff .....	.00	.00	.00	98	58
Sacramento .....	.00	.00	.00	98	57
San Francisco .....	.00	.01	.01	67	51
San Jose .....	.00	.00	.00	84	46
Fresno .....	.00	.00	.00	100	58
San Luis Obispo ..	.00	.00	.01	76	48
Los Angeles .....	.00	.00	.00	88	60
San Diego .....	.00	.00	.00	78	64
Reno, Nevada .....	.00	.00	.14	90	50
Tonopah, Nev. ....	.00	.01	.29	90	62
Winnemucca, Nev. ...	.00	.00	.17	94	58

Milk--The Miracle Worker.

Written for Pacific Rural Press
By R. H. Whitten.

FATHER, what's a 'substitute'?" asked a schoolboy of his father. "A substitute, my boy," replied the wise father, is anything that costs more than the original article."

Had he been referring directly to substitutes for dairy products he could not have coined a more fitting or truthful expression. Take oleomargarine, for instance. Irrespective of its comparative cheapness per pound, the use of this camouflage is more costly in the end than that of the highest-priced butter, because those who eat it are deprived of a vital substance absolutely essential to the proper growth and maintenance of the human body.

Years ago we were informed that our food should consist of certain proportions of protein, carbohydrates and fat. Later we were told that the energy-creating capacity of foods was the main thing, and that they should be rated according to the number of calories. But now comes Dr. E. V. McCollum of Johns Hopkins University, who, after years of experimenting, is able to prove that foods have a physiological effect on growth and life-making capacity entirely remote from their content of protein, carbohydrates, calories, and all those jaw-breakers.

Dr. McCollum spent over 10 years investigating the diets of animals whose digestive apparatus is practically the same as that of human beings. He fed them a perfectly balanced ration of proteins, etc., and for fat he used the different ingredients used in the manufacture of butter substitutes, such as cocoanut oil, cottonseed oil, peanut oil and tallow. For the first three months these little animals seemed to get along all right, but then they lost appetite. They fell off in growth and seemed on the road to starvation.

Then Dr. McCollum fed the animals butterfat in place of the former fats, and immediately they began to grow and thrive. Then he took two little animals and put them on the same diet except that he fed the first one butter for its fat ration, and the other oleomargarine. At the end of the experiment the butter-fed animal weighed 262 grams and was bright-eyed and vigorous. The oleo-fed animal weighed only 109 grams and was puny, sluggish in movement, and had sore and infected eyes.

No Real Substitute for Milk.

This was one of many proofs that butterfat contains elements necessary for growth that the other fats cannot supply. These are the protective elements, called vitamins. They are found in butterfat, but not in vegetable oils or pork fat. They are also found in the leafy portions of edible plants, such as lettuce, onions, cabbage, spinach and the like. The contention is not made that grains, root vegetables and vegetable fats are not nourishing, but in order to make growth possible these must be supplemented with protective elements, and for these vitamins we must turn to dairy products or leafy vegetables.

Some animals, like cows, are built to handle great quantities of leaves, but man is not. Some races have tried to get their supply of vitamins from leaves, seeds, fruits and roots, but how do they stand? The Japanese are the best, but what are they? A distinctly undersized, shirt-lived people. Their infant mortality is distressingly high, and they have failed to achieve anything like what they could have done had they been better acquainted with the dairy cow.

As Dr. McCollum says: "Go all over that portion of the world where such dietary habits prevail and you will find people who are subjects or vassals. They multiply in considerable numbers, but their life is short; they are inefficient, of low mentality, and a failure from the standpoint of living a normal human life. On the other hand, the people who have achieved; who have become large, strong and vigorous; who have reduced their infant mortality; who are the most progressive in industry, science, art, lit-

erature and every activity of the human intellect, are the people whose diet contains milk and milk products to a considerable extent."

Effective in Combatting Disease.

Dr. McCollum further shows that in milk we have the means of combatting many diseases that have heretofore baffled medical science. Consumption, which rages in congested centers of large cities, is largely due to the low resistance caused by a diet made up almost exclusively of meats and cereals and little or no milk or green vegetables. Pellagra, a disease that has made a big toll in the lives of the Asiatic races, is due to an almost exclusive rice diet. Diseases peculiar to children, such as rickets, increase rapidly in communities where there is a curtailing of the normal milk supply. Bow legs in growing children are due to lack of milk, not to walking too young.

in milk is found that mysterious spark of life which makes the cow-keeping nations the greatest in the world—which puts force and energy and pep into their people.

Milk—the Real Elixir of Life.

Milk is Nature's own food. It contains all the ingredients necessary for nourishment, in just the right proportion of a well-balanced ration. It builds up the body, keeps it in repair, maintains warmth, and furnishes energy. It gratifies the palate and satisfies both thirst and hunger. It is an essential food—necessary to the proper maintenance of life. Children deprived of it do not develop properly; adults become weak, torpid and prone to disease.

Furthermore, milk is one of the cheapest of all foods when its real nutritive value is considered. One quart of milk is equal in food value to 8 eggs, 2 pounds of chicken, 3

butter as the stomach quickly absorbs 98 per cent of it. And remember, it is the digested portion of what you eat that counts. Foods with excess waste in them are luxuries; but certainly butter is not. Your body gets all you pay for.

Use more butter in cooking, as well as on bread. You do more than create palatable dishes. The butter is absorbed into the foods, and that increases their nutritive value, so there is no waste. Remember: butter is concentrated energy; the body needs it, and it is a most economical food even at present prices.

Cheese—Highly Nutritious.

Compare cheese with the 15 principal foods and you will find it first in food value per pound—preceding meat, eggs, bread and potatoes. It is a highly concentrated food, and takes the place of bulky, diluted foods. It has been one of the world's staples since the beginning of civilization, and the sturdiest people come from nations where cheese is a basic food. Old-world nations know its economy. They know its value as one of the most palatable, nourishing and delicious foods.

In these days of sky-high prices cheese takes on a new meaning, for it costs less than meat and most other foods, and there is no easier way to cut the food bill than by using more cheese. Commence to use it in place of heavier, less digestible dishes. Give it its rightful place. For cheese is a real food.

Ice Cream—the Delicious Food.

Yes, it is even more than delicious; it is strengthening and flesh-building. It contains more real nourishment than many of the dishes ordinarily considered necessary. A quart of ice cream has the full food value of 1½ pounds of steak, 4 pounds of potatoes or 18 eggs. There are unmatchable food values in this combination of cream and sugar for both growing children and grown-ups. As with cheese, there is no waste. Your body gets every ounce of nourishment you pay for.

Ice cream should not be added to a full meal, but should be a part of the meal. A sensible plan is to have less bulky foods during the meal and a dish of ice cream at the end. It is just the thing, too, for in between meals. It is easily digested; keeps the stomach in good order, and is so safe that it is often the first food allowed convalescents.

Begin eating more ice cream now. Use it in place of other foods. You will live better and longer; will feel happier and stronger; will earn more and spend less.

Here's for More Milk-Fed Americans.

"Sparkling eyes, clear skins, good teeth, ruddy cheeks, snap, pep, the joy of life, belong to all who use dairy foods liberally," says one noted authority, so if you want health, physical and mental development, drink more milk and eat more butter, cheese and ice cream. And encourage others to do likewise. Lend your support to every worthy movement to this end. If you are in any way connected with the dairy industry get behind the California Dairy Council in the excellent work it is doing to educate the public to the real food value of dairy products. We must make milk the national drink and dairy products the most popular foods.

ANOTHER ADVANTAGE OF BREEDING UP.

We hear a great deal about the additional weight put on steers by a pure-bred cross, but there is another important advantage, and that is in the additional value of the heifers retained for breeders.

In the fall of 1915 a cattleman took calves away from two of his cows at the same time. One was a scrub mother; the other a grade Hereford. The two cows were fed alike, yet when they were marketed the scrub brought \$38.65 and the grade \$110. Here was a difference of \$81.35 due entirely to the pure-bred cross.

Children Need Milk

for
health
growth
strength



Poster used in a Wisconsin campaign to increase the consumption of dairy products. It was actively supported by the extension department of the State University. The movement in this State has the backing of our College of Agriculture and a big drive will soon be started.

A Powerful Stimulant.

Milk is one of the most powerful stimulants known. This was discovered at the Pasteur Institute at Paris, and afterwards milk was given to the French soldiers in the trenches. To many of them it was the only stimulant, and the effect more than justified all the claims made for it. The stimulating effect of milk was especially noticeable when given to soldiers just before a big battle, and also when in great fatigue. Its advantage over alcohol is that there are no bad after effects, and the keenness of the senses is in no way impaired or the coolness of the judgment affected. It seems to have some magic power of not only whipping up the living tissues, but also holding them pleasantly to the task without the subsequent reaction and collapse so usual with strychnine, quinine, ergot and other artificial stimulants. While it is a vital tonic, it is also an essential food, and thus it becomes the sort of tonic that leaves not the slightest trace of harm behind.

It is claimed that our own Devil Dogs could not have gone down into the hell of Chateau Thierry had they not been milk, butter and ice-cream fed—had they not been brought up largely on dairy products—and this proves the statement that the diet of a nation is responsible for the health and achievements of its people. For

pounds of fresh codfish, four-fifths pound of pork chops, or three-quarters pound of steak. Thus, even at 15 cents per quart, milk would be equal in food value to eggs costing at least 34 cents or steak costing about 25 cents—more, if the cost of cooking is included. Why, at double its present price milk would still be one of the cheapest of foods.

Cut down on some of the more expensive foods which are not so easily digested and not nearly so nutritious, and double your milk consumption. Use more milk in cooking. Load up your food with this rich nutriment. Don't begrudge pure cream on cereals and other dishes. And drink, drink, drink lots of milk. Children should have at least a quart a day until full grown, and adults at least a pint. Don't think of it as suitable for children alone. It is the ideal food for men or women who work with muscle or brain. It builds tissues and healthy minds, and furnishes the body the power needed to do its work.

Butter—the Energy Producer.

Too many persons think of butter as merely a spread for bread, and overlook the fact that it is one of our chief energy foods, 80 to 85 per cent being pure fuel-fat. Then there is mineral matter for bone building and some protein for muscle-making and repairing.

There is practically no waste to

Walnut Varieties Adapted to Northern Conditions

(Written for Pacific Rural Press by Jno. J. Fox.)

What are the best well-known walnut varieties to suit Northern California? This was a question we asked Professor Ralph E. Smith recently and received a prompt reply that he considered the Concord, Eureka and Payne's Seedling three of the best for the northern sections which are suitable for walnut culture. Not long afterwards we visited the Bowman-Kuhn orchard at Milpitas in company with C. J. Kuhn, whose experience here with Eureka and Payne's Seedlings is an endorsement of Professor Smith's opinion, as is the fact that

standing together which produced 250 pounds of nuts each last year. He says that the Payne's blight a little but allowing for blight and drop they still produce more than any other variety.

The Processing Department.

The equipment in Mr. Kuhn's packing house is modern and adapted to his labor requirements. The washing, bleaching and grading is automatic, but the grading pickers' table has been made longer to accommodate more girls. The nuts are then con-

possible to cut much grafting wood from a full-bearing tree, because of this. Yet even with very heavy crops good-sized nuts are always produced. Mr. Payne's method of keeping his young trees from sprawling is to erect a center post—a 2x4—and tie the branches up to that. He has 34 acres in walnuts and has done all the grafting on this place.

The well-advertised Santa Rosa walnut tree is on this place. It was a California black top-worked by Mr. Payne, when he was a lad and took three years to complete. It is known as perhaps the largest bearing walnut tree in the State—its banner crop being 741 pounds of nuts. It is a Santa Barbara type of nut, but is apt to blight.

Grafting Old Limbs.

We asked Mr. Payne what he thought of grafting limbs or branches on the under side. He said: "Well, of course, you can see from the running growth along this limb that the sap flow is strong below and weak above. That is why the upper shoot on each year's growth shows small. But a graft on the lower side of the limb intensifies its downward inclination—also its weight of foliage makes it easier to tear out if inserted there. For this reason I always put my grafts at the sides—they are stronger and better placed." He showed us one Payne's Seedling that had been grafted onto a Paradox, five years ago last spring. It was a large tree and produced 45 pounds of nuts the second year after grafting. The third year it yielded 243 pounds of nuts, and the two following year 340 and 341, respectively. The limbs still carried the sack protectors that were bound round them when they were grafted though they are of course no longer necessary.



Type of growth on a vigorous Eureka walnut tree. Note the dense foliage and stalwart character of growth on this young tree.

Concords are the leaders in Contra Costa county.

Varieties Tried.

Mr. Kuhn has 107 acres in walnuts though there are still some California blacks not yet worked. The oldest trees are only 15 years from the black nuts, which were planted and left to grow for three to eight years before they were top-worked. He would not pursue this method again—it takes too long but he has since bought some rooted "black" trees and planted them in orchard form—now nearly ready to work. They are planted 48 feet apart and the varieties are Franquette, Mayette, Payne's Seedling and Eureka. He likes the Eureka and Payne's Seedling because they are more profitable and is working over 100 large Franquette trees to Eureka. The growing season of the Franquette is too short for a vigorous condition—the foliage is light as is the usual set of nuts. Eureka trees are four times the size at the same age and laden with nuts which are all large—few second grade. They shell out of the husk easily and when bleached are of good color. The first drop of nuts is not so well filled, but when the main crop drops the meats are full and plump and the nuts will go 20 to the pound.

Difference in Weight.

Mr. Kuhn processes and packs his own fruit under the Golden Gate brand, and last year sold large quantities in holiday packages—weight five and ten pounds. The ten-pound boxes used for packing Eureka were only six inches deep; Payne's about seven inches, and other varieties seven and a half inches, other dimensions being the same.

With regard to the Payne's Seedling, it has to be encouraged in all the vigor of its growth during the first few years. For when it comes into bearing it is so prolific that its wood growth is checked and it sizes up slowly compared with a Eureka tree. Nevertheless, it turns off the fruit.

Mr. Kuhn's Payne's Seedlings were loaded. He pointed out three trees

veyed to their respective grade bins which are in gravity rack form, each having a sacking station. Each side of these slatted bins is exposed to free-air currents, which insures a thorough drying-out and safety from rodents.

New Niagara Dusting Machine.

A new Niagara power duster has been bought so as to deal with the aphids when occasion arises. Aphids is occasionally so bad on walnuts that the tree drip and the leaves become blackened, which is a great drain on the vitality of the tree, as well as lessening its growth.

This duster was bought through the Association, which buys wholesale for its members and sells at cost. The whole cost was in the neighborhood of \$300 including gas engine. The aphid dusting-powder was supplied at five cents a pound plus freight. Mr. Kuhn has 30 acres of his walnuts inter-set with young pears, which have just been cleared of pear slug and mites by the use of this mixture—at least, we could discover no live ones.

Because of his experience with the different varieties, his brother, A. C. Kuhn of Evergreen has this spring worked all his black walnuts to Eureka and Payne's Seedlings. These will be pinched and manipulated during the growing season so far as possible so as to obviate the winter cutting and conserve the early creative efforts of the trees. This can be done in July and August in this section with reasonable expectation of maturing new growth before the frost.

Pruning.

George Payne of the Moorland district near Campbell, whose father originated the Payne's Seedling, said that a system of pruning could probably be evolved to good purpose for forcing more wood growth on this variety.

The tremendously heavy bearing nature of the Payne keeps down wood growth to a degree, thus tending to keep the tree small. It is next to im-

possible to cut much grafting wood from a full-bearing tree, because of this. Yet even with very heavy crops good-sized nuts are always produced.

A YOUNG PRUNER'S ACHIEVEMENTS.

To the Editor: I saw in your paper sometime ago where a man of our county has got as much as ten tons of peaches to the acre, and so I thought I would tell you how much we have been getting. I have done the pruning for my father for nine years and pruned from fifty to sixty trees a day and never used a prop or broke a limb.

Last year was a light crop for most of the orchard and still they went a little better than ten tons to the acre. They have not gone less than ten tons to the acre for five years, ever since they got into full bearing. His trees are Phillips and the men at the cannery say they are the best brought in, and it is seldom that small fruit is to be found. The trees are now in the best shape they have ever been in and look as if they would go fifteen tons this year.

I bought a place for myself four years ago and it was all run down and the trees had not had much care when I got it, and so I had to build them up before I could get a crop. My trees are nearly all Muirs and Lovells. In 1917 two or three of my Lovell trees bore at the rate of 22 tons to the acre, and last year they had a crop that would have gone fifteen tons to the acre, without one broken limb and without props. I think that is getting some crop out of old neglected trees. —Fred W. Caulkins, M. R. A., Box 363, Ceres.

Big Ben Necessary.

What gets us guessing is how this daylight savings plan works out in the land of the Eskimos, but we suppose all they have to do is to get up six months earlier each morning.

Still not too late to have your INDIANA SILO ready for this harvest-time

As soon as your order is received we ship complete directions for buildings. The complete Silo is shipped by the time your foundation is built.

You need no skilled carpenters to erect the Indiana Silo. The usual size is easily put up in two days with a couple of unskilled helpers, a saw and a hammer, and a wrench.

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The straight grained fir staves, held firmly together with shaped steel hoops form a wall that will not burst. The silage juices actually preserve the fine fir fiber.

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NO WASTED SILAGE

The Air-tight walls and doors of the Indiana Silo keep the silage sweet. None thrown away. It's all good in the Indiana.

Preparations for the Approaching Prune Harvest

(Written for Pacific Rural Press by Jno. J. Fox.)

Every grower we have visited lately is either scrubbing or repairing his trays, or is just going to. Dippers and mechanical graders are being cleaned up or new ones installed. But, in spite of the enormous crops and the phenomenal prices in sight, singularly little activity is shown in the purchase of new trays. There is a lot of repairing of trays going on, and on asking different men how they figure on making out, find the following schemes have been evolved.

Taking No Chances.

Two men in one county are installing evaporators, though strangely enough one of these is also making up a lot of new trays "in case the dryer falls down on the job." He had bought his trays early and is taking no chances.

Another man said: "When my fruit is nearly ready to put in the house I shall put it in sacks—about a bushel or a little more to a sack—and let it sweat a little stacked out of doors. I have done it before and find it cures the fruit to a glossy finish in excellent

frame so that when the eight-foot tray is tipped into it, no prunes can spill out the other side. The whole thing can be made in a few hours at a cost of a couple of dollars. When boxes and trays are both scarce, two men can sack prunes as fast as they can tip the trays. The sacker is so light that it is easily moved from one stack of trays to another.

In Case of Rain.

It is well, in case of rain, to have a sheet to throw over that platform. It doesn't take long to shovel them into a heap in the center and throw a few trays over, but the canvas sheet makes them safe. Trays with a strip of building paper were used last year in some instances with success in covering stacked trays. A roll might come in handy and need not be cut unless it were needed. Thirty trays to a dry ton is running things pretty close in the north here. It doesn't pay to take too many chances. For quality means weight and every pound of weight this year is the price of a good cigar.



California cured fruits are dried in yards adjacent to the orchards that produce them.

condition. You have to use care, but I turn the sacks after a few days, and I think I gain in weight as well as quality with this method." Several other men were making up a number of new lug boxes and repairing their old ones. The new boxes will be used in the orchard and their weaker brethren will be used later for stacking prunes that are not quite dry enough to bin. They will be stacked outside till they are ready to warehouse. In this way many trays can be released perhaps two or three days earlier than they otherwise would.

The Platform Method.

Still another way of releasing trays when drying weather is poor is to build a platform and when the fruit is a little past the doubling stage or about there, dump it onto the platform to a depth of six or eight inches even, all over. They may possibly need shoveling over once before they are ready to box, but that platform is a great help in time of need—when the number of empty trays is shrinking and fruit is pouring in out of the orchard. Find a good level place and lay your two by threes on the flat side about three feet apart and then tack on rough 1x12 pine sheathing with sixpenny nails, so that the boards are easy to rip off again in a few weeks' time. Tack a board all around the edge to keep the fruit from spilling on the ground when the trays are dumped on it.

A Sacking Contrivance.

A useful apparatus was contrived last year by Guy Winfrey—a Napa man—for sacking prunes from the trays. It consists of a shallow trough, supported by a buck at each end and one in the middle. The trough is just high enough for a sack to stand beneath it. There are three openings in the trough with a sacking hook to each one and the back of the trough has shakes nailed to a

A good straw-boss in the field who knows how to keep the piece-workers from shaking the trees would be useful, though probably tactful men are rather rare just now. Anyway there is going to be in some districts a predominance of high-class help, and that lends strength to the whole productive industry.

Prune Dippers and Graders.

This year will probably see more prune dippers and graders installed than any single year which has preceded it. For there is such a good crop of prunes this year, and the prices warranted by the extraordinary demand will make every grower want to turn off topnotch quality of fruit in the shortest time possible.

Now, if the thirties and forties are all dumped on the trays with the nineties and hundreds (up), the whole mess has to stay exposed to the sun until the heavy prunes are properly cured. By that time all the smaller fruit has dried up as hard as gravel. Not only is the quality impaired, but the loss of weight is enormous on a tonnage. And those little dried-up prunes will never process out into as attractive a form as they would have if properly cured. That is one reason, and the biggest, why prunes should be graded before being set out on the drying ground. They are separated into two very distinct grades, the smaller of which can be boxed sometimes four or five days before the large ones are ready—according to the weather and how they are handled. This means a large saving in weight and in size. The little prunes, if not over-dried like a chip, will give you the advantage of several points on the grade-sheet if properly cured—in addition to the extra weight. Labor is lightened also by the elimination of all skinny windfalls and hog-prunes.

The dipping of prunes in lye, which

can be kept at boiling point all the time by means of coils, is quite a different thing from dipping them in a kettle, where the very first basket of cold prunes lowers the temperature below boiling point.

As the water gets colder by steady dipping, we leave them in—or are tempted to—a little longer and find they don't dry as well and the skin is toughened. Time is saved in dipping and dumping by using the patent dipper and a much better curing result is obtained where the proper temperature can be maintained. Then a proper cut of the bloom is obtained by a few seconds' immersion in the boiling lye. (Imperials get by with next to no lye as they are tender skinned.) The skin looks finely wrinkled, but will not come off with the sweep of the paddle.

The second factor, next to the correct "dip," is to have plenty of trays

so that you don't crowd the fruit and have a lot of prunes riding on the others. It delays the curing and adds greatly to the expense of handling—especially of a season when a lot of those muddy-colored ones show up at the early dip and maybe have to be hand-picked. These can be dipped again and dried by themselves, but they never make good prunes. It is better to have too many trays than too few, especially of a poor drying season.

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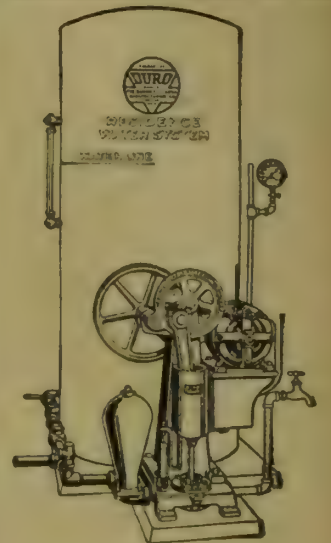
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est future growth and greatest crop yield. Fine for early cultivation of all crops and packing wheat against winter killing. Pack your wheat with it this fall. Lasts lifetime. Price reasonable. Strongly built. Get one.

AT ALL JOHN DEERE DEALERS

HORTICULTURAL JOTTINGS

Large shipments of peaches are being made from Tulare County.

Up to June 30 the Federal Land Bank of Berkeley had closed 4,192 loans amounting to \$12,541,200.

First shipments of pears from Lodi are reported to have brought as high as \$7 a box in the eastern markets.

A number of new members are signing up with the Prune and Apricot Growers' Association every week.

An extraordinary quantity of apricots has gone to the canneries this year.

The non-bearing acreage of lemons in California is only one-fourth less than the bearing acreage.

The Georgia peach crop was estimated to amount to 7,700 cars for the season (Bureau of Crop Estimate).

The California Co-operative Canners at San Jose have 500 workers on the job, and about 100 tons of fruit are coming in daily.

Some injury to prunes from sunburn is reported from all sections. Butte County's drop from this cause is considerable.

G. L. Barham of Chico, who has 40 acres east of town, claims that June drop can be largely reduced by irrigation.

The Durham State Land Colony lost considerable water by the rupture of a diverting dam, which, however, has now been repaired.

All our Farmers' Selling organizations have established brands that have won the entire confidence of the world's markets.

If the year's grape crop is harvested a good many evaporators will be installed with some of the money in the hope of finding some permanent markets for dried grapes.

The California Co-operative Canners are busy in their plant at Tulare canning peaches. They bought the Tulare County peach pool peaches at \$92.50 a ton.

Forty per cent of the state's peach crop is produced in Fresno, Kings and Tulare Counties. Fresh peach shipments east will probably reach 4,000 carloads.

Experiments in cross pollination of cherries will be conducted in Santa Cruz County next year by the Farm Bureau through the University of California.

The Prune and Apricot Growers' Association will this year spend in the neighborhood of \$200,000 for advertising and extending markets for the California prune.

The Prune Growers and Nurserymen's Committee on bud selection meets in the Santa Clara orchard around the first week in August, according to Leonard Coates of Morganhill, who is chairman of the committee.

Prune growers in Santa Clara County have agreed to pay \$6 to \$9 per ton for picking prunes, according to the crop and other conditions. Others are paying their help by the hour.

The prune crop in Lake County is a good one. In a few thin-land orchards where moisture is none too good there are signs of sunburn and shedding of fruit, according to Horticultural Commissioner F. G. Stokes. The Fruit Growers' Supply Company has just placed an order for 25,000 kegs of nails for nailing up the orange and lemon boxes of members of the Fruit Growers' Exchange. These nails will cost \$112,500.

The Navel orange set in the Porterville section promises 65 per cent of a crop. The June drops showed up the worst in groves where orchard management was faulty or deficient. The younger groves look promising.

Eight thousand cars (of 350 crates each) of cantaloupes were shipped out of Imperial Valley this season, 3,000 cars more than any year previous. This made 33,600,000 melons for the season!

Apricot canning is now over in Tulare County, and peach packing has commenced. Sixty-four per cent of the apricots graded fancy. Opening prices on these are quoted at 53.75 a dozen. Both production and quantity was higher than anticipated.

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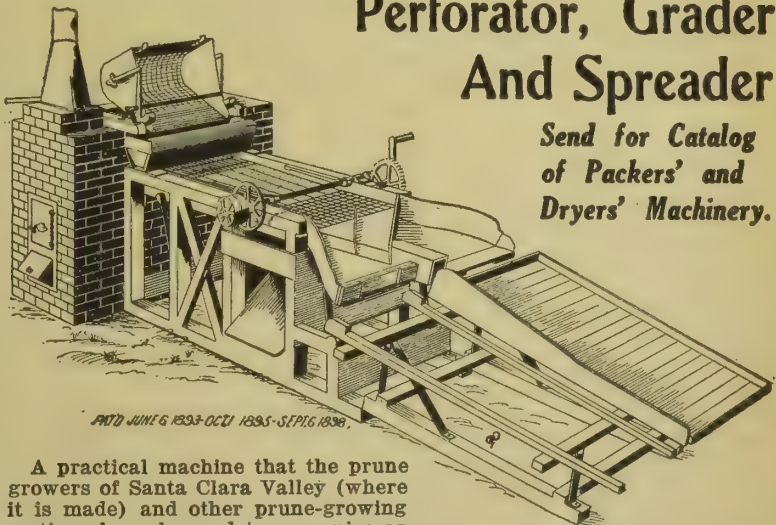
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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

Fungus Diseases Reduce Peach Crop.

California probably has a record peach crop. The eastern peach crop was reduced probably 50 per cent by curled leaf and brown rot in New York state and by curled leaf in Michigan and Ohio. The latter state shows also a decrease in acreage. Brown rot has caused loss in Arkansas, Oklahoma and Texas. The Georgia crop will approximate 7,400 cars. The July report of the Bureau of Crop Estimate gives a total crop estimate on peaches of 30,082,000 bushels for the entire country as compared with 20,797,000 bushels last year.

Apple Crop Under That of 1918.

The Bureau reports a July estimate for the whole country of 24,454,000 barrels as compared with 24,574,000 barrels in 1918. Of this, the states of New York promises less than one-third of last year's production. Washington will probably lead the states in commercial production by a large margin. Her admirable system of standardization has given her a market lead. We ought to have been provided with the means to duplicate it. When we have more growers and fewer lawyers to represent us at the legislature, the importance of measures affecting the fruit industry will receive fuller recognition.

Prune Growers Getting a Hump On.

As an instance of the thoroughness prune growers are exercising this year, the large manufacturing concerns are working overtime to get out new equipment. The Smith Manufacturing Co. of San Jose have increased their manufacture and sales of dippers and graders 500 per cent over last year. By the second week in August all orders will have been filled for green graders and dried fruit outfits by September 15. Last year was a big year for cannery equipment, but this year's business beats it by 80 per cent. One and a half to two shifts have been working in the factories the past four months to produce equipment.

Dried Apricots Being Marketed.

Two cars of mixed sizes of this season's dried apricots were shipped east from the Hanford plant of the California Prune and Apricot Growers' Association the third week in July—one being sent to Chicago and the other to New York. This is the first of the new crop of California dried fruit to be sent out this year. They will bring members the highest price ever paid for dried fruit this year. Regular shipments will be in full swing early in August. Dried apricots from Southern California will follow the first shipments from the Hanford district, and later the Santa Clara Valley fruit will be used to fill orders. This is the order of ripening of the fruit.

Labor in the Orchards.

A great many towns and rural centers are providing automobile ground and suitable camping sites for work-

ers, and a number of automobile owners are taking a pleasant and profitable vacation by assisting in the fruit harvest. The merchants and business men and the Chambers of Commerce are all interested in the development of convenience and sanitation of these camps. Hollister has busied herself in this direction. At Lodi, though labor is none to plentiful, the women's organizations are going a long way towards solving the problem. They are expert, energetic and business like and have learned to work with system and rhythm.

The Canning Industry and Labor.

The California Packing Corporation operates 39 plants, extending from Santa Ana, Calif., to Salem, Ore. Our many large California packing and canning corporations are handling a tonnage of fruit and vegetables this year that is stupendous in the aggregate. A wonderful and rapidly growing industry that is spreading our fresh fruit over the face of the whole inhabited portion of the world.

Conveniences for Cannery Employees.

The installation of adjustable stools for cannery workers is much appreciated by the workers. The many conveniences and thoughtful provision made for workers in modern canneries are not only a means of conserving energy, but make the work a pleasure. This has resulted in bringing in a large influx of high class labor formerly unavailable. We have noticed the well fenced play grounds and conveniences for small children whose mothers are employed at the benches and tables. The prices paid for labor this year shows that all are participating in the benefits of California's banner fruit crops.

Canning Grape Juice.

White grape juice may be successfully canned, but red grape juice loses its color in cans, as shown by experiments conducted by the Viticultural Division of the University. The process is very simple. Crush and press the grapes. Heat the juice to 150 deg. F. Allow to cool. Strain or filter. Heat to 130 deg. F. Can, seal, sterilize 30 minutes in water kept at 175 degrees F. This juice has a remarkably fresh flavor and has been held successfully for over three years. It is a good beverage and could also be exported for white wine making. Wineries could undertake its production with little additional cost to present equipment.

So. American Markets for Dried Fruits

"Before the war our national trade made but little impression on South American markets because we failed to meet their conditions on matters of credit," says H. G. Coykendall, General Manager of the Prune and Apricot Growers' Association. "With the advent of trade acceptances this difficulty is to a large degree overcome, and we anticipate that our efforts will be highly successful in establishing good markets there."

THE PEAR SEASON IS NOW ON—CAUTION NECESSARY.

(Written for Pacific Rural Press.)

The unusually early ripening of pears this year has resulted in some congestion. Boxes have been rushed to the growers from canners as fast as the request could be fulfilled.

There have been a few complaints that some early shipments were far from meeting contract grade. In one or two instances of windfall pears for drying, everything seems to have been dumped into the boxes, which necessitated a resorting of the consignments. Again, a few shipments have been received of No. 1 pears containing four to five per cent of worms, whereas the contract provides that No. 1 pears shall be free from worms.

A No. 1 pear is two and a quarter inches and over, free from scab, worm or thrip scar, is suitable for canning, and is picked from the tree without bruises.

A No. 2 pear is either a perfect pear 2 to 2 1/4 inches in diameter, or a pear 2 1/2 inches up, which will cut one perfect half.

The grower should watch his sorters and see that the terms of the contract are complied with. It saves trouble and expense in resorting, reductions, and explanation, and means a Square Deal. And it pays.

Under the best average of the old prices—\$40 for No. 1, \$20 for No. 2, and \$10 for windfalls, we had to sort pretty close. Under present prices of \$85 a ton for No. 1, \$50 a ton for No. 2, and \$35 for windfalls, growers can afford to sort closer than ever. For instance, we will say that out of ten tons of pears you have seven tons of No. 1, two tons of No. 2, and a ton of windfalls, you are getting an average of \$45 a ton on the No. 2 and windfalls combined and \$73 a ton on the orchard run.



The **DEALER** says—
"the **GIANT** mark
protects you from
imitations"

"It pays me to give my customers what they ask for," says the retailer who knows what's what. "When they ask for 'Giant Powders' I give them GIANT Powders—the real Giant, made by The Giant Powder Co., Con. I don't tell them that 'I have the same thing, only under another brand name,' because it is not true.

"The name 'Giant' on a case or a stick of powder is evidence that the powder is made by the company that originated Giant Powders. Remember this: You can't get Giant results when you use ordinary dynamite that look like Giant but aren't marked Giant."

Look into the new, money-saving methods of clearing land, blasting tree beds, ditches, boulders, etc. They are all described in our up-to-the-minute book, "Better Farming with Giant Farm Powders." A post card will bring it by the first mail.

THE GIANT POWDER CO., CON.

"Everything for Blasting"

216 First National Bank Bldg., San Francisco

(Branch Offices: Denver, Portland, Salt Lake City, Seattle, Spokane)



STUMPING

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Factory to You --- Pay When Pleased

—and I pay the freight. Simply write me to send you 2 or more of the

SECURITY
KANT-WOBBLE
LADDER

send no money with your order. I will ship ladders to you freight prepaid—you look them over, examine that famous light steel cuff-bracket that does away with all wobble, see the practical scientific way the SECURITY is made, note the wide-spread, vertical grain wood, light weight, sturdy strength—then you send me the money. If you don't like the ladders send them back,—but not one shipment has ever been returned as yet. When progressive orchardists see the SECURITY they know it's the one ladder they want in their orchards.

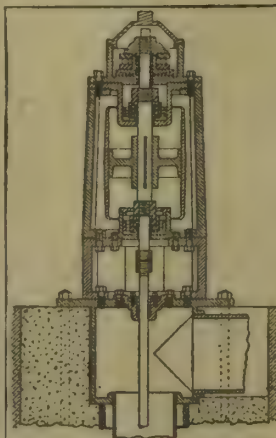
The prices: 8 ft. ladder, \$5.00; 10 ft. ladder, \$6.00; 12 ft. ladder, \$7.20.

Act quick—Send me your order today.

J. B. PATTERSON, Mfr.

80 Franklin St.,

Oakland, Cal.



Best Pump On Earth

For shallow or extreme deep lift; one that will give more water for the power expended; more water from small diameter wells without any pit, and more pump for the money than

Any Pump on Earth

Write for catalog N. and price list of the
P.K.WOOD DEEP WELL PROPELLER PUMP

WOOD PUMP CO. 935 N. Main St.,
Los Angeles, Cal.

A REPLANTED ORCHARD.

(Written for Pacific Rural Press.)

We have often heard it said that it was useless to replant where an old orchard had been grubbed as the trees would never make good growth. Last year we noticed forty acres of prunes one year old that had been planted between the rows of where an old peach orchard had been grubbed. They showed good growth, for though the soil was thin and "cobbly" they had had excellent care. We are still of opinion that they will make the main of their size in bearing area within six or eight years. Last week we saw an orchard of seven-year-old apricots on the Van Orden and Emerson ranch at Mountain View, which had been planted in the identical holes where an old cherry orchard was grubbed—and without a rest. They were certainly creditable sized, healthy trees for their age, and large enough to bear a good commercial crop of fruit. The owner very pertinently remarked that as there were no feeding roots for some feet around the trunk of the old cherry trees, the young 'cots had fresh soil to start in. That is a new angle again and one that is both reasonable and novel.

FREIGHT RATE INCREASE.

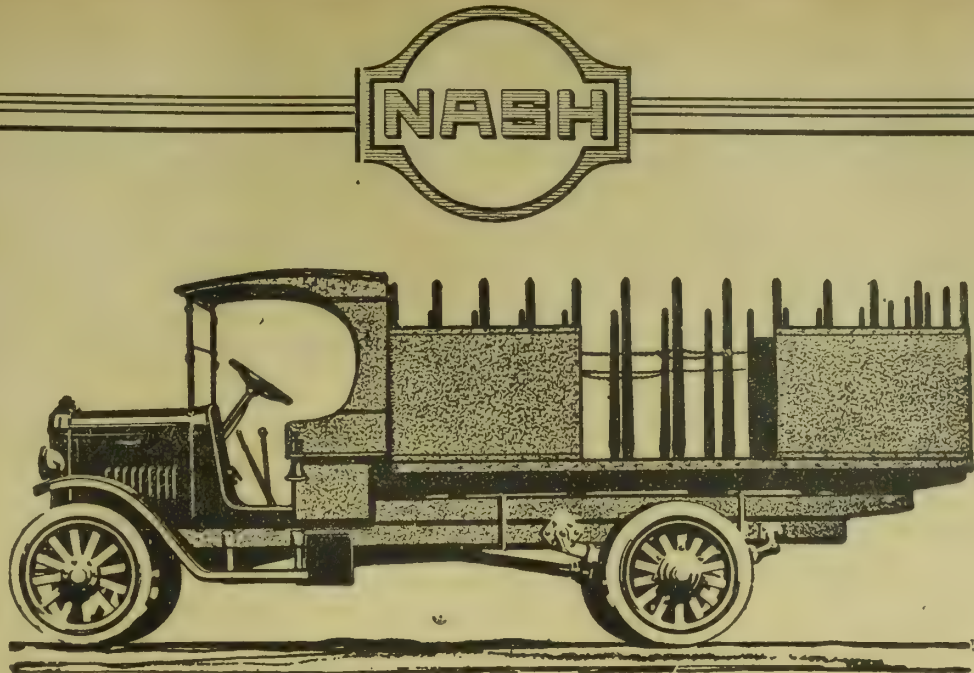
Interstate Commerce Commissioner Clark told the committee of fruit growers and others who are protesting against freight raises in the fruit trade: "Commercial competition, not the cost of service, underlies rate making. Power to prescribe minimum rates and to control water as well as rail carriers would assist the Commission, whose rate policy had been based partially on the theory that healthy competition between rail and water carriers was to the best interests of the country." Some rule of law governing the present application of the long and short haul clause act is necessary, the committee was told. "The Commission's task at present requires it to deal with conflicting interests of communities and territories when those interests are completely irreconcilable. The present act lays down no rule of law which can be followed." Twelve thousand growers and shippers, members of the California Citrus League, are protesting.

A CAPRI-FIG RECORD.

To the Editor: Some one noticing an account of a fertile Capri tree, suggested that I send a brief history of one on my place. It was set out 9 years ago and it is thought came from some grower near Corning. When it became old enough to bear, a colony of wasps drifted at least 4 miles across the country and took up their abode in the tree. The late frosts of 1918 killed off the most of the figs, though I sold about 1,800 figs in 1916. I had none to spare, however, in 1918. This year, 1919, the tree came along with a crop that to my inexperience seems fairly good for I have sold nearly 8,000 figs from it for Caprification. I noticed the first wasps coming out June 15. The wasps fertilized my own Calimynas of their own accord in addition to the large sales made. The tree is very large, stocky and thrifty. It carries plenty of the mammoni and mamme crops as well as this large profichi crop. It is interesting to know what a Capri fig can do when it sets out. H. S. Edwards, Princeton.

Irrigation and drainage must be apurtenant to the soil in every district. The large areas and uneven land contours make co-operation necessary for effectiveness. The men who own the land must acquire control of the distribution of their own water supply and the disposal of surface drainage by united action so that no one man, large or small, shall block either system, exploit or otherwise render it ineffective.

No man today, least of all the farmer, can wrap himself up in his own business. He must extend his sympathies, his aid and good fellowship to others for the general good.



HAULING fruits and vegetables to the market is a branch of work in which Nash reardrive trucks excel. With pneumatic tire equipment furnished at additional cost, Nash trucks will travel up to twenty miles an hour. This speed enables the market gardener to make his round trip in a day with time left over for work at home.

Morris & Company, The Standard Oil Company, The Palm Olive Company and the American Steel Foundries Company are among the nationally known concerns now using Nash trucks.

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1529 VAN NESS AVE.,
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One-Ton Chassis, \$1875

Two-Ton Chassis, \$2440

Nash Quad Chassis, \$3600

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Ames Surface Pipe puts every drop where you want it. No levelling, no ditching. No grading. **LOCK-SEAMED UNDER TREMENDOUS PRESSURE**—four thicknesses of metal the entire length of the seam. Most durable surface pipe made.

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Tells you how to irrigate at less cost and describes the most complete line of Surface Pipe and Pipe Equipment in the West.

W. R. AMES CO., Inc., 8th and Irwin, SAN FRANCISCO
SURFACE IRRIGATION PIPE

Farm Owners' and Operators' Assn.

(Written for Pacific Rural Press.)

At a meeting of the board of directors of the Farm Owners' and Operators' National Association in Stockton July 24 several representative grain growers were present and the wheat situation was discussed quite freely. Farmers have too generally held the idea that \$2.20 per bushel for wheat meant that much net for the farmers and some have thought that all wheat would bring the same price.

In marketing their crops, they have encountered deductions of various kinds, including freight to San Francisco, weighing charges, dockage, grading, etc. The meeting was largely one of inquiry as to whether these charges and various practices of grain buyers are authorized or are partly impositions permitted or not permitted by the U. S. Grain Corporation. For instance, grain hauled from the country around Stockton to the mills in that city is paid for on the basis of Government price less the freight to San Francisco. The grain growers and directors wanted to know who benefits from the freight charge that is deducted from the producers' price but is not paid to the railroad. Considerable variation in the weighing charge for wheat was disclosed. It was also pointed out that a good salary could be paid from the sweepings of warehouses where several buyers might sample each lot of wheat or other grain and considerable leakage would come from the many holes made by their triers. There was a feeling that wheat at least should be weighed before buyers' samples are taken—a small item but a source of considerable irritation. A suggestion is made that it might be a good thing to have official samples taken of each lot for farmers' grain, to be kept at central points for buyers to see.

The dockage question still seems to be a source of complaint. One man's grain graded by the Association grader J. E. Riddell showed about six per cent dockage, five per cent of which was plump barley, which is worth nearly as much now as wheat, after being separated.

It seems that an impression is current that the Government intends to fix the price of wheat next year also and possibly to fix prices on other grains. This was discussed at the meeting as a subject for a fuller hearing from the farmers than heretofore. A motion was made to call a mass meeting of farmers of the State to discuss the subject. September 1 was suggested for such a meeting, but the matter was left with the executive committee with power to act. Such a meeting would not be fully desirable unless every district in the State were represented. A date is desired when the harvest will be least pressing in fruit and field crop districts throughout the State. Present at the meeting were J. M. Bigger, J. A. Shearer, Fred Rindge, Wm. Thomas, John Tone, David Young, C. D. Benjamin, Albert Lindley, C. A. Stowe, D. O. Castle, McD. Ross, and Herbert Smythe.

Dockage Exhibit.

Several of these are lifelong grain growers, yet they had never seen the process of grading their grain. They were greatly interested in Mr. Riddell's apparatus and operations. They were more interested to see the proportion of valuable dockage being taken from samples of their own grain. The apparatus, including a "kicker" for separation purposes, a glass-enclosed scale, other scales and equipment cost not over \$400 total, yet the knowledge of the exact condition of their grain may save any one of many members that much on one year's crop.

A number of the samples along with the various kinds of dockage contained in them were set aside to be exhibited at a meeting of the local unit of the Farm Owners' and Operators' Association at Waterloo last Saturday night.

Moisture Tests on Corn.

Since moisture content is of so much importance in California-grown

Indian corn, it is proposed that equipment be obtained for such tests to be made by the Association grader. It would be inexpensive, and Mr. Riddell became acquainted with the way to do it while he was taking lessons on grain grading at the U. S. Grain Corporation offices.

LIVERMORE HAY AND GRAIN.

(Written for Pacific Rural Press.)

Livermore Valley and the hills surrounding it in Alameda county are more prosperous this year than during the past two seasons, according to E. G. Wente of Livermore. The hay crop has been good, though grain prices and prospects have reduced the acreage cut for hay. There are between 12,000 and 15,000 tons of grain hay in the Valley as against 18,000 tons normally made. All of last

season's crop and about ¾ of the present crop has been sold, prices being about \$16 per ton to the growers for choice wheat hay and corresponding prices for other kinds and grades. City hay consumers have been laying in their stocks for the whole season.

The barley situation is highly satisfactory for those who held until the present, but about ¾ of the 200,000 sacks which are still being threshed have been bought up by San Francisco people, who paid around \$2.65 and \$3. They are now paying \$3.05 and \$3.10 for shipping barley. This grade constitutes about one-third of the crop, a better percentage than usual.

Wheat is being hauled to the warehouses, largely to be held for sale to the Government unless California mills demand it first. It is hard to estimate the crop as a whole, because so many growers who thought they had twelve or fifteen sacks per acre have threshed less. Mr. Wente estimates the average wheat yield at eight to ten sacks per acre in the Livermore Valley. Total acreage of grain planted was greater than in any recent year.

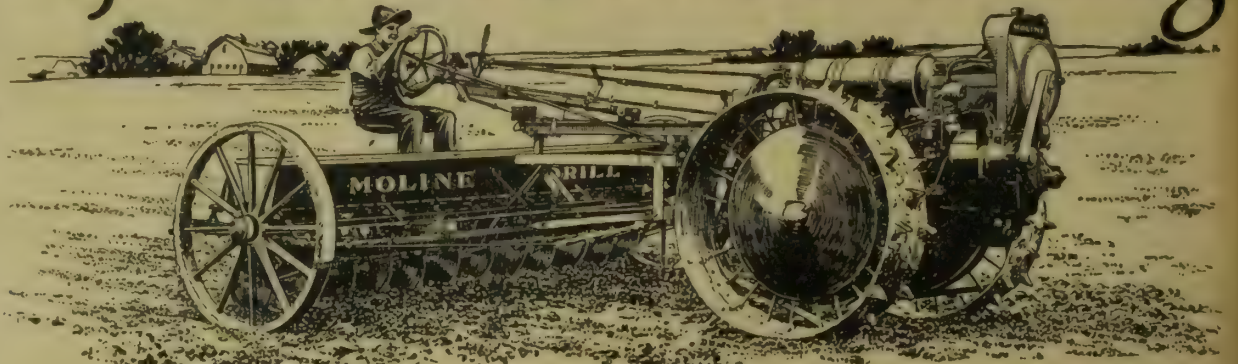
BEANS CLEANED UP.

Bean acreage in Stanislaus county is curtailed this year to about the extent that unsuitable areas were planted last year, but most of the good bean land is being planted again, as reported by Thompson Bros., dealers of Modesto. Beans following grain have a poorer chance this year because irrigation was shut off about three weeks early.

Last year's beans, especially blackeyes, are pretty well out of growers' hands now. The carry-over is likely to be not over 15 or 20 per cent of the crop, teparies only being hard to move. Practically all dealers are trying to contract for the coming crop, farmers having been offered about 5½ cents for blackeyes and seven to eight cents for large whites. Spot blackeyes will sell easily now at four cents. Farmers are generally holding for higher prices. This county is going stronger to Henderson Bush and Red Kidney beans, both of which have previously proved successful in smaller acreages on heavy and sub-irrigated soils.

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Makes You More Money With Less Hard Work

Thousands of Moline Power Farmers in all parts of the country are making more money with less hard work. They are getting more profit and enjoyment from farming, and you can do the same by using the Moline System of Power Farming.

With the Moline-Universal Tractor and Moline Tractor Implements, you can do all farm work, including cultivating, faster, better and cheaper than you ever did before. You can eliminate practically all your horses for field work. And one man operates both tractor and implement from the seat of the implement.

Read what the Moline-Universal Tractor has done for the following Moline Power Farmers:

"Put the farm on a paying basis."

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"It has made farming easier and a pleasure."

Fahy Nisounger, Sidney, Ohio.

"Real satisfaction and enjoyment in farming."

Logan L. Howard, Erick, Okla.

"It has made it possible for one man to do the work of two and sometimes three men. I can plow twice as much as I can with five horses and gang-plow."

Frank S. Wales, Polo, Ill.

"Makes farm life more pleasant."

S. P. Smith, Lovington, Ill.

"Makes farm work more enjoyable. Does away with high feed prices and shortage of labor."

Zimmerman Bros., Earlville, Ill.

"It has placed me above my neighbors, who do not use the Moline-Universal Tractor, for efficient and economical farming."

J. C. Felts, Winfield, Kans.

"Makes farm work much easier. Gives longer time for rest between jobs, and does not take long to do a big amount of work."

J. W. Henry, LeRoy, Kans.

"Solved the farm labor problem. Makes farm work more attractive to our boys."

D. N. Foster & Son, Seymour, Ind.

"The Moline-Universal Tractor is a wonder."

L. J. Wold, Vermillion, S. D.

"It has done everything I have undertaken with satisfactory results."

Wm. O. Misteale, Kendall, Wis.

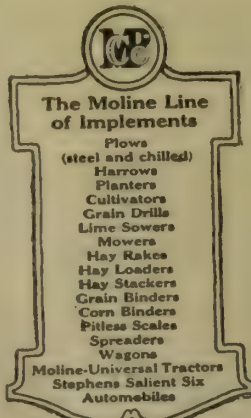
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PLOWING



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HARVESTING CORN



FILLING SILO

PLANT ALFALFA THIS FALL.

(Written for Pacific Rural Press.)

The alfalfa crop in California will fall considerably short of normal, due partly to short acreage, and in part to the early drying of fields in our principal alfalfa sections. Short acreage is due to several causes. Not many seasons ago there was a great sacrifice of cows due to dairymen's troubles. About the same time, field crops were demanded by the Government and by high prices. For these two reasons, alfalfa fields were plowed up and planting was greatly reduced. Fields which were not plowed up are now getting rather old for good production and soon they will be put into field crops.

Butterfat and milk prices, present and prospective, seem to justify the expectation that a great increase in alfalfa tonnage will long continue to find a ready market at prices that will bring high interest on investment with but little labor except in harvesting.

While the California alfalfa seed crop is short and that of the Middle West is still in the making, alfalfa seed prices have gone up less since the war started than have most other seed prices.

Fall Planting.

Fall planting of alfalfa has been generally successful where moisture did not freeze on the surface so as to mechanically crush the young plants. Where the surface has been well drained and the seedlings have made three or four leaves before frost, there has seldom been any frost damage in our great valleys.

One case of failure has been pointed out. A man had an alkali field where he hoped the winter rains would so distribute the alkali downward that fall-planted alfalfa might get a good start and make something from the alkaline soil. It didn't work, partly because such a field is generally rather low and therefore too wet during winter.

Fall-planted alfalfa is likely in the

first season to make twice as much hay as if planted the following spring. With such a chance, and with the opportunity of replanting the following spring if the fall planting should fail, and with the recognized advantage of alfalfa in improving the soil's fertility and workability, it seems like a wise investment to plant alfalfa this fall on suitable land.

DON'T LET YOUR NEIGHBOR GROW SANDBURS.

(Written for Pacific Rural Press.)

Sandburs make good cattle feed or sheep pasture—until same days after the burs have formed, as observed by Fred Foiada. That is no excuse for ignoring them, but suggests a way to get rid of them. Plenty of sheep could prevent formation of the burs.

Mr. Foiada paid not much attention to them for several seasons, but is now hiring a man to cut them out before they seed, not only in the fields but especially along ditch banks. He plowed a neighboring field one time, when a regular sod of sandbur plants had formed, but the burs were not yet maturing. The next year more sandburs grew on this piece than before. The seed live over in soil that is turned under deeply, and a field once infested is not likely to be cleared even after several years of careful fighting. If you find anyone on irrigation ditches above you allowing sandburs any encouragement, show him that he is endangering your future prosperity and the future value of your land, because the seeds will float to you. If he does not take immediate control measures, ask your county horticultural commissioner to see about it. The commissioner has authority against noxious weeds.

Products of the Lodi cannery are to be sent abroad in large quantities. Shipping will begin within a month of much of the output, totaling 500,000 2½-pound tins of apricots. Prices for apricots are ranging from \$75 to \$85 a ton, and an average of 1,320 tins is being obtained from a ton of the fruit.

Silage...

Avoid loss—Chop it fine
and pack it tight.
Make SURE of best results by using

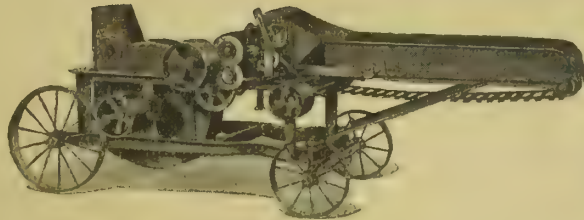
The ACME Cutter

THIS STEEL FRAME CYLINDER CUTTER is the most durable, most convenient Silo filler built.

A careful study of Acme construction (faithfully described in our cutter catalog), and a comparison with other cutters will convince you of its superior practicability.

Its low feed table, large open throat, six-arm blower fan, convenient belting arrangement, positive safety device and unusual light power requirements are features experienced users appreciate in the Acme.

You should know all about them. Send for our catalog, prices and terms.



The Combined
Silo Filler,
Hay Chopper
and Alfalfa
Meal Machine

A wide range of sizes to select from.

DE LAVAL DAIRY SUPPLY CO.

61 Beale St., San Francisco

WATERLOO BOY ORIGINAL KEROSENE TRACTOR

Ample, Steady, Self-Regulating Belt Power

is one of the features of the Waterloo Boy which owners have found of great value. Its 14 x 8 inch pulley is driven direct from motor. Belt speed of 2,700 feet per minute is a good average for threshing, silo filling, corn shelling, feed grinding, hay baling, etc. Can be instantly changed to any speed, and is held there by the "old reliable" fly-ball governor in spite of varying load.

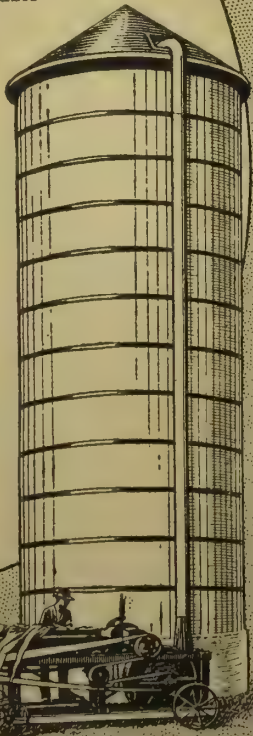
For Plowing, Discing, Harrowing, Seeding, Hay Loading, Hauling, Road Grading

and many other draw-bar purposes the Waterloo Boy Tractor is also showing its power capacity; its endurance, fuel economy, quick response to the will of the operator, its freedom from trouble, its ability to accommodate itself to varying conditions.

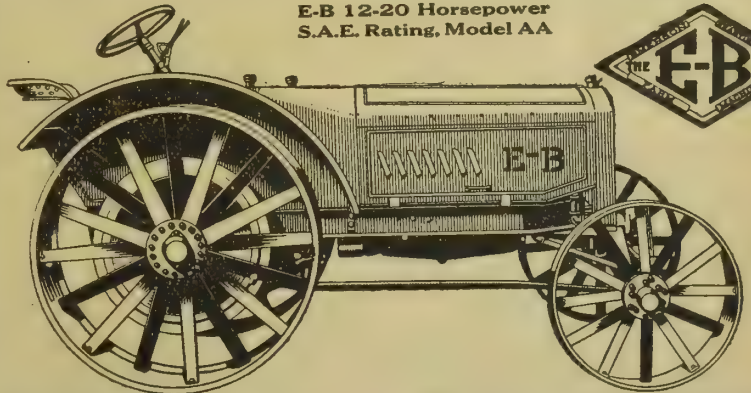
The Waterloo Boy is a two-speed 12-25 tractor; is equipped with Hyatt Roller Bearings throughout; has dust proof, steel-cut gears, easily accessible, automatic lubrication, reliable ignition, our own patented kerosene manifold which gets full power from every drop of fuel; large, wide wheels give powerful traction without packing soil.

We will be pleased to send you our illustrated catalog which gives full description and many interesting views taken on the farms of users. Write for it.

John Deere Plow Co.
6015 BRANNAN STREET
SAN FRANCISCO, CAL.



E-B 12-20 Horsepower
S.A.E. Rating, Model AA



For Cooling, Only One Pint Water Per Day

NO overheating even though you work the E-B 12-20 AA Tractor all day in tough going. That's because it has unusually large water gasket space, a gear-driven fan and a high-grade radiator of ample capacity. When other tractors of the same rating become overheated and stop work, this tractor is always ready to go ahead.

½-Ton Lighter Than The Average 12-20

Weighs 1000 pounds less than ordinary tractors of its rated power. Constructed almost entirely of steel. Furthermore, the E-B exclusive transmission on Hyatt Roller Bearings insures smooth, complete application of power.

Delivers 25 Per Cent Surplus Power

The rating of 12-20 is given to the E-B AA by the Society of Automotive Engineers—the most conservative rating known. As a matter of fact, this tractor possesses 25 per cent surplus power for emergencies—hard spots, hills, etc.

Any one of the family who can run an automobile, can operate an E-B AA. Its auto-type control and remarkable lightness for its power makes handling easy. All gears, including drive, run in oil and are absolutely protected from all dust, dirt and sand. Every part of the motor's driving mechanism is dust-proof enclosed. Ask your E-B dealer for complete facts.

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Purity 99.35% Lowest Germination 90.20%
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"KING OF COVER CROPS"

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Insure a better, thicker cover crop by planting only Germain's high-test Melilotus Indica Seed.

Look for the certificate of quality which is attached to every sack. This is your protection against seeds of inferior grade.

Samples and prices will be forwarded promptly upon request.

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A WADE does 10 mens work
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A money-maker and hard work saver for land clearers and wood-cutting contractors. One man can move it from cut to cut. Simple and reliable. Hundreds in use all over the U. S. When not in use for wood cutting, the 4 H. P. motor will run mills, feed mills, feed cutters, pumps, etc.

"My Wade Saw is cutting wood for less than 3 cents a cord."—F. J. Williams, Burns, Ore.

"I have saved through five feet solid oak logs at the rate of one foot a minute."—N. P. Myers, Loom, Calif.

America must burn more wood for fuel. One Wade will do 10 men's work at one-tenth the cost. Write for free Book, "How Dan Ross cuts 40 cords a day," full details and special price.



349 Hawthorne Ave., Portland, Ore.

Our State Leads in Cantaloupe Production

(Written for Pacific Rural Press.)

California has a large cantaloupe crop of good quality likely to far exceed the early estimate, which indicated a production of about 7,000 carloads, compared to an estimate of 7,000 to 8,000 carloads in each of the three preceding seasons. The Arizona forecast is double that for 1918 and about one-third of the figures estimated for California. Toward the middle of July, Arizona shipments were exceeding those from California which was approaching gradually the end of shipments from the southern part of the state.

Colorado in recent seasons has produced a crop estimated from 1,700 to 2,000 cars annually. The Georgia estimate for this year exceeds 1,000 cars, compared with 486 for last year, but this state approached 3,000 cars estimated production in 1917, and exceeded 2,000 cars in 1916. South Carolina should produce nearly half as many as Georgia this season with estimates of 425 this year, as compared with 159 for last year. Present estimates are about the average of production in 1917 and 1916 for this state. Most other Eastern and Middlewestern sections have declined in production in recent seasons.

Shipments up to July 7, 1919, from all sections were 8,640 cars, of which the Imperial Valley, California, had shipped 4,390 cars. Last year the corresponding date, that section had shipped 4,310 cars out of total shipments of 4,974 cars. The heaviest Middlewestern shipping section is Indiana, which moved 443 cars last year, compared with 664 in 1917 and 794 in 1916. Shipments in 1915 were 638 cars and in 1914 were 1,243 cars. Maryland has shown a decreasing tendency of shipments; the total in 1918 was 490 cars, compared with 855 in 1917, 1,087 in 1916, and 1,011 in 1915. Total shipments from all states in 1918 were 13,297 cars, compared with 17,429 in 1917, with 18,074 in 1916, with 12,637 in 1915, and 16,365 in 1914.

Prices and Markets.

Prices have tended strongly upward in recent years. Values this season, notwithstanding the very heavy crop in California, have been sustained at a fairly high level, although at the end of June the range in consuming markets had declined from opening jobbing prices of \$6.50-12.00 to a general jobbing range of \$2.75-4.00 for standard crates 45's. These are for Imperial Valley Green Meat cantaloupes. Arizona stock in early July ranged somewhat lower than that of Southern California.

The 1918 opening range in consuming markets for California stock was \$9.00-\$10.00 per crate, but the range fell as low as \$1.50-3.00 early in September. In 1917 prices opened at the extremely wide range of \$5.00-15.00 the middle of June, but declined to \$1.50-3.00 the last of August.

California standard crates 45's, as sold in producing sections, opened this season at \$2.25-3.50 early in June, but declined during the month to \$1.50-1.90, afterwards showing a tendency to recover part of the decline. Much of the crop this season was shipped unsold. The 1918 opening range was \$2.35-3.00, and the low price reached late in August was 70-80c wagonload trackside. In 1917 the early price was \$1.20-\$1.90, and the lowest figures were 60c-\$1.35, wagons, trackside, September 3. Colorado Green Meats standard crates 45's were quoted in the middle of August, 1918, at a range of \$1.75-2.25, wagons, trackside; the range fell to \$1.00-\$1.15 early in September. In 1917 the range in early September was \$1.50-2.00 f. o. b. cash track, but values declined the last of the month to a range of 50c-\$1.00. Indiana cantaloupes, standard crates 45's, followed a fairly steady range in late July and the first half of August, 1918, at \$2.50-3.25, declining the week of August 19 to \$2.15-2.50.

Comparison of Prices.

California Imperial Valley cantaloupes at the opening of the season reached top prices in New York City

at \$7.00-\$12.00 per standard crates 45's, compared with \$6.00-12.00 at Philadelphia, \$7.50-10.00 in Pittsburgh, \$6.00-8.50 in Chicago, and \$7.50-9.50 in Boston. Prices were sustained at a fairly high level in New York throughout June, ranging \$3.00-4.50 during the last two weeks, but declining to \$2.50-\$4.00 early in July. The Philadelphia market followed the New York range quite closely, but averaged lower the first week in July at \$2.75-3.00. Pittsburgh started lower than either New York or Philadelphia, but averaged about the same in middle and late June and ranged \$3.00-4.25 in early July. Chicago started lower than eastern markets and averaged lower in June at \$2.50-5.75, but in early July averaged about the same as eastern markets at \$3.00-4.50. Boston averaged somewhat below New York and Philadelphia early in the season, but was ranging higher than either in early July at \$3.75-4.50. Cincinnati ranged about the same as Boston throughout the season.

In 1918 the opening range for Imperial Valley cantaloupes was about the same in all cities quoted, but reached highest in Boston at \$7.00-\$10.00, compared with \$6.00-9.00 in five other leading cities. The range in Boston continued high for the first three weeks, but declined in July to \$2.75-3.50, recovering late in the month to \$4.25-4.50, compared with a range at that time in other cities of \$3.50-4.00.

In 1917 highest opening prices were in New York at \$5.50-15.00, compared with \$12.00 in Philadelphia, \$9.00 in Boston, \$5.00-10.00 in Chicago. During the height of the season there was comparatively little difference in the prices in the various cities, but Chicago and Cincinnati averaged slightly higher than most eastern markets except Boston. At the close of the season in early September, Chicago was the lowest market at \$1.75-3.00; Boston the highest at \$2.50-4.50, and other markets ranged \$2.00-3.25.

Production of Cantaloupes in United States.

States	Carloads		
	1918	1917	1916
Alabama	180	180	117
Arizona	1227	144	112
Arkansas	1408	2267	1094
California	7497	8805	8148
Colorado	1749	1826	1908
Delaware	898	960	1475
Florida	92	432	437
Georgia	486	2823	2085
Illinois	304	634	552
Indiana	964	1263	1704
Iowa	101	.....	.....
Maryland	646	1414	1593
Nevada	109	254	271
New Mexico	270	296	271
North Carolina	581	1687	1720
South Carolina	159	427	406
Tennessee	69	15	158

Total 16560 22506 22751

The figures above are gleaned by the U. S. Bureau of Markets and furnished to the Rural Press by the San Francisco office.

STANISLAUS BARLEY.

Though a hot spell hit the Modesto Irrigation District barley while it was in the milk and cut both yield and weight, it is still averaging good enough to ship. A dealer recently made a composite sample out of 150 samples of as many lots grown in the District and this average sample showed a weight of 46 pounds per bushel, some light stuff, such as beards having been lost in the resampling. However, it is reported that the dry-land barley outside of the district is even better than this, and is marketing more shipping barley than in any recent year previously. West side barley averages about normal.

Preparations are said to be under way by the transportation companies to deal with the grape crops. Labor and transportation are the only clouds in an otherwise clear sky.



TIRE CONSERVATION COURSE

LESSON 4

Series of Six

How to Care for Fabric Breaks



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A GOODYEAR Tire that looked perfectly sound on the outside blew out one day. The owner, Mr. J. G. Jenkins, of 2106 Maryland Avenue, Louisville, took it to a Goodyear Service Station. Examination revealed a fabric bruise on the inside of the tire—probably caused by bumping into a sharp curb. The bruise had been neglected so long that it had developed into a serious fracture whose edges caught and pinched through the tube, causing the blow-out. The Goodyear Service Station Dealer advised the use of a Goodyear Rim-Cut Patch. With it Mr. Jenkins got 2,000 more miles from the tire.

◇ ◇ ◇

NOT even the thick muscular Goodyear All-Weather Tread can protect the inner plies of fabric tires when cars are backed sharply against square curbs or strike objects at high speed.

In such cases the innermost layers of fabric are sometimes stretched beyond their elastic limit and some of the threads have to break.

The tire is weakened at this point, the fracture enlarges, and eventually the tube is pinched by the jaws of the resulting fabric break and a blow-out follows.

Generally such tires can be satisfactorily repaired.

Goodyear Service Station Dealers and many car-owners use the Goodyear Rim-Cut Patch to temporarily repair such bruises until it is possible to have them permanently vulcanized.

If the tire is too old to be worth vulcanizing, the Goodyear Rim-Cut Patch, securely cemented in, makes

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This most effective inside boot is so constructed that it will repair any possible injury—a cut through the top—a blow-out in the side, or even a rim-cut.

It gained its name many years ago, before Goodyear improvements had produced tires constructed to eliminate rim-cutting.

For Cord Tires the Goodyear Cord Patch is used in the same manner as the rim-cut patch.

Lesson 4 of the Goodyear Conservation Course tells you how to detect and repair stone bruises—ask your Goodyear Service Station for it, or write to Akron.

The Goodyear Tire & Rubber Company, Akron, Ohio

GOODYEAR
AKRON
TIRE SAVERS

Suggestive Agricultural Items

(Written for Pacific Rural Press.)

Warehouse Fumigators Needed.

"Fumigated—Guaranteed Free from Insects" is the slogan urged by the State Department of Agriculture for the beans, rice, peas, and grains to be shipped from warehouses after storage this season. Director G. H. Hecke urges use of cement storage, ventilated by wire-screened windows to exclude rats and provided with a fumigation chamber of a carload capacity to permit fumigation with carbon bisulphide for insect prevention.

Bean Imports from Asia.

Imports of Oriental beans by sea into San Francisco for the past year have been as stated below in hundredweights:

1918	1919
Aug. 4,930	Jan. 53,898
Sept. 2,640	Feb. 28,706
Oct. 6,070	Mar. 7,471
Nov. 6,810	Apr. 91,794
Dec. 6,121	May 38,570
	June 12,796
	July (26) .. 12,796

The total this season since January 1 has been 23,323,500 pounds. The 1918 crop of California was about 515,040,000 pounds.

Barley Sales for December Delivery.

A thousand tons of barley for December delivery were sold in nine lots in the San Francisco Merchants Exchange on the morning of July 28, the first lot bringing \$3.37½ per cental and the last lot bringing \$3.40. A hundred-ton lot of barley for May delivery was sold at \$3.46½, indicating that the buyers expect to make a profit on that price between now and next harvest.

December Milo Less Than Spot.

Fifteen hundred tons of milo changed hands on the Los Angeles Exchange in the morning of July 28 at \$3.33¾ for spot milo and \$3.07½ for December delivery. Apparently the new crop is expected to bear down the price when it comes in.

To Reduce Horsebean Weevils.

Fumigation of horsebeans produced in San Mateo County began at six separate stations late in July. Weevily beans bring only half the price commanded by those which are infested only 15 per cent or less. It is hoped that fumigation and burning of the straw will in two seasons reduce weevil infestation so the beans may pass the pure food regulations.

Biggest Sugar Beet Crop Ever.

The total beet and cane sugar crops of the United States during the past six years has been a trifle over a million tons every year except the season of 1914-15. The July forecast

of the U. S. Bureau of Crop Estimates is about 1,108,000 tons. The beet sugar crop is exceeding the record crop of 1915-16 by almost 75,000 tons, and is about 169,000 tons above the average for the six years just passed. The beet sugar of U. S. proper is normally about three-fourths of the total, but poor growing conditions in cane districts and increased sugar beet acreage will have made beet sugar tonnage about six-sevenths of the total this year. The sugar beet acreage this year is the largest on record, being about 890,400 acres. This is 83,800 acres larger than the record planting of 1917 and 200,700 acres more than the 1918 sugar beet area. California sugar beet acreage is less than last year and a considerable amount is producing a poor crop.

Cantaloupe Mosaic Disease.

Cantaloupe growers in Stanislaus County have suffered severe losses this season from a blight which has not been serious before. The trouble, which is different from the well known watermelon blight, has been determined by Professors W. T. Horne and C. W. Woodworth to be the mosaic disease, which has heretofore been most common on tobacco.

Deceptively-Packed Tomatoes Condemned.

The new and expanded fruit and vegetable standardization law went into effect July 27. Deceptive packing must cease. While the old law was still in force, Sacramento County Horticultural Commissioner F. C. Brosius condemned 73 boxes of Merced tomatoes because their top layers were notably better than those underneath. A number of wholesale dealers have had to repack boxes of tomatoes packed deceptively.

BELDI WHEAT YIELDED AND WEIGHED HEAVILY.

(Written for Pacific Rural Press.)

One of the prettiest fields of barley in Stanislaus county last season was a quarter section of the Beldi variety grown on summer fallow by Henry Garrison. While it threshed so easily that it seemed to be "hunting the sack," there was practically no shattering in the wind. It grew tall on big strong straws and as the heads filled, they bent over, presenting only a smooth, even, strawy surface that did not catch the wind nor shake the heads greatly. Figuring out the area taken from the 160 acres by roads on two sides and by two or three rounds made into hay, this barley averaged 3,760 pounds per acre of grain weighing 49 pounds per bushel and of splendid color. There were 4,800 sacks averaging 118 pounds per sack. Mr. Garrison expects to sow twice as much next fall.

Early Seeding—High Yield.

"I lay my good crop largely to the time I sowed it," says Mr. Garrison. "Nine times out of ten the early-sown grain is best. This field was old grain land, a small part of which had grown a crop or two of beans; I summer fallowed it, but last September's rains, followed by warm weather, gave vegetation a great start before seeding time. To get something out of this, I pastured it down with sheep, beginning about the first of October. This may have helped the yield; for a field planted across the road the same time as mine did not go so heavy. I would have begun seeding about November 1, regardless of whether rain had come or not, but the land was in good shape, so we finished seeding in October. Light seeding is best. Last year I drilled 60 pounds per acre. This year, seeding from the plow, I used 65 pounds."

Tractor Plowed and Harrowed.

"Early in October I began plowing the fallow about six inches deep with a 45-horsepower tractor pulling 100 inches width of plows and 100 inches of harrows behind them. I intended to seed from the plows, but didn't

get the seeders on until about 50 acres had been turned over. The other hundred acres was seeded from the plow about three inches deep. This proved slightly better grain than the first 50 acres, which had lain idle a while before drills were put on, giving weeds a start.

The chief objection to drilling, which could easily be prevented, is that if a rain comes after plowing and before seeding, it takes some time to dry out enough for a drill to work, and weeds get a start that the drill does not counteract. Prompt drilling after plowing would generally give the best stand in the best condition."

HUMBOLDT CO. ANNUAL PICNIC.

"Humboldt County is the place for California dairymen to go to school," says Sam H. Greene, manager of the California Dairy Council, who has just returned from that county where he attended the annual farmers' picnic and was among the speakers on the program.

At the picnic the dairymen decided upon three lines of action for the coming year: To start a campaign for new members; to get every herd in the county into a cow-testing association, and to take a bull census and drive every scrub bull out of the county.

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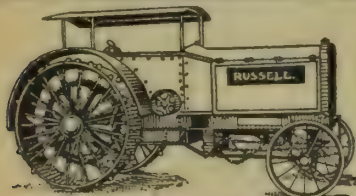
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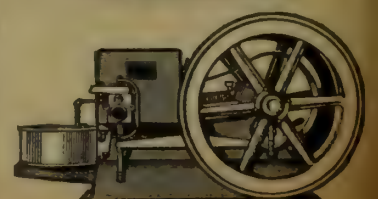
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Agricultural News Notes

(Written for Pacific Rural Press.)

Onion and beet seed in Yolo County are being harvested.

Tulare County claims production of 75 per cent of the total state crop of gyp corn.

George Baker of Vina, Tehama County, estimates that his dent corn will go 80 bushels per acre.

The 53rd annual session of the National Grange will be held at Grand Rapids, Mich., beginning November 12, 1919.

The Spreckels Sugar Co. has decided that Stanislaus County is not a favorable field for sugar-beet production.

Ranchers in Fresno County are receiving \$3.10 to \$3.15 per sack for barley which is being shipped to Europe.

Hay is scarce and going up in Stanislaus County. There will be considerable more alfalfa here next year than last.

Fall planting of potatoes in San Fernando Valley of Los Angeles County is about completed. A large acreage seems assured.

The visible supply of wheat in the United States and Canada was 19,356,000 bushels July 23, 1919, as against 11,648,000 a year ago.

The California Vegetable Union is reported to have closed a deal looking to the establishment of a vegetable dryer in Ripon to occupy 1 1/4 acres.

It is reported that the rather extensive tobacco planting near Palo

Alto in Santa Clara County for the past two years has been abandoned for the future.

Grasshoppers are destroying alfalfa in western Stanislaus County. The green fields are attractive and the campaign of poisoning was not begun soon enough.

Copies of this year's program of the Farmers' Short Courses at University Farm are available by writing to University Farm at Davis or the College of Agriculture at Berkeley.

The First Interstate Vegetable Growers' Conference, held at Riverside May 26, is reported fully in the June "Monthly Bulletin," just issued by the State Department of Agriculture.

The Sierra & San Francisco Power Co. has applied to the California Railroad Commission for permission to sell the La Grange Water Rights to the Waterford Irrigation District in Stanislaus County for \$170,000.

The rice planted last spring by the Lincoln Rice Growers Co. in Placer County seems doomed to failure because the P. G. & E., on whose surplus water the growers depended, has not had the surplus to furnish and water is getting scarcer all the time.

Fourteen and a half sacks of Blue-stem wheat per acre was Henry Garrison's yield from dry land in Stanislaus County. He seeded November 1 to 25, as he has observed that early seeding generally increases the crop. He harrowed some of it after it came up.

Prevailing potato prices are only temporary in the estimation of Mr. Hansen, manager for Geo. Shima of San Joaquin county. He expects prices to rise after the southern early varieties are off so that shipments thither will be demanded from Stockton or other points.

Frank Lyons, who is growing some onion seed in the Delta of San Joaquin county, says that while it did rather poorly because of cold wet weather early in the season, it will make a better crop than last year.

Cotton acreage in the San Joaquin Valley is reported by Robert Hulme of the California Products Co. as 985 acres short staple and 215 acres long staple in the Bakersfield district, 1400 acres short staple in the Corcoran district, 4,056 acres short staple and 70 acres long staple in the Fresno district.

Early Baart wheat made a crop in several cases where barley planted under the same conditions failed, as observed by Mr. McGinnis of the Los Banos department of Miller & Lux. He says large acreages of the Baart will be sown in that district next year because of the specially good yield this season.

"MORE AND BETTER WHEAT."

Reestablishment of a great deal of California's former prestige in wheat growing largely through a campaign carried on for that purpose by Geo. R. McLeod of the Sperry Flour Co., and during which several more-valuable new varieties have gained distribution, was recognized July 24 by the Farm Owners' and Operators' Association in a resolution expressing the gratitude of California farmers to Mr. McLeod and to E. J. Luke, under whose directions Mr. McLeod has worked.

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Take a small strip of Test Special Belt, say one inch wide; separate the plies with a knife and then endeavor to pull the plies apart. Note how strong and elastic the Rubber Friction. This is a good "test" to determine the worth of a belt.

The plies of Test Special Belts are guaranteed to stay together. We back this guarantee with 73 years of successful and honest dealing with belt users throughout the United States.

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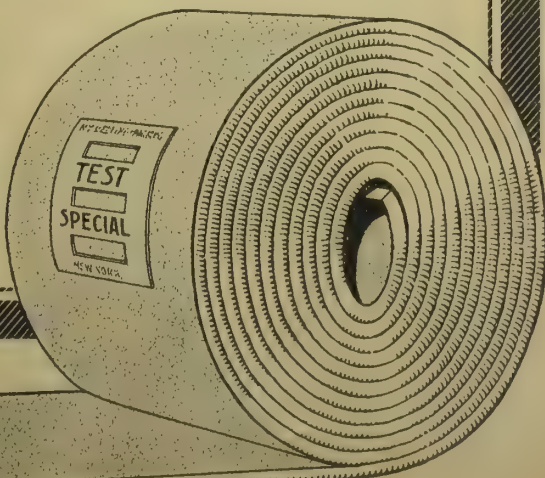
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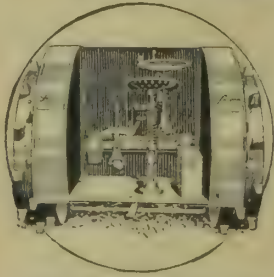
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Perpendicular
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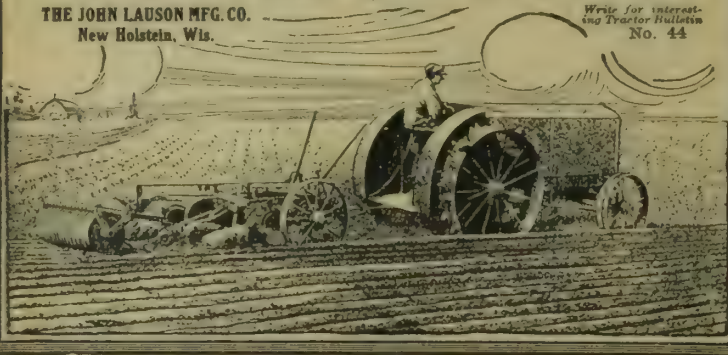
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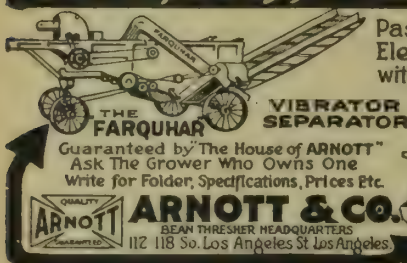
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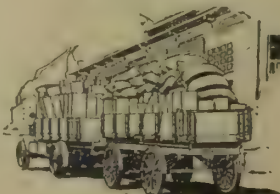
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Tractors Work Fast on Reclaimed Island

(Written for Pacific Rural Press.)

Bouldin Island in the Delta of San Joaquin county was in 1906 one of the most fertile 6000-acre garden patches in the country. Celery, asparagus, truck crops, strawberries and dairying thrived on its sediment peat soil which had been deposited and built up by centuries of silt-laden floods. Men had waved the magic wands of dredger-booms and the waters had been held off. But in 1907 came a flood that would brook no control.

Since then this garden spot has been under water. But by last May 31, enough had been pumped over the levees so that three or four thousand acres saw the sun once more. Forty-inch pumps continued to throw out the millions of gallons that were left.

Geo. Shima had leased the island. May 31 was getting rather late to begin preparing for crops. Mr. Shima had 400 head of work stock available, but that was not enough; and anyhow there were many low places where horses could scarce pull themselves through the mud without attempting to pull a plow. Here is where tractors, a flock of fifteen of them, varying in size from 75 horsepower engines down to some of the smallest tractors made, came to the rescue. Tractors weighing several tons plowed those soft spots far better than horses could. Being sediment soil with some sand mixed in, the wet-plowed spots did not bake badly and a total of 3,500 acres of beans had been planted by July 10.

Fine for Seed Potatoes.

Shima's "Red Bank" Burbank potatoes are famous for their quality and command a premium on the markets for two reasons. They are graded and all except those of Red Bank quality are put into plain sacks. But

as many Delta potato growers have learned through losses, the production of quality potatoes begins back of the grading. On the Shima projects it begins in the acreages specially selected this year to grow seed for next year's planting. Such seed acreages must be on soil free from potato diseases and insects. So it was highly desirable that Bouldin Island, where the water had starved whatever diseases may have existed there, should be used for seed potatoes to be planted on Mr. Shima's other island fields. Had it not been for the tractors, it is doubtful if they could have been planted in time. About 800 acres are being planted to potatoes for seed at the present writing.

An idea of the rush nature of the work can be gained by noting the fact that although there were about 200 men on the job, according to Mr. Ito, there was no time to build camps for the men, but they were housed and fed in boats. There was no time to dig a seepage ditch around the island inside the levees. Such a ditch catches the water that continually seeps through the levees and prevents waterlogging of the planted areas. It is convenient to pump out of these ditches over the levees. They are being dug now that the crop is mostly planted.

Tractors of at least five different makes were used, some of them being owned and some hired for the job. Seventy-five horsepower tractors cost \$4.50 to \$5 per hour and were able to pull 126 inches width of plows where the land had partially dried off before plowing. The 45-horsepower tractors with extensions on their tracks pulled four fourteens on land where horses or mules mired their four feet one or two feet deep.

OLD TRACTOR PERFORMS FOR CROWDS.

The first tractor of a certain make was built over ten years ago. It has plowed 1,750 acres of wild prairie sod and 5,600 acres of stubble. It has operated a 40x62 stationary thresher 321 days threshing 750,000 bushels of grain. It has done many odd jobs including a lot of road work. After so much of prosaic toil, it was fitting that this tractor should be shipped to the Wichita national demonstration held recently, where it was permitted to show off to the crowds that marvelled at its ability after so long and useful a life. Tractors will serve long and faithfully if not abused.

TRACTOR PUMPS FOR ORCHARD.

A 6-10 h.p. tractor and four mules furnish the power with which Howard Huls of Stanislaus county works about 39 acres, mostly of orchard and bean land, besides some outside work. This tractor is one of the first ones put out by an old established California concern, yet it is giving fine satisfaction this summer, all improvements having been added to the old machine as they became available.

But plowing, harrowing, and disking do not end the season's work for this tractor. A centrifugal pump is set in the irrigation ditch to water a high part of the orchard and the tractor runs the pump. At this season of the year when no gravity irrigation is possible, but when the trees are morally certain to need water in order to prepare for a crop next year, the pump can be set in a tule pond on the place and again the tractor will have an important part in making better crops next year.

POWER NOTES.

The farmer who hires a man to roll baled hay onto the wagon might well profit by the experience of the one we recently saw loading onto a motor truck faster by means of a light derrick.

A motor truck was recently seen moving a house so big that two men had to ride on the roof to transfer wires and cut limbs of trees along a Santa Clara county highway. The house had been placed on big rollers and the truck was pulling it steadily along the highway.

The Emerson-Brantingham tractor agency for territory north of Fresno is now in the hands of Goodrich, Ballard & Rouse of Sacramento. Brock & Skidmore retain the agency south of Fresno. The G. B. & R. Co. will have 2,000 square feet of exhibit space in the tractor tent at the State Fair.

Up in Butte county a farmer had used his two-cylinder tractor all morning; but in the afternoon he found that while it would run around the field nicely alone, it would give up the ghost whenever the plows were dropped into the ground. A spark plug porcelain had cracked.

The automobile engine persisted in unaccountably overheating and boiling away the water too fast. Finally it was discovered that joints in the spark control had become worn and loose so the spark lever could be advanced several notches before it would affect the timer. The engine overheated because of the slow spark.

Small Tractor Hauls Nine Tons of Grain per Load.

Two men and a tractor totaled one man more than enough to haul 17,600 pounds of barley per load 5½ miles over country roads to the warehouse from the ranch in Solano county. W. H. McElwain and his tractor driver were the two men, the former making the trip simply to help unload at the warehouse and to watch the loads. The tractor train which hauled this grain consisted of a 12-20 tractor and three wagons. It traveled at the rate of 2¼ miles per hour and made two trips per day. The total load including wagons was figured to be over ten tons.

Has the Farmer any Opinions of his Own

AFTER listening to the arguments with which some tractor salesmen try to convince him, you might suppose that the farmer never did any thinking for himself.

You will hear them telling him how many wheels his tractor ought to have, or what it ought to look like, or some other inconsequential detail—appealing to his eye instead of his intelligence.

Now, the farmer is a practical man.

He is looking for facts—not theories or impressions.

He is looking for a tractor that will do his work, and do it economically, and last a long time.

And the more critical he is, the more determined to get at the facts, the quicker he comes to the G O Tractor.

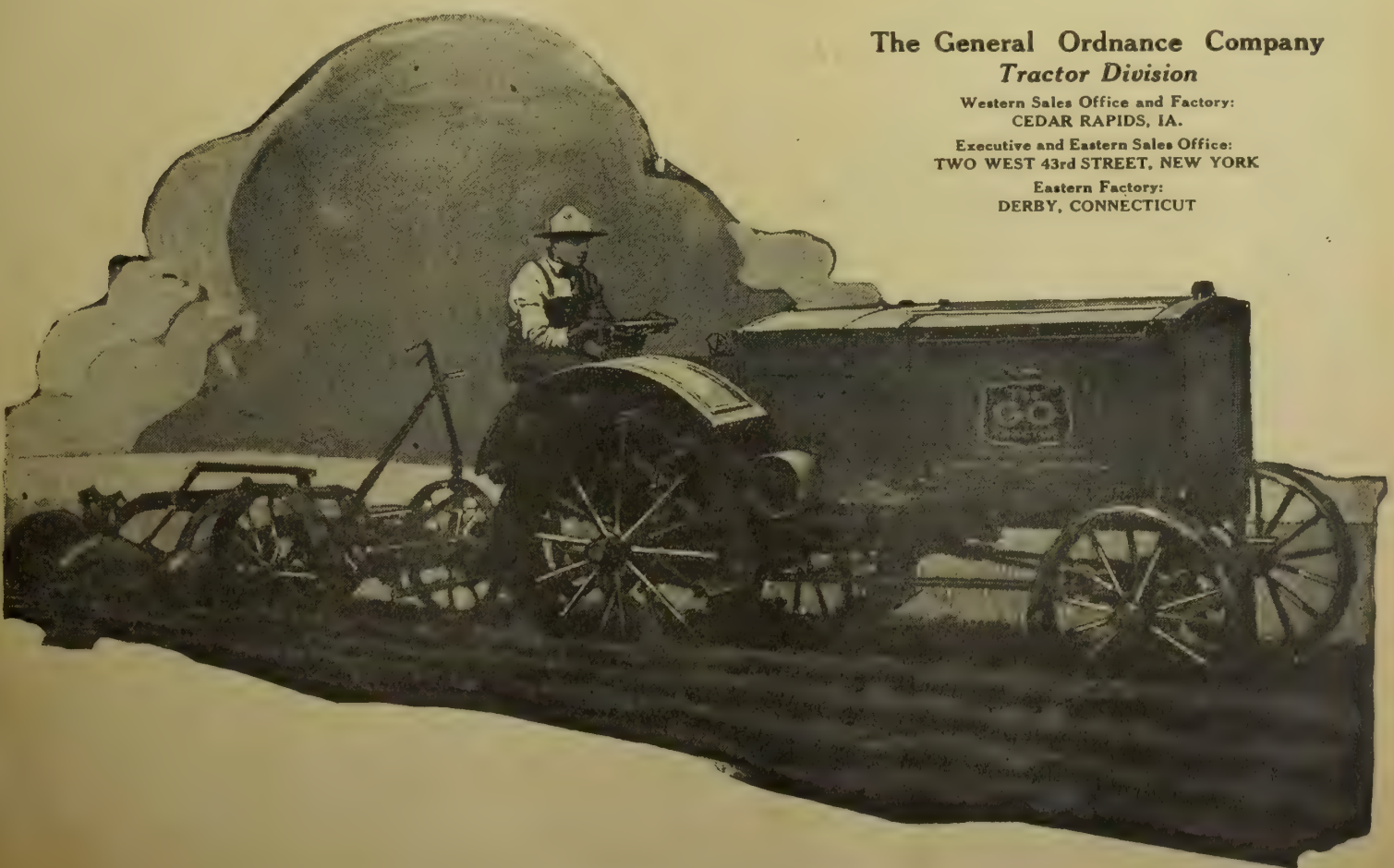
For eight years the G O Tractor has been the standard among practical farmers all over the country. Because of its advanced driving mechanism, it is the easiest tractor on the market to control and the most economical to

operate. It has six speeds forward and six reverse—a right plowing speed in any sort of soil; a right speed at the belt for any kind of machine. It is the most powerful tractor in America for its weight.

Years are added to its life by the dust-proof casings on its gears. It was the first tractor to enclose its gears in an oil bath. It has no gears or chains on the traction wheel to be cut by sand and gravel.

The G O Tractor is the four-wheel, four-cylinder type—the simplest and most practical type of all. Every part of the motor and driving mechanism is instantly accessible. Adjustments can be made by anyone right on the ground, without the aid of special tools.

The farmer with a practical mind, who is looking for indisputable facts, and good sound horse-sense—not “talking points”—we shall be glad to send some further information about the most advanced tractor in America and about the company behind it—its guarantee and the service that goes with it.



The General Ordnance Company Tractor Division

Western Sales Office and Factory:
CEDAR RAPIDS, IA.

Executive and Eastern Sales Office:
TWO WEST 43rd STREET, NEW YORK

Eastern Factory:
DERBY, CONNECTICUT

More Water Means More Milk

(Written for Pacific Rural Press.)

"Water the cow and you'll water the milk," is the slogan of a progressive dairyman. This is no variation of the old joke about the milkman watering milk. It is a serious appeal to reason, backed by hard, cold facts, for comparisons show that cows properly watered give at least 4 pounds of milk more per day than those that do not have a plentiful supply—often considerably more than this.

The water supply is a matter of just as much importance as the feed supply. Milk analyzes about 87 per cent water; consequently a lack of water has its effect on the amount of milk that can be produced. Experience has shown that where water is constantly before the hard-working cow she drinks a good many times during the day, and takes small quantities at a time. Even when consuming succulent feed she takes a few mouthfuls of water. Evidently Nature tells her that this is the best way for digesting food and producing milk.

Contrast this condition with the lot of a cow that is given access to water only once or twice during the day, and perhaps has to fight her way up to

the trough. Often the timid animals in a large herd get less than they really should have, while no cow, it has been demonstrated, will take as much in this way as though a clean, pure supply were constantly before her.

In experiments it was found that cows producing 25 pounds of milk a day required 75 pounds or more of water, and there were instances where cows consumed more than three times this amount. One cow giving over 100 pounds of milk was found to drink 250 pounds of water, but she had access to it at all times or she would not have been able to make such a high record.

Some farmers force their cows to drink water from dirty, slimy troughs, or from stagnant pools—water they wouldn't wash their hands in. Sickness does not always follow, although it generally does. The cows may be strong and healthy enough to fight off the attack and survive. But even in such cases, strength and vitality needed for the normal life of the animals are used to combat the bacterial assault, and, though death and sickness may be avoided, weakened vitality is inevitable.

Cows, just like humans, demand palatable water. Clean, pure, cool water, supplied at all times, encourages them to drink more freely. And the result is an increased flow of milk, and a better condition of health. Try it and see.

THE POPULARITY OF GUERNSEYS.

That Guernseys stand high in the estimation of American breeders is proved by the fact that there were more Guernseys imported into this country last year than animals of any other dairy breed. This breed combines beauty with usefulness, and has won over all other breeds in the net profit from butterfat production and the greatest returns for every dollar invested in feed.

Here on the coast the Guernsey is very popular, but it has been almost impossible to secure high-class females for foundation stock. The Palo Alto Stock Farm, for instance, has one of the finest herds in America, but until now you couldn't induce Mr. Tichenor to set a price on one of the good cows. However, this establishment has grown to such extent that it is no longer possible to give the herd proper attention, and it has been decided to disperse the entire herd at private sale. We are sorry that it is necessary to break up this noted herd, and we hope that all of the animals will find new homes within the State. California cannot afford to let such cattle go outside of her boundaries.

THE DAIRY FARM MOVIE.

Picture 1—The hero, a bold but rash hired man, is prone on the ground and a so-called "gentle" bull is about to butt him into the middle of next week. Exercised neighbors are running to the H. M.'s aid, armed with pitchforks, brooms, etc.

Picture 2—The gentle bull is retiring into the distance with a baffled look on his expressive countenance. Others have translated that look as meaning "better luck next time." The brave hired man is toted homeward in a wheelbarrow, while sympathizing friends whisper, "Oh, dear!"

Picture 3—The injured hired man is on his bed in the act of deciding whether he will live or die. Around him are nurse, doctor, breeder and family. (Soft music.)

Picture 4—The H. M. decides to recover; orders the Boss to his bedside and tells him he'll quit his job if he doesn't order a bull staff by return parcel post.

Picture 5—The Boss has received the nice new bull-staff and is practicing on the gentle bull with it. He likes it so well that he says he won't let hired men run any more risks, as it is better to pay \$5 for a bull-staff than \$200 for a H. M.'s sick bill.

Moral—A dairyman who has to keep hired help can't afford to run gentle bull chances.

Sheep require but little care if given abundant range in summer, sufficient exercise and dry quarters in winter, and pure water and good feed at all times.

Texas fever has again made its appearance in the San Joaquin Valley, and sections of Kings and Tulare counties have been quarantined. Cattle cannot be moved from these sections without first being inspected and certified by Dr. George Gordon,

Hanford, unless they are for immediate slaughter, and even then certain rules must be observed. Those suspecting the disease in their herds or intending to ship for other purposes than slaughtering should consult Dr. Gordon, and secure valuable advice.

An ORMSBY Bull PERFECT

In Breeding and in Individuality

Sired by the Grand Champion
and from a 24.39 lbs. Dam.
Born May 2, 1918.

Ormsby means: "Quality and Production"

KOUNIAS REG. STOCK FARMS,
Modesto, Cal.



King Korndyke Hoogerveld
Ormsby 7th,
Grand Champion.

Dairymen and Stockmen

NOTICE— Call at once to see
AGGELER & MUSSER SEED CO.

DEMONSTRATION PLOT

In the 1500 block on West 16th street, Los Angeles California.

HAVE SOME NICE YOUNG BULLS

Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.

GUERNSEY DISPERSAL SALE

Greatest opportunity ever offered Coast breeders to secure foundation stock of this wonderful breed, noted for the most economical production of milk and butterfat, as well as the best flavored and highest natural colored products.

Heretofore most of the animals in our herd have been held above price, but now, because of the rapid increase of our business along other lines, we are compelled to disperse this entire Guernsey herd, which we believe cannot be surpassed anywhere in uniformity of type, health, breeding and production.

100 Head at Private Treaty

Everything goes; not an animal reserved. There are 83 females of great production and promise; 17 males that are real herd headers. Twenty-one of the cows have Advanced Registry—official yearly records of from 500 to 800 pounds butterfat, and several more are now on test.

If you want show quality as well as heavy production, you will find them here. The herd includes the grand champion cow and the junior champion bull at the last San Francisco Show, and many young animals fit to win in the hottest competition.



FEMALES OF GREAT PROMISE

While a good share of the mature females have been given records, they have not been forced, and there is not a cow in the herd that has shown her limit of production. Also many of the untested cows give promise of making even better records than the ones already tested.

BULLS FOR BREEDING UP

Guernsey bulls quickly build up grade herds. They are so prepotent that they stamp the breed characteristics upon their offspring to a marked degree, and soon you have profitable producers of quality products. We offer some royally bred young bulls that will quickly double the profits from your herd.

Your Opportunity—Act Quickly

The sales list is completed and we are ready to sell. Breeders know how difficult it has been to secure good Guernsey stock, and will jump at this chance. Don't put the matter off. If you want foundation stock for a registered herd, new blood for an established herd, exhibition stock for the fall shows, or a bull to breed up a grade herd, come at once and make your selection. If you can't call, write your wants fully. But don't delay.

Palo Alto Stock Farm

Directors:

HERBERT FLEISHACKER, M. H. TICHENOR,
VICTOR KLINKER, C. F. HUNT,
J. C. MCKINSTRY

M. H. TICHENOR, Pres.
PALO ALTO, CALIF.

Duthie-Bred Shorthorns for California

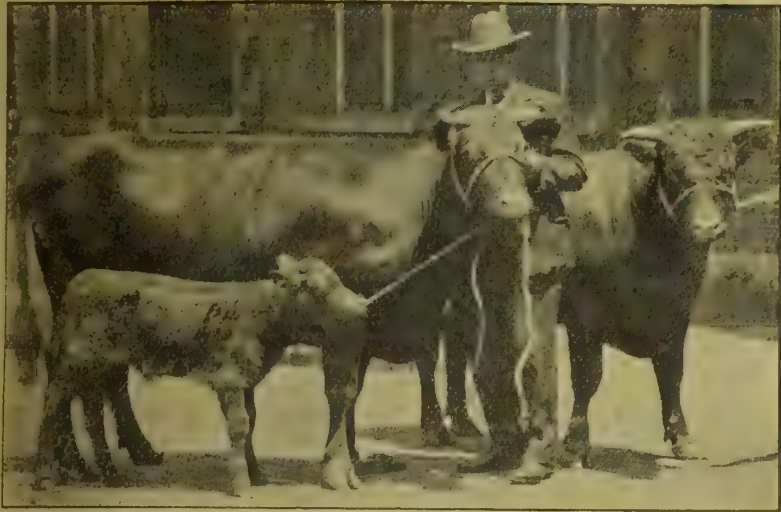
(Written for Pacific Rural Press.)

We are pleased to present a picture of the Shorthorns purchased at the recent Carpenter & Ross sale by the Thos. B. Dibblee Estate of Santa Barbara and T. S. Glide of Davis, as related in our issue of July 19.

The cow and calf go to the San Julian ranch, owned by the Dibblee Estate. The cow, Imp. Bright Bessie

by Mr. Glide for his Hillcrest Stock Farm. He was sired by the Duthie bull, Lord of the Ring. He is a smooth, snappy red; a bull of great size, type and finish, and surely will make a name for himself at the head of Mr. Glide's noted herd.

The animals have already arrived and are doing well in their new



of Collynie, is a 5-year-old by Knight of Collynie—a straight Marr Bessie. There are only about eight Duthie-bred cows in America, and it is believed that this is the only one ever brought west of the Rockies. Her calf is by the great Carpenter & Ross bull Maxwalton Minstrel.

The yearling bull, Imp. Scottish Lord, is her son, and was purchased

homes. California is proud to have such fine stock within her borders. It means much to the entire beef cattle industry of the State.

SAN FRANCISCO LIVE STOCK SHOW PROGRESS.

President W. T. Sesnon has announced the following committees for the California International Live Stock show, to be held at San Francisco, November 1 to 3, inclusive: Finance—B. F. Schlessinger, chairman; M. H. Esberg, R. B. Hale, C. K. McIntosh. Classification—F. L. Washburn, chairman; T. W. Dibblee, Frank Honeywell, W. M. Newhall. Transportation—A. W. Foster, chairman; F. L. Washburn, R. B. Hale. Buildings and Grounds—M. H. Esberg, chairman; B. F. Schlessinger, R. B. Hale, F. L. Washburn. Publicity and Advertising—Frank Honeywell, chairman; B. F. Schlessinger, M. H. Esberg. Admissions—C. K. McIntosh, chairman; A. W. Foster, W. M. Newhall. Concessions—R. B. Hale, chairman; W. H. Esberg.

Prof. True, the manager, is working to get the classification lists ready for the printer very shortly, and expects the premiums will total about \$35,000. He also is working out plans for putting on a horse show each night of the week of the live stock exhibit.

EVERYBODY GOING TO UNDERHILL SALE.

The Hampshire hog has taken California by storm. Walter Folk, the hustling representative of the Hampshire Association, has been touring the State, and everywhere he finds a keen interest in this breed that is so popular with the packers. Everywhere he finds farmers just ready to make a start with Hampshires.

They will all be on hand at the big Underhill sale at Santa Barbara Wednesday, August 6th, when 65 head of bred sows and gilts, selected from the \$25,000 foundation herd, will be offered. Talk about quality—here they will find it. The right start puts a beginner half-way to success, and the one who selects his foundation stock at this sale will be pretty sure of a prosperous future. Col. Ord L. Leachman will be in the box. Great sale—let's go.

HUMBOLDT DAIRYMEN AGAINST DAYLIGHT SAVING.

At least one group of farmers have seriously protested against the monkeying with the clock at Washington. The Humboldt County Dairymen's Association was unanimously against it, and you can understand why when you stop to consider that Humboldt is noted for its abundance of fog and

Simplicity of the DE LAVAL



During hot summer days, simplicity in cream separator construction avoids waste and makes possible quick and easy handling of milk.

The DE LAVAL Cream Separator is remarkably simple. Thousands of DE LAVALS are run and cleaned by children every day.

This simplicity means long life and freedom from repairs, and is the outcome of over forty years of unquestioned

leadership in cream separator inventing, developing and perfecting.

Every part has been developed to its highest degree of simplicity coupled with efficiency and the DE LAVAL has earned for itself the name of being "the world's standard separator."

More DE LAVALS are in use than of all other makes combined

See the local De Laval agent, or, if you don't know him, write to the nearest De Laval office as below

DE LAVAL DAIRY SUPPLY CO.

THE LARGEST DAIRY SUPPLY HOUSE ON THE PACIFIC COAST.

ALPHA GASOLINE ENGINES
IDEAL GREEN FEED SILOS
ACME FEED CUTTERS

JAMES BARN EQUIPMENT
VIKING ROTARY PUMPS
LAUSON TRACTORS

EVERYTHING FOR THE DAIRY

Catalog of any of these lines mailed upon request

61 BEALE STREET

SAN FRANCISCO

Holsteins for Production

Our herd appears thirty-three (33) times in the list of PRIZE WINNERS of the OFFICIAL RECORDS given by the HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA for the year 1918-19, which is a greater number than any other herd on the Pacific Coast and tenth highest in the United States.

Some of our Leading Winners

Place	Division	Class
1st	30 day butter	Full age
2nd	30 day butter	Sr. four
3rd	30 day butter	Jr. two
5th	7 day butter	Full age
5th	7 day butter	Sr. four
4th	7 day butter	Jr. four
1st	30 day milk	Full age
3rd	30 day milk	Sr. four
4th	30 day milk	Sr. two
2nd	30 day milk	Jr. two
1st	7 day milk	Full age

Number of Cows Competing.

Full age class	2607
Sr. four class	578
Jr. four class	749
Sr. three class	812
Jr. three class	1055
Sr. two class	1040
Jr. two class	1778

We Have for Sale Some Great Young Bulls

from Prize-winning dams and sired by our twice Grand Champion Bull, King Segis Alcartra Prilly, or our Senior Sire, King Segis Alcartra Abbekerk, whose three only daughters to freshen average on official test over 21 lbs. butter in 7 days at an average age of 22 months.

BRIDGFORD COMPANY, Knightsen, Calif.

scarcity of sunshine during the early part of the day.

Can you point out one industry that has economized on fuel and energy that would not have done it by other methods than moving the clock? If you did not hear the protest of the California farmers against the act,

it must have been on account of the noise of the cities for it.—J. W. Cop-pini, Ferndale.

Dogs have their place, but it is not around dairy cattle. It means an actual loss of milk for cows to get excited from fear or anger.



Live Stock Profits

are directly dependent upon the general health of herds and flocks. Not all live stock diseases can be controlled or cured, a fact that justifies owners of livestock taking advantage of every proven method for eliminating possible risks.

PURITY BIOLOGICAL PRODUCTS (not always cheapest but always best) offer the greatest protection against certain diseases.

Purity Blackleg Aggressin—Germ Free Vaccine—produced by the Kansas method. One treatment immunizes for life. Being germ-free its use will not introduce blackleg into healthy herds. Over 1,500,000 calves vaccinated without loss.

Purity Anti-Hog-Cholera Serum is the most extensively used in the world.

Purity Mixed Vaccine for Swine prevents Swine Plague and Necrotic Enteritis.

Purity Hemorrhagic Septicemia Vaccines for cattle and sheep prevent Hemorrhagic Septicemia and reduce losses in infected herds.

We are prepared to offer the highest degree of service—service that counts, and does not end with selling. Correspondence and consultation invited. Write, wire or phone.

PURITY SERUM COMPANY
J. L. Thatcher, Manager
(Successor to Thatcher Serum Co.)
Riverside, Calif. Sacramento, Calif.

HOLMES STOCK FARM

WATERFORD RD., MODESTO, CALIF.
Registered Holstein Friesians.
YOUNG SERVICE BULL FOR SALE
Prince Abbekerk Aralla Walker,
No. 204267—Three-quarters white.
Write for pedigree and price. Inspection
invited and satisfaction guaranteed.

RHOADES & RHOADES

EXPERT LIVESTOCK AUCTIONEERS

Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.

BEN A. RHOADES, Auctioneer

1501-3-5 So. Main St., Los Angeles, Cal.



Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data See actual figures showing you how to increase your calf profits
COULSON CO., Petaluma, Cal.



HOLSTEIN HERD
AVERAGES 18,812
LBS. MILK.
Near Big Bay, Mich.,
is a herd of thirteen
pure bred Holsteins.
Last year the average
yield per cow of this herd was 18,812
lbs. of milk and 638.57 of fat.

Do you realize the money there is in
such cows? It is estimated that the aver-
age animal yield of all cows in this coun-
try is under 4,000 lbs. These thirteen
cows produce as much milk as sixty-two
cows of the 4,000-lbs. class. It would re-
quire twenty-eight cows giving 8,500 lbs.
be equal their output. Why feed, milk and
shelter any more cows than you need to
produce the milk you require?

The Holstein-Friesian Assn. of America
Box 141 BRATTLEBORO, VT.

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls
and bull calves of 34-lb. breeding.
Females offered for foundation stock.
Tuberculin tested.

M. M. Holdridge, San Jose, Cal.
R. D. "A," Box 437.
Two miles out North First Street.

THE OTIS HERD

Milking Shorthorns
WILLOUGHBY, OHIO.

B
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M
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K

LADY OF THE GLEN.

Bred by us and acknowledged the best and
most valuable individual of the breed.

Largest herd in America with the best con-
nection. Many cows weighing 1,700 lbs. and
above with records of over 10,000 lbs. of milk.
Winners at the recent Congress sale owned by
us or of our breeding. Sale cattle in carload
lots or single. Calf clubs a specialty.

Write T. H. Harrison,
Santa Rosa Stock Farm, Santa Rosa, Cal.
California Representative.

Along the California Livestock Trail

(Written for Pacific Rural Press by Thos. F. McConnell.)

Pecho Pigs and Cows.

A. B. Spooner & Sons, owners of
the Pecho Ranch & Stock Company,
have dairy cattle, hogs and sheep in
large numbers on their 8,000-acre
ranch near San Luis Obispo. About
1,400 acres are farmed, producing
large quantities of volunteer hay, In-
dian corn for silage and other crops.
The pasture is excellent the year
around, due to plenty of moisture
from fogs and rain.

Registered Holsteins of good type
and excellent performance are the
chief pride of the ranch, although with
50 head they think they are only
commencing when the large area of
the ranch is considered. Their young
herd sire, Pecho Pontiac De Kol, is a
very promising son of King Korn-
dyke Pontiac and Flossmor Corinne
De Kol, with a record of 27.09 pounds
in 7 days and 815.38 pounds of but-
ter in a year.

Fifteen brood sows comprise the
foundation of their Poland-China
herd, with a son of Major Hadley as
a herd sire.

Melone Memorandums.

The Oak Knoll Ranch, Napa, owned
and operated by the Melone Co.,
consists of 2,200 acres, much of which
is cultivated land and has been in the
Melone family for three generations.
It is devoted to fruit, livestock and
grain. The livestock end of the busi-
ness is represented by registered
Chester White swine, and a dairy
herd, the foundation of which is reg-
istered Ayrshires.

Dice has "Right Type" Polands.

When it comes to big Poland-
Chinas, having quality and the char-
acteristics that make for quick-grow-
ing and maturing animals, W. T. Dice
of Hanford seems to be on the right
track with his "Right Type" strain.
An October gilt, sired by Giant Long-
fellow and dam out of Fessie's Timm,
is a half-sister of the sow that weighed
925 pounds at the National Swine
Show. She is sure to please the most
fastidious. Three others sired by
Bower's Mammoth Joe out of a sow
sired by Miller's Giant Orphan, are
classy and along the lines that look
good to Poland-China fanciers. The
names of many famous eastern
breeders are found in the pedigrees
of those animals, such as Hather,
Sevier and others.

Doddies at Eldersly Farm.

One of the great beef breeds of
"auld Scotia" that is gradually creep-
ing into California is the Aberdeen-
Angus. To those who are not ac-
quainted with their chief character-
istics it may be said that they are
polled or hornless, black, low-down,
blocky, uniform in appearance, and
furnish meat of the highest quality.
They are popular with the judges of
carload lots and give an excellent
account of themselves at the block.

J. H. Ware of Live Oak has a very
good herd started with Eldersly Prince
as herd sire, Sciota Coquette, grand
champion cow of the breed at Sacra-
mento in 1917, and others of good
types of the breed. Mr. Ware keeps
them in good breeding condition, but
not in the extreme-show form. These
cattle are kept in connection with his
fine herd of Poland-Chinas.

Hartsook's Livestock Trio.

Talk about intensive methods—just
go down to the Hartsook Ranch at
Lankershim, and you will see them
practiced to the limit. Here on 35
acres is maintained a string of 17
milking registered Holsteins besides
some young stock; 60 Poland-China
hogs, and 80 Toggenburg goats, 20 of
which are milking. This ranch is sup-
plemented by a 2,500 acre ranch at
Cantil, where Mr. Hartsook sends his
calves after they are weaned and
lets them rough it until breeding time
so as to develop strong constitutions.

The Holsteins include many high-
record cows and the swine herd has
been such a consistent winner at dif-
ferent shows that little need be said
about it. However, the new boar, Big
Smooth Jumbo, is all that his name
implies. He is a real thousand-pound

boar with big bone, a strong back and
great depth.

The goats are easily kept and are
fed on almost anything that is clean.
The milk retails readily at a high
price because there is no danger of
tuberculosis, as goats are absolutely
free from this disease. The ranch is
now in charge of T. C. Law, who is
reorganizing it, and promises to be-
come a most efficient superintendent.

Jottings from Jeffries' Ranch

Ninety head of registered Holsteins,
32 of which are milking, and another
string of grades, all in the finest
working condition and producing 23
ten-gallon cans of milk daily, speak
well for the management of H. A.
Koch, superintendent of the James J.
Jeffries Ranch at Burbank. And all
this on 105 acres in alfalfa and silage
corn. The Holsteins are of fashion-
able strains and high performance; the
buildings are of the highest class from
the dwelling down. Fertility is con-
served by the practice of never sell-
ing any of the fertilizer.

The young 2-year-old bull, King
Lyons Belle De Kol, out of the 30.64
pound 3-year-old Fiebe Canary Belle
De Kol, is a wonder and if his prog-
eny equal his ancestors they will
make a valuable addition to the herd.

Adohr Stock Farm.

Here in the famous San Fernando
Valley on the Ventura Boulevard is
an up-to-date ranch given over en-
tirely to the production of certified
milk for the city of Los Angeles. The
cattle are high-grade Guernseys with
a sprinkling of registered stock. Spe-
cial pains are taken to have the cattle
absolutely healthy and all rules laid
down by the Los Angeles Board of
Health are strictly followed. The
cows are excellent individuals as well,
having several crosses of Guernsey
blood and are true to the breed type.
A recent shipment from the East
brought the total number up to 350,
which we believe makes the herd the
largest of this breed west of Chicago,
and still the demand for their certi-
fied product is so great that 100 addi-
tional cows are needed at once.

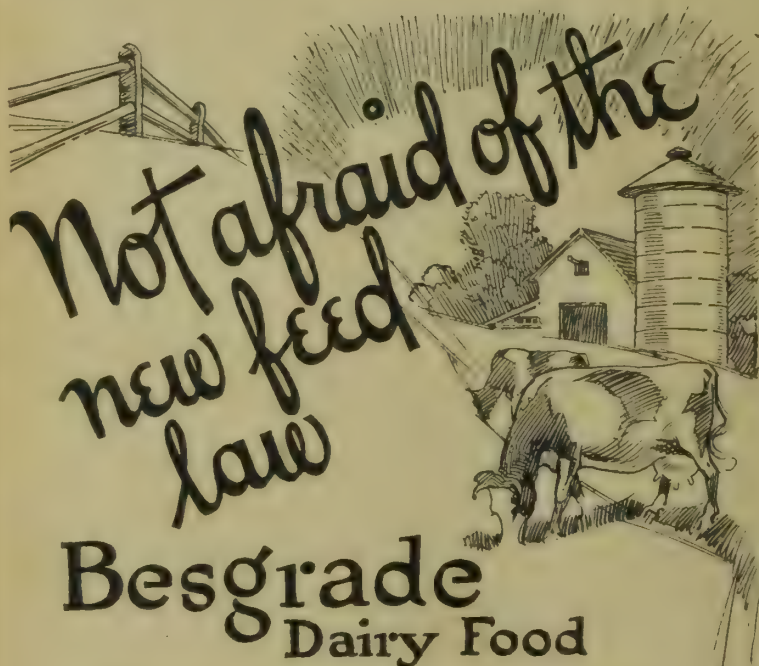
The Adamson Corporation, which
owns and operates the farm, has
taken front rank among dairies fur-
nishing such milk to Los Angeles.
In the so-called "contests," during
which "surprise" samples of milk are
taken from the dairies, this farm has
stood first with a score of 97 and 97.4
out of a possible 98 in the two con-
tests in which they have been in-
cluded. More than that, of all babies
fed Adohr milk during the past 11
months not one has been sick.

Fortunes from Few Acres.

Intensive methods are employed in
the rich San Fernando valley, and al-
though many of the ranches consist of
only 5 or 10 acres, they carry more
stock and yield more profit than
ranches in other sections of many
times the acreage.

L. W. Serrell, at his Liberty Ranch
near Van Nuys, makes a paying propo-
sition of Durocs and ducks. Durocs
are also found at the Swett Ranch,
where there are 17 outstanding brood
sows of Orion Cherry King breeding.
L. R. Hitchcock has walnuts and
pears, and between the trees he grows
all sorts of feed for his Durocs. He
has 5 choice brood sows and intends
to enlarge the herd to 10. Hewitt
Bros. have a great herd of Durocs
headed by Top Sensation 1st, a grand-
son of the 1,200-lbs. Great Wonder I
Am. Judge J. C. Craig, another Duroc
breeder at Owensmouth, has an Ohio
chief sow that has farrowed 4 litters
in the last two years, totaling 37 pigs,
of which 25 were sows. L. Leest has a
combination of Durocs and White
Leghorns at Van Nuys. His pigs are
very thrifty. One sow pig weighed
67 pounds when 8 weeks old and
three boars averaged 65 pounds at
the same age.

The average production of wool in
the United States is around 270,000-
000 pounds; the annual consumption
is over 600,000,000. Not much danger
of an over-production.



*Comes to you labeled with a tag showing
analysis and ingredients.*

Our cards are on the table, Besgrade Dairy Food is an
open book.

When you buy Besgrade Dairy Food you know just
exactly what ingredients go to make it. You know its
analysis and that it is scientifically balanced to produce
milk and at the same time maintain the cow's body re-
serve for heavy milk yield all the year, not for only a
short period.

We build our feeds on a scientific basis and are willing
to stand by results. What the dairyman wants is the best
result per dollar obtainable—and we guarantee it.

We have prepared a pamphlet giving the name of every
ingredient used in its manufacture, the analysis of it and
why you cannot afford to make it yourself. Clip the
coupon and mail. A copy of this pamphlet, also a copy
of the new feed law, will be mailed to you immediately.

Besgrade Dairy Food not carrying this new tag has been
manufactured previous to this date, but analysis is the
same as shown on tag or in pamphlet.

GREAT WESTERN MILLING CO. LOS ANGELES, CALIF.

GREAT WESTERN MILLING CO., Los Angeles, Calif.

Please send me your pamphlet on Besgrade Dairy Food, showing analysis and
list of ingredients used, and its advantages in feeding. Also a copy of the
new feed law.

Name

Address

Dealer's Name

P.R.P.-2

SIMPLEX SILO



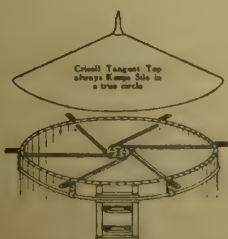
Double Your Dairy Profits

Suppose you had some means of providing a nutritious green feed for your dairy—summer and winter. And suppose it would save you time and worry, enable you to secure double your yearly profits. What would it be worth to you? It would be the most valuable thing on your farm, wouldn't it.

That's just what the "Simplex" Silo will do. The "Simplex" is more than a silo. It is the perfect silo. It will last longer, make better ensilage and give more all-round satisfaction than any other. You will never know what a silo really is until you have wouldn't it?

Construction of the Simplex

The "Simplex" silo is constructed of two things—**perfect lumber and common sense.** A silo built of spliced staves will leak. Why? Because it is impossible to join two staves and make the union as solid as the wood itself. Therefore the "Simplex" **has no joints. Staves are one piece.** No chance for a leak. Extra heavy tongues and grooves with new steel hoops make the "Simplex" an ever solid silo.



The Interlocking Anchor System and the Crisell Tangent Top keep the "Simplex" always in a true circular outline. Absolutely will not sag, twist or blow over. Write for blue prints of the "Simplex." Get our illustrated circulars and find out more about how to increase your profits.

Why wait for your neighbor's ensilage cutter while your crops are spoiling in the fields? A week or even a day may mean a loss of several hundred dollars to you. **Own a "Papec."** Have a cutter when you need it. Fill your own silo at the right time.

The "Papec" is built strong. Solid steel frame. Easily and quickly taken down and put together. Knives and fans are on one wheel. It operates with less power than any other. We guarantee it to cut and elevate more ensilage than any other cutter made with the same power.

Let Them Make Money for You

The Simplex Silo and the Papec Cutter are a money-making combination. We guarantee both to be as we claim. Prompt refund of purchase price if either fall short of our statements. Write for descriptive matter. Let us show you more about the "Simplex" and the "Papec." Write today.

Mail This Coupon Today

SANTA FE LUMBER COMPANY,
16 California St., San Francisco, Cal.

Please send me folder describing Simplex Silos, also information about Papec Ensilage Cutters.

Name

Address

SANTA FE LUMBER CO. San Francisco

Livestock and Dairy Notes

Livestock breeders all over the state are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

The Dairy.

J. M. Christen of Oakdale Holstein Farm, Pacheco, has recently sold a bull calf to Ira B. Killgore, Concord, and another to James Smith, Martinez.

A. M. Bibens, Modesto, has sold a Holstein bull calf to the Los Angeles Creamery Co., and one to the Crescent Creamery Co. of Los Angeles.

C. Tamagni, of Vina, besides feeding 110 cows, will sell 200 tons of hay from his 135 acres of alfalfa, his third crop averaging fully 2 tons per acre.

At last we are to have a "Who's Who" for grade cows in a new Record of Production which has been started by the University Farm. Full particulars will be given next week.

Bloomer's Queen is the new Ayrshire queen of the milky way, having broken the senior 4-year-old record by producing 856.41 pounds fat from 21,820 pounds milk. She is owned by Penshurst Farm, Pennsylvania.

W. G. Strader of Ceres, well-known breeder of Dutch Belted dairy cattle, died last week. His herd will probably be kept intact by his wife and daughter, who are experienced with these cattle.

H. E. Spires of Hillcrest Farms, Carruthers, reports recent sales from the Victory Holstein herd as follows: Two heifers to Lewis Bros., Riverdale; heifer to C. H. Boyd, and young bulls to Mrs. Ida Abbott, Lemoore; A. A. Malsbury, Riverdale; and J. H. Ginn, Riverdale. All of these bulls were sons of the herd sire, Sir Piebe De Kol Segis Pontiac.

Edgemoor Farms, Santee, have in quarantine in New York two Guernsey cows recently purchased in England. As soon as they are released they will be shipped direct to Edgemoor, together with three others purchased at the New Jersey sale. Mr. Dupee ex-

pects to show a herd in the East this fall where in the past he has made many notable winnings.

Woodhead-Warren Ranch at San Jacinto, Jersey breeders, have some high-producing cows among their grades. One produced 292 pounds butterfat during the last six months of her lactation period. Ten cows, out of 32 in the cow-testing association, produced over 40 pounds butterfat in 30 days. The whole herd averaged 36.54 pounds.

L. B. Van Blaricom, the Holstein breeder of El Monte, has a very good cow in Hillview Cornucopia Johanna, as she produced \$720 worth of milk last year and her bull calf sold for \$250 as soon as dropped. Mr. Van Blaricom sells whole milk in Pasadena and his 18 cows averaged between 45 and 50 pounds of butterfat each during the months from February to June inclusive.

C. G. Marchus of Escondido is starting a herd of registered Jerseys, although he has some very good grades. The cows averaged three gallons of 4.8 per cent milk from January 1 to June 1. Mr. Marchus is a director of the new cow-testing association just formed in San Diego County, including 30 herds and over 800 cows. That means progress.

Beef Cattle.

Cattle in the hills around Livermore are generally in good fat condition, but many of the hill springs are drying already, so that water is scarce for pasture stock.

A Glenn County Shorthorn Cattle Breeders' Association has been organized. The association will arrange for an exhibit at the Glenn County Fair at Orland.

One of the best junior Shorthorn calves seen this year is owned by F. L. Hall, of Rose Crest Ranch at Perris. This calf is out of a Knight Templar dam and sired by Avon's Glory. He has the straightest top line ever, and is very well covered for a youngster that is growing so rapidly.

Swine and Swinemens.

H. E. Spires of Hillcrest Farm, Carruthers, has sold a Duroc boar to Jesse B. McMillip, Fresno; 4 gilts to Jones Bros., Carruthers; 10 gilts and a boar to C. R. Cuttin, Goshen.

The date for the Carruthers Farm sale of registered Berkshires at Live Oak has been changed from August 16 to 23. Col. Ord L. Leachman will cry the sale.

J. M. Christen of Pacheco has sold a registered Hampshire boar to James Smith of Martinez, and another to Frank Amaro of Bay Point. Mr. Christen reports a heavy demand for registered Hampshire boars.

A moving picture film showing pig club work in Fresno county was shown to Farm Bureau directors at their June meeting. The film will be exhibited throughout the county in the near future.

Mrs. Seagram Anderson of Pleasanton, the well-known horsewoman, recently purchased a bred gilt and a young boar, both choice specimens of Berkshires, from the Castleview Ranch, Santa Rosa.

Thos. R. Carlyle of Sanger, has secured from the Castleview Ranch, Santa Rosa, a splendid yearling boar, sired by Mayfield Champion, the

Live Oak Stock Farm

F. A. MECHAM ESTATE

P. O. Address:

Petaluma, Sonoma County, Cal.

Take Electric Cars at Petaluma or Santa Rosa for Live Oak Station

Importers and Breeders of
**Red Polled Cattle,
Shropshire Sheep,
American Merino**

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Rambouillet Sheep



**SHROPSHIRE,
RAMBOUILLETS
AND
AMERICAN
MERINOS**



We have for sale this season **350 HEAD OF PUREBRED SHROPSHIRE RAMS**, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age, and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouilllets are all from prize-winning rams at the P. P. I. E. Strong, hardy, range-raised stock. We have a fine lot of yearling American Merinos of our own breed.

ALL STOCK SOLD SINGLY OR IN CARLOAD LOTS.

HILLCREST STOCK FARM

**Shorthorn Cattle
Shropshire Sheep
Merino Sheep**

RAMS AND BULLS FOR SALE

Single or in Carload Lots

T. S. GLIDE, - Davis, Calif.

Shropshire Rams

Pure blood yearling rams—singles and carload lots. Also pure-blood lamb bucks, ready for service by Sept. 1st. These bucks and rams are from pure-blood ewes (formerly registered) and the best registered rams to be purchased in the United States.

J. E. BLOOM, DIXON.

THICK, SWOLLEN GLANDS

that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

ABSORBINE

also other Bunches or Swellings. No blister, no hair gone, and horse kept at work. Economical—only a few drops required at an application. \$2.50 per bottle delivered. Book 3 for free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Cysts, Wens, Painful, Swollen Veins and Ulcers. \$1.25 a bottle at dealers or delivered. Book "Evidence" free.

W. F. YOUNG, Inc. 86 Temple St., Springfield, Mass.

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ARE YOU
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In knowing facts about Central British Columbia Cattle Ranges and mixed farming, improved and non-improved, large and small? Write your requirements, resources.

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ORMONDALE SHORTHORNS

All are heavy boned, and of Scotch and Scotch-topped breeding.

Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED.

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedicures on application.

SHORTHORN CATTLE ORMONDALE CO. REDWOOD CITY, CAL.
DUROC-JERSEY SWINE E. D. No. 1

BRIGHTON FARM SHORTHORNS

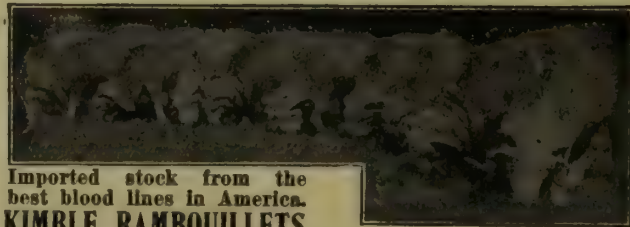
One three-year-old bull bred by H. R. Clay.

Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.

A few yearling heifers of same breeding.

Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY, Perkins, Sacramento Co., Cal.



Imported stock from the best blood lines in America.
KIMBLE RAMBOUILLETS

will make money on any farm. Pure bred, large and smooth, with heavy fleece of fine, long staple white wool. Yearling and older rams. Breeding ewes. Any quantity. Prices attractive.

Chas. A. Kimble, Hanford, Cal., Breeder and Importer.

SHROPSHIRE RAMS

The kind that produce the large uniform black face lamb so much sought after in the markets.

Call on or write to

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RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

One mile east of town.

St. Helena, Calif.

\$1,150 Carruthers boar, and out of Rookwood Lady 100th, 1917 grand champion sow of America.

R. K. Walker of Winsor Ranch, Bonita, has sold one Great Model boar to R. N. Miller of Brawley for \$300, and 2 Great Model boars for \$250, each to the Southwest Cotton Co., of Phoenix, Ariz. Mr. Walker expects to exhibit at Sacramento, Los Angeles, Riverside and San Diego.

J. Francis O'Connor, Castleview Ranch, Santa Rosa, recently sold to Jenkins Bros. of Orleans, Indiana, the famous Berkshire sow, Grand Lady Mayhews 4th. This sow was grand champion at the California State Fair in 1916. Jenkins Bros. are featuring this California-bred sow in their great sale to be held August 9.

The Charnook Ranch of Hemet, Chas. R. Tyler, manager, breeders of registered Duroc swine, sold last week six market hogs 7 months old that averaged 213 pounds each, to Wilson & Co., of Los Angeles, for 20 cents per pound. This ranch markets about one carload a month that average from 210 to 230 pounds each at 7 months.

Chas. E. Dack of Fresno has sold a Poland-China service boar to Sylvia Wilde of Springville, a young boar to H. A. Johansen, Fresno, and another to Fred T. Matsuyama, Fresno. Mr. Dack reports that the March boar Jumbo's Model by Haag's Young Jumbo, which he purchased at the Lemoore Pig Club sale, is a very promising youngster and is coming along in fine shape.

LIVESTOCK DIRECTORY

Rate in this directory 3c per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rookwood, sire of Champion Barrow at 1918 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

TWO SOWS AND A BOAR—\$100 the trio. Two sow pigs from ten raised sired by Baron Duke 201st, 780-pound, \$1100 Grand National Champion, from Rival B Princess, a prize-winner at San Francisco, Sacramento, Oregon, and Omaha National Swine Show, and a boar sired by the Grand Laurel Champion boar from Symboler Belle, and of Superbous blood lines. A boar from a litter of ten raised, big, long, toney, stretchy pigs. Sandercock Land Co., in charge of Natomas Land Sales, 23 Montgomery Street, San Francisco, Cal.

GRAPEWILD FARM BERKSHIRE-QUERNEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. R. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH—Weanling Berkshires. Breeding unsurpassed. Grow them into money yourself. Geo. E. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Gr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the 1500 boar. Kounias Registered Stock Farm, Modesto, Cal.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Holera immune. Live Oak, California.

REGISTERED BERKSHIRES—Write E. D. Lume, Dos Palos, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

FOR SALE—Poland-China boar, age 14 months. Priced right for quick sale. Box 32, Healdsburg, Cal.

POLAND-CHINA RANCH

Five and six months old boars and gilts by Greenfield's Special, an eight-hundred-pound boar of Superba and Big Orange breeding. Special price on this stock now. It won't last long. Satisfaction sure. H. B. Peake, Manager, 358 Eleventh St., San Bernardino.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

EL PROFITO—Our great herd boar, will put profit-making qualities into your herd. His offspring have size, stretch, bone, good oaks and feet, and easy feeding qualities. To make the right start with big-type Poland Chinas, get one of his boar pigs. Prices right. Correspondence cheerfully answered. Viola L. Renwick, Santa Barbara, California.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize winning, large type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

3 CHOICE GILTS November 7th farrow—\$40.00 each; 3 January 21 farrow—\$30.00 each. Registered and crated. Edward A. Hall, Route 1, Box 39, Watsonville, Cal.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

MCCARTY & STARKWEATHER
POLAND-CHINA BOAR—Orange Blossom breeding. Ten months old. A crackjack. Satisfaction guaranteed. L. Leest, Van Nuys, Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for sale. Giant Buster and President Stock. Prices right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large smooth and big-boned Poland Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. M. Bassett, Hanford, California.

FOR SALE—Large type Poland-Chinas. March pigs, \$35 to \$40 each. D. L. Smith, Gridley, Calif.

ELDERLEY FARM—Big type Poland-China hogs and Aberdeen Angus cattle. J. H. Ware, Live Oak, Calif.

BIG-TYPE POLANDS—Spring pigs from prize-winners. J. H. Hansbrough, E. A. Box 22, Modesto, Cal.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old—"A Wonder" bred boar.

KEAOKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

LARGE TYPE POLAND-CHINAS. Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

POLAND CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Nothing this month. Eight spring boar and 5 spring sow pigs to offer during August. All young stock is now immune. At the State Fair this year will show a full exhibit of good ones. Drop in and see them and get some real big type ones. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

DURHAM STOCK BREEDERS' ASSOCIATION.
DUROC JERSEYS—Thirty-five registered boar pigs have been selected by the committee from fifteen herds on the Durham State Land Settlement, ranging in age from 3 to 5 months old. Each animal is an excellent individual with blood line of careful selection. Our first offering for immediate acceptance from \$25.00 up. Inspection or correspondence invited. Geo. C. Kreutzer, Supt. State Land Settlement Board, Durham, Calif.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route 6, Fresno, Cal.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

DUROC JERSEY SWINE FOR SALE—Best blood lines. Bred sows and gilts. Service boars. Jersey Queen Farm, San Jose, Calif.

REGISTERED DUROC JERSEYS—Open and bred gilts. August and November boars. Great herd headers. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Dos Palos, Cal.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

HORINE'S REGISTERED DUROC JERSEYS—I sell weanlings and buy gilts. Don't fool with scrubs and don't buy elsewhere until you know my plan. Write today for full particulars of a guaranteed profit-making weaned pig. Geo. L. Horine, Winton, Cal.

PATHFINDER AND KING'S COL. stock—immune. Weanlings, \$25 each. Bred gilts and service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento, Calif.

WE WON MORE MONEY on Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

DUROC JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Ethaca, Calif.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

PURE-BRED WEANLING BOARS, \$20—L. R. Adams, Island Mountain, Calif., on Northwest Pacific.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS. Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Uneda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

Miscellaneous.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

DAIRY CATTLE.

Ayrshires.

ELKHORN FARM AYRESHIRE—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRESHIRE—Registered; all ages. E. B. McFarland, 412 Claus Spreckles Building, San Francisco, California.

NORABEL FARM AYRESHIRE—Le Baron Estate Co., Valley Ford, Cal.

AYRESHIRE—Quality bulls at farmers' prices. Redwoods Ayrshire Farm, La Honda.

Guernseys.

REGISTERED BERKSHIRES—Sons and daughters of Imperial Laurel 263736. The type of Berkshires that spell Gold. L. L. Pearson, 2128 Alum Pk. Ave., San Jose, Cal.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sales. Edgemoor Farm, Santee, San Diego county, Calif.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Jerseys.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2½ years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

A PRICE ON EVERY ANIMAL.

Herd free from tuberculosis. All sales subject to sixty days' retest. Sons of Funderne Soldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

Toyon Farms Association.

679 Mills Building San Francisco.
REGISTERED Holstein bulls and grade cows for sale. Bull 2½ years old, by a 34.96 lb. bull and out of a 16.78 lb two-year-old daughter of a 29.67 lb. cow. Females young, mostly Holsteins, and bred to abaya bull. Choice stock. For particulars write E. Maracini, Dos Palos, Calif.

FOR SALE—7 head of registered Holstein cattle, 3 cows milking, 2 fresh, 2 heifers and 1 bull calf by Prince Hiske Walker, a full brother to Lady Hiske Walker, one heifer by a grandson of Prince Gelsche Walker. B. A. Overland, Hanford, Route 1, Cal.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEIN CATTLE—E. M. Freeman, Route B, Modesto, California.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A. Box 437, San Jose, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spire, Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS—We breed for production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif. Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesian—Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Calif. John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED YEABLING SHORTHORN BULLS—Heavy-boned, thick-meated, Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Props., Wells, Nevada Registered Hereford cattle. Breeding stock for sale.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords. Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

REGISTERED SHORTHORNS—Julien Ranch, Grenada, Siskiyou Co., California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, California.

HORSES AND MULES.

A WELL-MATCHED TEAM of black mares; also extra mare; three two-year-olds, and four yearling colts; all of Percheron stock. J. Bernard, Calistoga, Cal.

FOR SALE—A-1 Breeding Jack. Bargain. Have quit raising mules. W. P. Harkey, Gridley.

PERCHERONS—Registered Stallions, Mares and Fillies; three, four, and five years old. Cora S. Secrest, Escalon, Cal.

SHEEP AND GOATS.

PURE-BRED RAMBOUILLET RAMS, large smooth frames, extremely heavy shearers, from the very best strains of this country and France. Immediate delivery from ranch at Ord Bend, Glenn county. P. O. address, Windell Orchards, Glenn, Calif.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

HAVE FOR SALE fifty head of fine yearling Shropshire rams. Also 25 head of high-grade Rambouillet rams. These are big fine woolled rams. E. D. Dudley, Dixon, Calif.

J. E. BLOOM, DIXON, CAL.—Breeder of Shropshire rams out of pure blood ewes and imported registered rams. Single and car load lots.

SHROPSHIRE—43 yearling, purebred, registered Shropshire rams for sale. Harry L. Huston, Winters, Calif.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUFKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal., R. 2.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying Butte City Ranch. Box P. Butte City, Glenn county, Cal. W. P. Dwyer and W. B. Guilford, owners. Special Notice: Second Farm Sale. Shorthorns; Shropshires; Berkshires; Ponies. August 2, 1919.

Will Grunts Continue to Make Dollars?

(Written for Pacific Rural Press.)

Already twelve public sales of registered hogs are announced for the months of August, September and October, and several more are contemplated. Should our farmers attend these sales? Is it a good time for the beginner to get into the game, or for the established breeder to expand? Will it pay the raiser of grade market hogs to buy a high-class registered boar at the prevailing prices?

There are some persons today who openly express the opinion that the hog market has reached its zenith and is due for a terrific break. There are other well-posted men who declare that nothing can prevent \$25 hogs before September. Which ones are prophesying correctly?

It would seem as though the optimists are justified in their prediction. At least the future looks mighty rosy, for the important fact in connection with the present high prices is that they are not due to a hog shortage. Receipts have been heavy, yet the demand has been greater than the supply. Thos. E. Wilson, the Chicago packer, came back from Europe with the report that everywhere there was an enormous shortage of fats. He says that Argentine is selling beef to Europe cheaper than the United States can deliver it, but that America has no competition in the export of hog products, and he believes that Europe will need such quantities of hog products that she will be forced to buy heavily for us for some years.

John Clay, the noted commission man, says the same thing. In a recent interview he stated: "Cattle are bound to come down, but hogs are in

remarkable demand, and the prospects are for a continuation of high prices for porkers. The demand seems to be universal, and I regard the outlook for the hog business as most encouraging."

As Dean Hunt very clearly showed by charts at the annual meeting of the California Swine Breeders' Association, following previous wars it has taken years for staple foodstuffs to return to a normal standard of prices, and it is unreasonable to expect that after this most devastating of all wars the prices will quickly return to a pre-war basis.

Prices of breeding stock are regulated to a considerable extent by the market price of hogs, and while recklessness is never to be encouraged, it can safely be predicted that hogs bought at these fall sales, if properly cared for, will prove most profitable investments. Perhaps the time will come when there will be too many poor hogs in the country, but there will never be too many good ones. It may not be a good time to breed for quantity, but the fellow who breeds for quality will be playing a safe, sure game.

COWS IN THE HOLY LAND.

Cows in the land flowing with milk and honey are quite different from those in this country, where milk is beginning to flow in place of booze.

There are several species of cows in Palestine. The Damascus or Egyptian cow is excellent for milking, but is almost valueless for meat, and its resistance to disease is poor.

The Lebanon cow is not so good a milker, but brings a good price for meat and is better able to withstand disease. Golanite is not a good milk cow, but a paying investment for meat. The maics are good working animals and resist disease fairly well. The small local cow is good for neither milk nor meat nor work, but it withstands disease better than any of the others except the Golanite. The Bedawi is very much like the Golanite.

Because of the different characteristics possessed by these different types, the Jewish Agricultural College has been making experiments in

cross-breeding with some success. The area of pasture required for cows in that country is about three acres per head.

Lloyd & Tointon, Santa Rosa, think their Yorkshires have many points of superiority over other breeds and among them is prolificacy and quick gains. This is demonstrated particularly in the sow Nema 8th farrowing litters of 20 and 18 pigs in two consecutive litters. She raised 14 of the first litter herself. Quick gains are made with the pigs and they weigh close to 300 pounds in six months.

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

POLAND CHINA INAUGURAL SALE

To prove that the best Poland-Chinas in the state are to be found in Fresno County, the newly formed Fresno County Poland-China Breeders' Association will start the ball a-rolling by holding an inaugural sale at which the tops of 17 of the leading herds in the county will be consigned.

50 Bred Sows, Bred Gilts, Open Gilts

There will be 30 bred sows, 17 bred gilts and 8 open gilts—wonderful brood sows and prospects, with great stretch, strong backs, heavy bone, well-sprung ribs, easy-feeding qualities—everything you look for in money-making hogs.

Study These Blood Lines

The animals offered are sired by such noted boars as President, Jumbo's Equal, King's Big Bone Leader, Young Jumbo and Model Fellow. In their pedigrees you will find the most noted blood lines of the breed. You need this blood in your herd to put you to the front.

Among the eastern bred boars to which the sows will be bred are Vaughn Jones, a descendant of Gerstale Jones; Hather's Big Bob, grandson of the world's champion; California Jumbo, a grandson of champion Giant Buster; and Blue Valley King, a son of King Big Bone.

Wednesday, August 20th FAIR GROUNDS, FRESNO

Come early and look over the stock. Free lunch at 11:30. Sale starts at 12:30. If you cannot attend, send mail bids to Thos. F. McConnell, field man for Pacific Rural Press, in care of the secretary. Field men will only bid on animals whose owners will ship on approval, thus assuring absolute satisfaction to the purchasers.

Fresno County Poland China Breeders' Assn.

ALFRED BUCKLAND, President.
COL. GEO. W. BELL, Auctioneer.

For catalog address
W. C. FICKLIN, Sec.
Route A, Box 189, Fresno, Cal.

Every Hog on the
Gardiner Ranch is
Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER
GARDINER'S KING'S COL.

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH

ROUTE 4, BOX 735.

SACRAMENTO, CAL.



RUSSEL ORION BOY

No. 265993

This boar runs in the blood of such pigs as Brown's Orion, No. 126677, Chief Col., No. 22875, and the Lucy Wonder family on his sire's side; Colonel S. E. 126361, Gladys X. L., No. 263328n, on his dam's. Watch his get at State Fair this year. JACK BORGE, Owner. Dos Palos, Cal.

THE HAMPSHIRE HOG

The Hampshire has become America's most popular hog by sheer force of merit. The 1918 International Livestock Show was his last great record, winning grand championship over all other breeds, and selling for \$2.25 per hundred above his nearest competitor.

The Hampshire is the ideal hog for California conditions, as he is a natural foraging, green feed hog, and thrives well on our alfalfa and other succulent grasses, therefore requiring less grain than other breeds.

If you are looking for the greatest meat producer, investigate the Hampshire. Send for free information and literature about the progress of the breed and its adaptability to California conditions to

WALTER FOLK, Western Representative,
American Hampshire Record Association.

SANTA BARBARA,

Route 2,

CALIFORNIA

Duroc Jersey Hogs

250 - Spring Pigs - 250

That have been mated with extreme care and properly raised and fed. The big, tall, rangy, high-backed, big-framed kind that can carry an awful load of pork and walk off with it. We have on our Orland ranch, the sires and dams of the \$1100 sow and \$1000 boar recently sold at San Jose sale.

WHEN YOU NEED GOOD DUROCS—WRITE US

F. D. Burr Company

235 Montgomery Street,

San Francisco

Imperial Stock Farm Berkshires

are the kind you are looking for. We have to offer at the present time some exceptionally good young boars. They have the best of breeding, lots of size for age, and long deep bodies, with high backs.

Write us for price and further particulars.

R. J. MERRILL & SON,

MORGAN HILL, CAL.

TIME TO SELECT THE EWES.

(Written for Pacific Rural Press.)

If the ewes that are to be retained for breeders have not already been selected, this should be done at once. In culling ewes from the flock two types should be carefully noticed—those that are extremely fat and those that are extremely thin.

The fat ones, especially those carrying an excessive bunch of fat about the rump, may be barren, their high condition probably being due to the fact that they have not been under the strain of bearing and nursing lambs.

On the other hand it must not be supposed that all thin ewes should be bred. If they have dull eyes, harsh fleeces, pale dry skins, a general run-down and unthrifty condition, and poor teeth due to old age, they should be disposed of at once.

If there is a contrary good condition, the thinness may be safely attributed to the fact that the ewes have been heavy milkers, and have raised pairs of strong, thrifty lambs. Of course such ewes should be retained.

As a final point in selection, a careful examination may reveal defective udders, and as such ewes cannot feed their lambs they should be culled. All ewes must pay their way, and if the flock owner will cull his flock annually he will have good individuals plus regular performance.

Flushing.

After the final make-up of the flock is determined, the ewes should have access to fresh pasture. Some kind of forage crop is desirable, and a little grain may be provided at this time. The idea is to have the ewes gain slightly in flesh a few weeks previous to and during the mating season. This practice is known among sheepmen as "flushing," and will insure an increased per cent of twin lambs.

Experiments conducted by the Animal Husbandry Division of the United States Department of Agriculture have shown that the extra trouble and feed required in flushing the ewes is repaid several times by the added number of lambs obtained. With ewes already in good condition the effect is less marked than with thinner stock. Young or dry ewes that are in high condition will not be benefited by flushing.

When ewes are gaining in condition at breeding time, most of them take the ram only once, so all of the lambs come at about the same time in the spring. This lessens the labor of the lambing season, as it is much better to care for a large number of sheep in a short space of time than to have the lambing strung out over a long period. Also it gives more uniform weights in lambs to be marketed.

The Ram.

The number of twin lambs is apparently governed more largely by the ewe than by the ram. It is important, however, to keep the ram in strong, vigorous condition, for if he is overtaxed and in low condition some ewes may fail to get in lamb. At the beginning of breeding the ram should be in good flesh, but should not have been overfed or kept too inactive. It is best if he can have grain feed and be separated from the flock for at least a few hours each day.

Breeding Hints.

Use one ram to every 35 to 50 ewes. Shear the ewes around the rear parts, and see that dung does not collect there.

Dip the ewes and the ram if ticks, lice or scab mites are present.

Keep a record of the time when the ram is turned in with the ewes and when taken away.

TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM

W. O. Pearson, Prop. Woodland, Cal.

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM

P. O. Box 177, Lancaster, Cal.

Follow the Crowd

All roads will lead to Santa Barbara Wednesday, August 6th. Never before has such interest been taken in a public sale. Progressive farmers from all over the State will be there. They have investigated the Hampshire and have found him to be "America's most popular hog." They have decided upon him as the farmer's best money-maker, and you will, too, if you want all the profit there is in hog raising.

California's First Hampshire Sale

For the first time in California you have the opportunity to secure animals of the best blood lines in America at your own prices. E. C. Stone, the leading Hampshire authority, says that Francis T. Underhill has given more thought to the foundation of his herd than any other man in Hampshire history; that Mr. Underhill has three of as good herd boars and as fine a lot of sows as he has ever seen; and that the stock to be offered at this sale is far superior to the average consignment at Middle West sales. It is the fruit of a \$25,000 investment in foundation animals alone, and represents the scientific mating of some of the greatest animals of the breed.



65 Bred Sows and Gilts

Four 3-year-old sows, 24 2-year-olds, 21 yearlings, 17 fall gilts. All guaranteed safe with pig; most of them carrying their own guarantees. Everything royally bred and from four great blood lines—Gen. Tipton, Lookout, Gen. Allen and Cherokee Lad. You can't beat this breeding.

The boars to which the sows are bred include Gen. Tipton's Masterpiece, the best son of the grand champion; Exalted Ruler, a Lookout boar by Exalted Lad, 1918, grand champion of Iowa; Draper Laddo, a Cherokee Lad boar; and Gen. Allen's Counterpart, by Gen. Allen, undefeated grand champion.

Wednesday, August 6th

Sale will be held at the Ortega Underhill Rancho, 4 miles east of Santa Barbara on the Coast Highway, near Montecito. Free transportation from Santa Barbara. E. C. Stone will be there. A State Hampshire Association will be organized at 10 o'clock in the morning. Free barbecue at noon. Sale starts at 1 o'clock. Be sure to attend. For catalog and full information address

THOS. T. DINSMORE, Manager,

Ortega Underhill Rancho

Santa Barbara, California

FRANCIS T. UNDERHILL,
Proprietor

COL. ORD L. LEACHMAN, Sacramento,
Auctioneer

Don't Let Horses Suffer from Mange

(Written for Pacific Rural Press.)

Mange seems to be about as prevalent among horses at present as the flu was among humans last winter, judging from the number of letters we are receiving from readers asking what to do for their horses that have an itching which causes them to rub the hair off in places; also the mane and tail.

This disease is the mange, a parasitic skin affection caused by mites which work their way into the skin, burrowing beneath the epidermis. It causes an intense, almost intolerable, irritation, and can easily be told by the uneasiness of the animal and its desire to rub against a post, fence, tree, side of stall, or building. The inflamed areas are small at first and generally are scattered over the regions of the rump, back and neck. After a time the areas come together and form large patches, and further spreading of the inflammation results from grooming, scratching and biting the skin. Scattered, elevated eruptions on the skin, from which the hair has been rubbed, are first noticed. Later the skin is thickened, smooth or wrinkled, and cracked or covered with sores.

The first thing to do is to separate the diseased animals from those not affected, and prevent its spreading by thoroughly disinfecting the stable, water trough, harnesses, etc. A sheep dip, such as Kreso, will do the trick. Then soften and remove the scabs by washing the horse with hot water and soapsuds, to which has been added a

little lysol, carbolic acid, or some insecticide, such as sheep dip. Rub dry and apply an ointment or liquid solution to the affected parts.

Several remedies are recommended. The one most commonly used is sulphur ointment, made of 2 ounces flowers of sulphur and 8 ounces pure hog's lard. Rub together by successive additions of the sulphur until a perfect mixture is obtained, and apply with friction daily for a few days. Then wash with soap and warm water, and apply again after drying the parts. Another ointment, used in the same way, is made of 10 parts potassium sulphide, 2 parts potassium carbonate, and 300 parts lard.

A liquid preparation which has given good results is 55 ounces fish oil, 4 ounces creolin, 1 ounce turpentine, 4 ounces oil cade, 1 dram oil peppermint. Another is 28 ounces cottonseed oil, 2 ounces creolin, 1 ounce balsam Peru, 2 drams oil pine needles. A simpler preparation is 1½ ounces sulphur, 1 ounce oil of tar, 2 ounces fish oil. All of these remedies are reliable, and will overcome the trouble if applied directly to the seat of the disease.

IT'S A SOURCE OF SATISFACTION

To know where to find the right kind of hogs when you want to buy.

KING JONES OVER

a son of the Great King Jones. Dam by Long King, out of a Big Bob sow. Weighs 600 lbs. at 14 mos. Stretchy, deep-bodied, well hammed and right up on his toes. He heads the best herd of strictly big-type sows in California.

Some extra good fall boars for sale. Cholera immune.

McCARTY & STARKWEATHER

P. O. Box 2250 San Francisco.
Ranch, Paradise Road, Modesto, California



Grand Champion Herd of Hampshires

FOR SALE

Brood Sows, litters at foot.
Sows bred for fall litters. Young Boars and Gilts

Best families.

Finest individuality and clean-cut markings.

Call or write

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.

PIG TALES.

C. E. Ellis of Tulare has sold a 3-months-old registered Duroc boar to three Riverdale breeders for \$150.

The pig that is a good grower is necessarily a good eater. This is one of the indexes that points to good results.

The healthy, vigorous pig is an equipped soldier that can defend himself against an attack of disease and repulse it.

Some of our very best young boars have been sacrificed by being crowded too much, and we often wonder if it pays, after all.

A sow that farrows five pigs or less on an average should be culled from the herd to increase its prolificacy and profit.

Stay right with the sow that produces a good big litter of good pigs and raises them; some of the best lookers are not the best pig raisers.

Tulare county ranchers are harvesting grasshoppers in sacks extended by poles from the sides of their automobiles, and are feeding the insects to their hogs.

Water is a necessity for hogs and they should be supplied with as much as they need. It is the cheapest ingredient that enters into the production of pork.

Duroc-Jersey breeders of Fresno county are urged to attend a meeting and banquet at the Hughes Hotel, 8 o'clock, August 2, to form a county Duroc breeders' association.

Don't turn a gilt out with a lot of old sows after raising her first litter. She will fare badly and get only cuffs from the sows. She should be well fed and cared for, so as to take on growth and develop. It requires good feeding for this and to put her in prime condition for her next litter.

R. K. Walker of the Winsor Ranch, Bonita, home of the Sweetwater Durocs, has just returned from a trip east in search of some additions to their herd. He announced the purchase of 5 outstanding sows as follows: A junior yearling by Great Pathfinder bred to Demonstrator, for which \$800 was paid; a granddaughter of Top Sensation bred to Great Orion Sensation, for \$700; a junior yearling daughter of Great Sensation bred to Pathfinder, for \$600; a daughter of Great Orion Sensation, for \$250, and a sow bred to Top Sensation, for \$300.



Calco-for healthier hogs

CALCO HOG TROUGHS are carefully designed to give just the sort of service a farmer wants—on his own farm, with his own hogs. They are not built on a theory, but from first hand knowledge of how hogs are raised.

Calco Hog Troughs are built of Armeo (guaranteed) Galvanized Iron and Cast Iron. No better material is obtainable on the American market. No crack or crevices in Calco hog trough for disease germs to lodge in—they are clean and sanitary throughout. No rough edges. Sides are braced by steel bars across top and by a strong roll in the galvanized iron. Calco Troughs give unusually long service, and help raise healthy hogs.

THERE'S A SIZE FOR YOUR OWN USE.

Stock No.	Diameter	Depth	Length	Weight	Price
720	10¼ in.	5 5-16 in.	24 in.	16 lb.	\$2.95
721	10¼ in.	5 5-16 in.	30 in.	19 lb.	3.30
722	10¼ in.	5 5-16 in.	40 in.	22 lb.	3.70
723	10¼ in.	5 5-16 in.	60 in.	27 lb.	4.50
724	10¼ in.	5 5-16 in.	120 in.	45 lb.	6.95
715	14 in.	7 3-16 in.	24 in.	25 lb.	4.55
716	14 in.	7 3-16 in.	30 in.	29 lb.	5.00
717	14 in.	7 3-16 in.	40 in.	32 lb.	5.60
718	14 in.	7 3-16 in.	60 in.	39 lb.	6.55
719	14 in.	7 3-16 in.	120 in.	61 lb.	9.60

Order your Calco Trough by mail—today.
Simply send your check or a money order.
Your Calco will be shipped immediately.

Order now.

California Corrugated Culvert Company
LOS ANGELES
417 Leroy Street
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use calco
troughs -



PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

Western Meat Company

SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

Poultry and Rabbits for Profit

Conducted by R. H. Whitten.

POULTRY OUTLOOK PROMISING.

Of all sad words of tongue or pen, The saddest are these: "I have no hen." Yes, the farmer who has no hens in these days is in a sad predicament. He is not getting the full profit that he should be making from his farm. The value of the eggs and poultry produced every year in the United States is now three-quarters of a billion dollars, which is more than that of all the gold, silver and diamonds taken from Mother Earth in a year throughout the entire world. But as great as the industry now is, the production of eggs and fowls must be even greater to meet the demands of increased population. At present there are about three hens to a person, and each hen lays an average of 80 to 100 eggs, or about 270 per year gross for each person. From this number there must be considerable reduction made for spoilage, loss, and eggs used for hatching and for manufacturing and baking purposes. The number left for table use is entirely inadequate.

Then again, we must consider the foreign demand. Before the war the United Kingdom imported 40 per cent of the eggs and 30 per cent of the poultry consumed. Of these quantities, one-half came from Russia, now swept bare of these products. Denmark and Holland, formerly exporters to Britain, are now shipping to Germany, while all of Central Europe has practically none of these products left. It is estimated that there are 187,000,000 fewer birds in Europe now than before the war.

Canada has been shipping heavily to Europe, but has exhausted its exportable surplus. The latest report of the Dominion Department of Agriculture reads: "Dealers say that no matter how much they offer for poultry their receipts do not increase. The country seems to be cleaned up."

So it is up to us to keep on increasing our flocks to meet the heavy demand, and we can be pretty sure that when Europe no longer needs our poultry supplies, if such a time ever comes, the increased population here at home and the greater consumption per capita will take care of them.

How about feed prices? Well, Europe will require 560,000,000 to 640,000,000 bushels of wheat this year, and countries besides the United States have an estimated exportable surplus of 651,807,000 bushels. Argentina can deliver wheat in Europe for \$1.95 per bushel, Australia for \$1.81 and Canada for \$2.54, while from the United States it will cost \$2.65. Consequently, unless we have to finance the buying and can insist upon the purchase of our own wheat, it looks as though Europe may not want so much of our 636,000,000 bushel surplus. Besides, wheat can be landed at Pacific Coast ports from Australia for \$1.86.

So, perhaps, feed prices will go down after awhile, and with them the prices of eggs and fowls will drop. But this need not mean any less profit to the poultryman, for it is pretty certain that the drop will be proportionate. The prices received for poultry products do not alone determine the profit. That is regulated by the proportion existing between the selling price and the cost of production, the latter determined largely by the cost of feeds. And with the prospect of lower feeding costs, but no decrease in demand for poultry products, the outlook certainly is promising.

Are you carrying as many hens as your ranch will accommodate? If not, better increase your flock.

TIMELY TOPICS.

The Poultry Show at the State Fair this year promises to be the biggest and best ever. E. F. Mitchell, who is in charge of the poultry department, has his heart in the work and is planning to put some big things across. Judges Hinds and Moore will place the ribbons, and they sure know birds. The premiums are the largest of any fair in the United States. Let's do our part to make it a huge success. Of course we'll be there.

A co-operative poultry association has been formed in the Imperial Valley by poultrymen representing the different farm centers of the Farm Bureau. It is planned to buy feed co-operatively; to hold a fall poultry show; and to have a "turkey day" in the fall when all the turkeys in that section can be sold on an open market.

A barley cover crop and chickens are rotated through six equal sized corrals into which the 5-acre peach orchard belonging to John Verda, of Burbank, is divided. Barley is sown in the corrals long enough ahead of the chickens to let it make good pasture for them. Mr. Verda has White Leghorns.

Condensing buttermilk to convert it into poultry feed is getting to be a prominent feature with large creameries. The latest one to embark in the business is the Western Creameries Company at Benicia, which is installing a plant representing an investment of \$25,000.

Beginners, and even experienced poultrymen, may profit from the latest methods of culling drones and increasing egg production, which may be explained during the six weeks' poultry short course at the University Farm, Davis, beginning September 29. Reliable and easily applied tests whereby slacker hens may be picked out and "flock boarders" removed will be taught.

The poultry industry is developing rapidly in Tulare County, undoubtedly due in a large measure to the excellent work of the Co-operative Poultry Association. This association is now doing a business of over \$1,000 per day. Eggs, table birds and baby chicks are sold for members, and the feed and supply department does a business of over \$9,000 per month.

Mrs. H. Ament, capon specialist of the Pacific Coast, has been invited by the directors to lecture and demonstrate on Capons and the Capon Industry at the State Fair. She will give information for practical and profitable raising of capons here on this coast; also will give instruction in this art and speak of the work already done in Southern California and the prices paid last season and demand in general. This will be an interesting feature in the poultry exhibition.

GIVE THE DOE A SUMMER REST.

Don't breed a doe to kindle during the summer months unless you live in a section of the State having a cool summer climate. She cannot rear a litter properly, even if she is lucky enough to have them born alive, which often is not the case. She is irritable, and the flies make life miserable for her. If she is not fed enough she cannot supply nourishment for her family; if fed as she should be for nursing she becomes too fat and can not stand the heat.

Even if the weather is not too hot, it is best to give the doe a rest, so that she can build up and gain strength for her next litter. Hold off on breeding long enough so that the litter will come after the hot spell is over, and you will be delighted with a litter of fine, healthy youngsters, showing how much good the rest period did for the mother. You may not get as many rabbits in a year, but the net result will be much better. Don't overwork the doe.

MAKE 'EM WORK FOR THEIR LIVING.

Fowls that roam at large can look after themselves well enough, but those in confinement must be made to work for their living. With this object in view plenty of litter should be put down in the runs. Anything that can be scratched about answers the purpose; straw, potato and bean stalks, pea hulls, chaff and screenings from the threshing machine, or any similar rubbish. The more litter there is, the longer the birds will work, keeping themselves in good condition all the year round. If litter of some sort cannot be supplied, the ground should be spaded regularly, and this not only will afford some opportunity for scratching, but will tend to keep the runs sweet. Baked ground saturated with excrement from the fowls is the cause of much disease, which could be avoided by the use of plenty of litter.

Poultry Breeders' Directory

CAPON SPECIALIST—Make capons of your useless cockerels. Learn how at the State Fair and add profit, fine meat and infertile eggs to the poultry industry. Mrs. H. Ament, 423 Kerckhoff Bldg., Los Angeles, Cal.

PEERLESS WHITE WYANDOTTES—Our ities and high egg production. 50 cockerels, 200-egg strain, bred for years for show quality pullets for sale. Trios and mated yards eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

WHITE LEGHORNS are the most profitable breed of poultry; if you are in the business for profit, you will eventually have them; early broilers, early layers, early profits; we sell only White Leghorn baby chicks from heavy laying Hoganized hens; safe delivery of full count live chicks guaranteed; prices per 100. May and June delivery, \$12.50; July \$14. **THE PIONEER HATCHERY**, 408 Sixth St., Petaluma, Calif.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hoganized and Trapped stock. Won 1st, 2nd, and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties every week. Only good, strong youngsters shipped. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto.

EGG BRED—Buff Brown, White Leghorns, Golden Campines, Dark Cornish. Winners wherever shown. Send for circular. Percy Ward, 3142 Ward St., Fruitvale, California.

FALL BABY CHICKS—Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. Santa Clara Valley Hatchery, San Jose, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

BABY CHICKS—We have the large heavy-laying S. C. White Leghorns, severely culled last year. Send for prices. Tupman Poultry Farm, Ceres, California.

EASTMAN'S BRED TO LAY Hoganized and trapped Barred Plymouth Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

FOR SALE—72 purebred S. C. Rhode Island Red pullets. April hatch; Eastern stock. Two dollars each. Mrs. Alice Jeter, Esparto, Cal.

V. C. HOWE, E. 14th St., near Knox Ave., San Leandro, Cal., breeder of Flemish Giants, American Blues, New Zealand Reds. Fancy and utility.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GESE, GUINEAS. Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOUBON RED TURKEYS—The Ferris Ranch Rt. 2, Box 144D, Pomona, California.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

RABBITS.

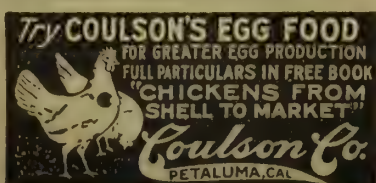
FOR SALE—10 3/4 Gray Flemish does, 5 mos., wt. 10 lbs.; unbred; \$3.00 each. Four 3/4 Gray Flemish does; bred; 1 yr.; \$3.50 each. Three 3/4 Steel Flemish does; 1 bred, 2 with litter, \$3.50 each. Three 3/4 Steel Flemish bucks; 2, \$5.00 each; 1, \$4.00. Eleven New Zealand Reds; will kindle in August, except 4, with litters; \$3.00 each. One Belgian doe; bred; \$3.00. These are all young utility stock. \$100.00 buys the lot on ranch. J. A. Swedberg, R. F. D., No. 1, Box 47, Livermore, Cal. Ranch, 3 miles E. Livermore, on main Highway Stage Center.

RAISE RABBITS—Most profitable and popular small animal in America. Big demand. Clean, fascinating work. Send 10c for copy of leading rabbit magazine and our Rabbit Books, P. N. 5, Gilmore's Rabbit Farm, Santa Barbara, Calif.

FOR SALE—Thoroughbred doe rabbits, 10 mos. old; 3 Belgians; 3 Flemish Giants; 1 Himalaya (fur-bearing pedigree). Price, \$4 each. Will breed before sending if desired. Address P. O. Box 344, Healdsburg, Calif.

NEW ZEALAND REDS—First class utility does bred \$5.00 each. Young does, \$2.50 each. E. E. Caldwell, Broadmoor, San Leandro.

RAISE RABBITS FOR US—We supply the breeding stock. Send stamp for particulars. E. E. Gibson Co., Arcadia, Calif.



THE HOME CIRCLE

TOIL ACCEPTED.

"I ask not
When shall the day be done and rest
come on;
I pray not
That soon from me the "curse of toil"
be gone;
I seek not
A sluggard's couch with drowsy cur-
tains drawn.
But give me
Time to fight the battle out as best
I may;
And give me
Strength and place to labor still at
evening's gray;
Then let me
Rest as one who toiled a-field
through all the day."
—Unidentified.

PETER VAN AND THE TRAIL OF HOPE.

(Written for the Pacific Rural Press by Lucy M. Thompson.)

"It's the trail of hope all right," said Peter Van Neste, as he swung his car around from the driveway into the street. He drove slowly past the little green house, and he and Nora took one last, long look at the house that had been "home" to them for eight years.

"Yes, Peter, it's the trail of hope we're starting out on, but oh, Peter, what will we find at the end of the trail? Do you suppose we'll be sorry we started?"

"I don't know, I'm sure; but let's hope for the best. That's why I called it the trail of hope."

The decision of the Vans to start out on the trail of hope dated back to the day that Peter came home from the specialist's office with the verdict still ringing ominously in his ears: "You must get off the cares—and keep off—or you will lose your eyesight."

Now, Peter Van knew no other way of making a living. At the age of nineteen and fresh from school he had gone into the service. Two terms with the U. S. military forces he had served before Nora crossed his path and he assumed the responsibilities of a family man.

These responsibilities called for a steady job, and Peter had received no training for his life work. He groped aimlessly in the darkness that was the result of his inexperience and lack of training and at last found a place as motorman on the street cars of a large northern California city.

He was a good motorman, and had finally found himself on a day run with four dollars a day as pay. He considered himself very fortunate and it was then that he and Nora had bought the little green house and a nice big lot in the vicinity of the car barns.

Things went smoothly for a couple of years after that, and then Peter, whose eyes had been weakened on the target range while he was in the service and had given him no little trouble in his street-car work, was taken ill with the measles. This attack left his eyes in a serious condition, and it was three months before he was able to go back to work. Even then he could barely see a block away and he had many narrow escapes on the crowded city streets with his car. The reflection of the sun on the paved streets and on the glass in the front end of the car almost blinded him. At last his eyes got so bad that he went to an eye specialist and learned that his street-car days were over and that total blindness might result if he did not rest his eyes. The shock left him almost incapable of thought or action, and it was Mrs. Van who conceived the idea of selling their equity in the place—they had paid \$800 into it by this time—and, with the money and the second-hand car bought the year before, faring forth to seek Opportunity—and to rest Peter's tired eyes.

They sold the house furnishings, garden implements and chickens, bought a trailer, packed their clothing, bedding, and camping outfit in the trailer and in the back of the

machine, and set out on the trail of hope. They banked the \$800 received for the place, taking a bank book along with them for emergencies. Magazines, books, a rifle, ammunition, plenty of "chow," and a coast highway map were among the essentials taken with them.

Mrs. Van soon relieved Peter at the wheel, and Peter relaxed with a sigh of relief, gazing through his colored glasses on the green, tree-lined horizon.

It was April and the fruit trees were blooming, wild mustard and golden poppies lined the highway and the ever-present hills were fresh and green. They explored many little by-ways and fished from many streams, and Peter's rifle brought down an occasional rabbit or quail. The woods appealed to them, for Peter could take off his glasses where the shade was heavy and see things as they really were.

Down the coast they went, ever alert for indications of the end of the trail, for the trail would end for them when they found their future job.

So they wandered until in May they reached the border and turned east into the mountains. They made camp one night in the shadow of a great mountain, where a clear stream dashed down the slope on its way to the sea, and as they sat by their camp-fire after supper a motorcycle passed down the road at top speed and about midnight came back up the grade followed by an automobile. About daylight the two machines descended the grade again, and the man on the motorcycle stopped to borrow gasoline. He explained that he was a fire warden and that his nearest neighbor, a homesteader in a little valley beyond the mountain, had died late the day before, and that it was the coroner's machine that accompanied him with the dead man's body in a casket strapped across the tonneau.

Peter gave him a quart of gasoline and late that afternoon the man came back and stopped for a chat. It developed that the man who had died had taken up a claim in the little valley near the fire ranger's camp several years before, and that his mother, who was his only living relative, would want to sell the homestead as soon as it was probated. The forest ranger said the price would probably be somewhere near \$250. Peter decided to look at it, so he and Nora broke camp and spent the night with the ranger and his wife in the cozy two-room log cabin that was their home.

Next morning the four walked to the deserted homestead and climbed to the crest of the wooded spur, where the log house stood overlooking the valley. A little higher on the spur, behind the house, a spring gushed between two great rocks. The homesteader had made a cemented pool to collect the water, which was piped from the pool to the house and barn. The barn was of logs as was the chicken house, and the whole 160 acres had been fenced with a two-strand barbed-wire fence. Fifteen acres had been cleared, and 10 of it was in oats almost ready to cut, half an acre in potatoes, half an acre in Egyptian corn, two acres in field corn, a small plot in general garden, and nearly two acres lay plowed and harrowed but unplanted. There were several assorted fruit trees just coming into bearing in the yard. Two Jersey cows, a couple of yearling steers, and a suckling calf were lowing for water, and a team of horses whinnied for hay as the party neared the barn. There was a flock of chickens of mixed breed and a collie dog that begged for food, and the ranger drew a paper sack of corn-bread from his pocket, to the dog's delight.

"Nice place for somebody who likes the life," said the ranger, as they turned to go. "It's only 60 miles from San Diego and 8 miles from the nearest store and post office—it'll go cheap."

Peter turned and surveyed the place

again. "I guess we've reached the end of the trail, Nora, let's do down and get the car and camp here. Some one will have to take care of this stock and we have nothing else to do."

"Oh, Peter, I'm so glad you feel that way about it," Nora said; "I knew when we turned in at the gate that we had come to the end of the trail. We must stay and take care of the things—our own things."

They camped at the homestead that night and the next afternoon moved into the house, the ranger having obtained permission for them. Peter mowed the oats and stacked it in two great stacks near the barn, for it would be fed as hay.

The little valley lay 2,000 feet above sea level and was far enough back in the mountains that it got an occasional rain through the summer. For the same reason it sometimes revelled in the novelty of a snowstorm, and April and September frosts were not unknown.

(To be continued.)

HOW IT HAPPENED.

Teacher—Freddy, you must not laugh out loud like that in the school room.

Freddy—I didn't mean to do it. I was smiling, when all of a sudden the smile 'busted.

TOO MUCH TROUBLE.

It was in a country store back of Covington.

A one-gallus customer drifted in. "Gimme a nickel's worth of asafetida."

The clerk poured some asafetida in a bag and pushed it across the counter.

"Charge it," drawled the customer. "What's your name?" asked the clerk.

"Honeyfunkel."

"Take it," said the clerk. "I wouldn't write asafetida and Honeyfunkel for five cents."

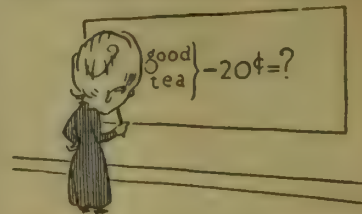
LOCATED THE BLAME.

Margaret, aged 5, had been very rude to a little guest, and after the child had gone home Margaret's mother told her feelingly how grieved she was at her rudeness.

"I've tried so hard to make you a good child, Margaret; to teach you to be polite and kind to others, and yet, in spite of all my efforts, you are so rude and so naughty."

Margaret, deeply moved, looked

sadly at her mother and said: "What a failure you are, mother!"—Unidentified.



When you "save" 20 cents a pound on tea, you lose money on every cup. Fine tea is really cheaper than common tea.

And you miss the real tea-flavor, the comfort, the cheer, the invigoration, that every tea-drinker has a right to.

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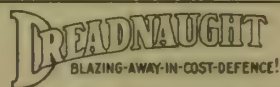
There are four flavors of Schilling Tea—Japan, Ceylon, India, Oolong, English Breakfast. All one quality. In parchment-lined moisture-proof packages. At grocers everywhere.

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The Pacific fleet is coming—the welcome will be tremendous and equal the "home-coming" of that mighty little cost defender—Dreadnaught—which has been so unflinching in the security of comfort and cheer to many homes.

Safeguard the home—fuel has not gone down; it's due for another jump. In the making of clean gas from kerosene with a Dreadnaught Burner, you are getting all the fuel—all that you have paid for. The stove does not have to be changed—no plumber needed. Connection is made through the draught holes provided in every stove.

Changing from worse to better, giving up the old for the new, is not always easy, but we usually wonder how we ever got along with the old. Write for our circular—let us help solve your fuel problems. The Burner proves up to its name and is fully guaranteed.

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G. E. COLBY CO., Inc., 36 N. 8th Ave., Maywood, Ill.

STAIN REMOVERS AND HOW TO USE THEM.

Some stains may be removed by brushing or rubbing, others must be treated with special stain removers. Some are made by a combination of substances, and it may take a combination of methods to remove them.

Absorbents—These are the simplest and safest cleaning agents. Common ones are blotting paper, unglazed paper, talcum, French chalk, fuller's earth, starch, meals, and sawdust. They are used chiefly for grease stains, blood and ink stains, and freshly spilled liquids.

To Use Absorbents—Cover grease spots with a powdered absorber, let stand several hours, then brush. Or lay the material on white blotting or unglazed paper and cover with powder or more paper; apply a warm iron; repeat, using fresh power or paper until the stain is entirely removed. Cover dry blood and ink stains with starch paste; when the paste dries and discolors, brush off and repeat until the stain disappears. Cover freshly spilled liquids with powder, meal, or bits of blotting paper; this prevents the liquid from

spreading and sinking into the material.

Solvents—These dissolve grease, sugar, and some other substances that hold stains in fabrics. The most common solvent is water; others are alcohol, benzine, carbon tetrachloride, chloroform, ether, gasoline, kerosene and turpentine.

To Use Water—Soak washable goods in cold water and wash with cold or tepid water and white soap. Use hot water in the same way or by spreading the stained goods over a bowl and pouring boiling water from a height. Caution: Hot water sets some stains, such as blood, meat juice, milk and egg. Place non-washable materials over a pad of white cloth or absorbent paper. Sponge, using very little water at a time. Change the pad as it becomes soiled or wet. Rub gently till dry. Caution: Water should not be used on some materials because it spots them.

To Use Other Solvents—Place the stained goods over a pad of cloth or paper and apply the solvent, using a glass rod or a stick with a rounded end. Work from the edge of the stain toward the center. Surrounding the spot with powder keeps the liquid from spreading and helps to prevent a ring forming. Change the pad as it becomes soiled or wet.

Neutralizers—If the stain is made by an acid, treat it with an alkaline substance. If it is made by an alkali, weak acid may restore the color. Acids and alkalis have an opposite effect and are said to "neutralize" each other.

To Use Neutralizers—Common acid stains are made by sour fruit juices and vinegar. Neutralize these by using a solution made of about 1/4 teaspoon ammonia, baking soda, or borax to 1 cup water. Spread the stained material over a pad and sponge it; or stretch it over a bowl of water and apply the solution, a drop at a time; a medicine dropper is convenient. Rinse with clear water. Alkaline stains are usually caused by ammonia, strong soda, potash, or strong soap. Neutralize these with vinegar, lemon juice, or weak hydrochloric or oxalic acid. Work as for acid stains. Rinse with clear water. Caution: Never use hydrochloric acid on silk.

ARIZONA WOMEN CAN MUCH FRUIT.

The women of Snowflake, Navajo county, Arizona, with a population of a few hundred persons, co-operatively canned 13,049 quarts of fruits and jellies for home use in one year.

They own co-operatively three pressure cooker canners which they pass from house to house. In 1918, they canned 13,049 quarts of fruits and jellies and dried 1,745 pounds of fruits and vegetables.

Snowflake is in an isolated section of Navajo county, approximately sixty miles from a railway. Such a plan would be advantageous in many parts of California and deserves notice.

Baptist hens in Ohio did their denominational duty toward the \$6,000,000 Victory Campaign during Golden Egg Week, when they laid 26,388 eggs toward the state quota of \$425,000, according to a statement by the Rev. Charles A. McAlpine of the National Committee of Northern Baptist Laymen, which is the organization in charge of the drive.

PIGEON TO RECEIVE THE D. S. C.

At least one of the one thousand pigeons that have returned from France after helping win the war will be decorated for distinguished service. "Cher Ami," the pigeon that carried the message to General Pershing's headquarters, announcing the victory of the Yankees in the Argonne, will be given such honor. Cher Ami is the feathered hero that flew thirty-seven miles after its left leg had been torn away by an enemy

bullet, and delivered intact the despatch with which it had been entrusted. He is also one of the pigeons that carried dispatches announcing the plight of Lieutenant-Colonel Whittlesey and his lost battalion, to which aid was immediately sent.

For these heroic deeds Cher Ami has been recommended by General Pershing for the D. S. C. The pigeon will from now on have the best of quarters in Washington, a plentiful ration, and all proper care.

When You Buy a Piano it Pays to Buy a Good One

When you buy a piano you intend it to last a life time. Therefore special care should be used in making a selection.

You should not be guided by cheap prices or special inducements. Pianos, like everything else, are priced according to their intrinsic worth. If you do not possess expert knowledge of piano making you must rely greatly on the Piano Dealer. Take greater care in selecting the Dealer than the Piano. It is certainly to your interest to go to a dealer who has the reputation of carrying only pianos of merit and true musical worth, who is known to price his pianos consistently, and who has only one price for everybody.

We carry a number of well known makes, each the very best in their grade. Prices of new pianos range from \$400 upward; good "used" pianos from \$200 upward. If desired, we arrange convenient terms of payment.

We invite you to call at any of our stores—or write us asking for illustrated catalogs and prices.

We are dealers in Steinway and other Pianos, Duo Art and Pianola Pianos, Aeolian Player Pianos, Player Rolls, etc.

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AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

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No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over.—will last a lifetime.
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The Premier Burner will save you money. Will answer for all time the fuel problem that is becoming more serious every day. The Premier fits any stove. No Dirt, Smoke, or Soot.

Complete Outfits, \$12.50 and up, according to requirements.

No obligation in asking for information.

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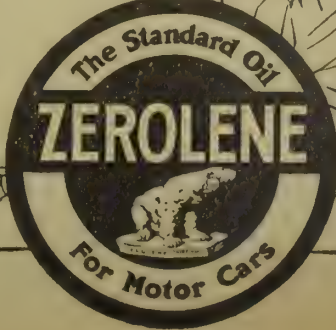
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SCIENTIFICALLY CORRECT

Zerolene, scientifically refined from selected California crude oil, gives better lubrication with least carbon deposit. Get a Correct Lubrication Chart for your car.

STANDARD OIL COMPANY
(California)



Market Comment

Half-Acre Apricots \$826.

Thirteen tons of apricots sold for \$826 in Modesto. George Roberts grew them on half an acre. This is a record for this section of the State.

75-Cent Cotton Predicted.

Predictions have been made in Chicago that cotton will go to 75 cents a pound within a year. Merchants blame the manufacturers for the high prices of finished products.

A Plum Record.

Plums from 70 trees on less than an acre, yielded 15 tons to C. G. Kline of Yuba City. The fruit, Washington plus, brought \$80 a ton or \$1,200 for the crop. Sutter county claims this is a record.

Delta Barley Bringing \$3.

Barley on the levees of the Delta lands is bringing \$3 a hundred. Yields of from fifty to sixty sacks are returning \$165 to \$198 an acre. Cash rent of \$40 an acre has been refused by some owners.

Peaches Climbing.

Peaches have maintained a high level all season, but seem to be climbing. Large lug boxes of good fancy ripe stock brought \$2.75 this week. Baskets sold for \$1.50 and small boxes of wrapped fruit brought \$1.25.

Rice Yields and Prices Good.

Rice in Sutter and Yuba counties is fine, due to ideal weather. The grade is good and growers expect a price around \$6 per cental. The crop is large. Dun's report estimates a 40 per cent increase in the rice yield this year.

Shorthorn Bull, \$50,000.

The world's record price was paid at the Royal Agricultural Show in London, Eng., recently, when a Shorthorn bull sold for the equivalent of \$50,000. The bull was bred by the Edgemoor Shorthorn Company. All cattle are bringing high prices abroad.

Wine Grape Growers Smiling.

Wine grapes in Sonoma Valley will go at \$60 a ton this fall—if the wine-makers are permitted to make wine. The grape crop all over Sonoma county is the finest ever known, and a failure to harvest the crop would mean a loss of several million dollars.

Watsonville Apples Up.

Eastern buyers have secured a lot of new crop Newtown apples at \$1.85 a box, Watsonville delivery. The Apple Growers Association there advanced the price 15 cents per box, owing to liberal contract purchases and more buying orders coming in from the East.

Prune Production and Prices.

Further advances were recorded in the dried prune market last week in spite of the fact that the California production will be about 150 per cent larger than the merchantable crop last year. Sales of 40s at 18c and 50s at 15c were made during the week. A car of 40-90s at an advance of 4c over the previous week's quotations was sold.

Tomatoes Profitable at Knightsen.

From sixteen and a half acres of ground 300 tons of tomatoes are to be taken. The crop will be packed at Oakley and has been contracted for at \$20 a ton. The value of the crop is \$6,000; the yield at the rate of \$375 an acre. The crop was set out as an experiment, the result being so good that a new industry is expected to develop in the section.

Hops Advance Despite Prohibition.

Hop prices continue to rise, selling in the open market now around 55c. Dealers expect the price to go near 75c in the winter and are advising hop growers to hold their stocks. The market is steady and prohibition seems to have no effect. The harvest will begin in the middle of August and end the last of September. Eastern brewers are buying all the hops available and growers are making arrangements for a few years. Contracts let for the next two years have prices ranging around 40c per lb. In the Puyallup Valley, Washington, hops are quoted now from 50 to 55c a pound and expectations are set at 65c.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, July 30, 1919.

WHEAT.

There is little feature to the local wheat market, its strength being based principally upon the firmness of the eastern markets.

Per bushel—	
No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
Re-cleaned, per ct.	
California	\$3.67 1/2 @ 3.75
Early Baart	\$4.15 @ 4.20

BARLEY.

Barley continues strong and higher prices are quoted for the old crop. On the exchange futures sell higher than the spot grain. May barley is quoted at \$3.45 to \$3.47 1/2 and December sold as high as \$3.40. Feed

Feed \$3.20 @ 3.25

Shipping \$3.25 @ 3.35

OATS.

The quotations on oats were moved up this week in sympathy with the advancing prices of barley. Some red feed sold as high as \$3.25.

Red feed, per ct.	\$3.00 @ 3.25
Red for seed	Nominal
Black for seed	Nominal
Re-cleaned Red or Black for seed	Nominal

CORN.

While the prices of corn are not changed there is a strong undercurrent to the market, which indicates higher prices if the strength of the other grains continues to be manifested. California

California \$3.30 @ 3.50

Egyptian, choice Nominal

Milo Nominal

HAY.

Receipts of hay for the past week were 2770 tons compared with 1830 tons the previous week. The receipts are now commencing to show an increase. The bulk of the receipts are coming in by boat and rail receipts in this market are below the usual amount at this season. The demand is fairly active and prices have been easily maintained. Owing to the reported shortage of water in some districts and of grasshopper pests in others, alfalfa has been held firm on a higher range of prices than heretofore. Trade in the country districts has been better than for some time and considerable hay has been moved in this direction.

No. 1 Wheat, per ton	\$15.00 @ 17.00
No. 2 Wheat, per ton	12.00 @ 14.00
Choice Tame Oat, per ton	15.00 @ 17.00
Wild Oat, per ton	10.00 @ 13.00
Barley Hay, per ton	12.00 @ 15.00
Alfalfa, per ton	16.00 @ 20.00
do, new, 1st cutting	
Stock Hay, per ton	9.00 @ 11.00
Barley Straw, per bale	.50 @ .80

FEEDSTUFFS.

The demand for feedstuffs has been quite active during the past week and there has been some difficulty in getting enough produce to satisfy all demands promptly. As a consequence there has been a strong upward tendency in the market. Millrun was bid up \$2 by the dealers in the effort to get enough to satisfy their customers.

Bran	Not being marketed
Shorts	Not being marketed
Cracked corn	\$78.00 @ 80.00
Roller barley	66.00 @ 67.00

Roller oats	64.00 @ 65.00
Alfalfa meal	33.00 @ 35.00
Cocunut meal	48.00
Oil cake meal	71.00 @ 72.00
Milkmix	58.00 @ 60.00
Millrun	48.00 @ 47.00

POTATOES, ONIONS, ETC.

Onions are quiet with a downward tendency. There are practically no more reds left, while the supply of browns is becoming plentiful. Potatoes showed some strength this week on a demand from outside sources. Prices, however, were not changed. Corn continues to go down in price, while an oversupply of tomatoes is rapidly running down the price of that vegetable. It is believed that the next week will see even lower prices on tomatoes. The green vegetables as a whole show little change.

String beans	3 @ 4c
Peas	5 @ 7c
Carrots, per sack	\$1.50 @ 1.75
Rhubarb, Strawberry, box	\$1.50 @ 2.00
Cucumbers, hothouse	.75c @ 1.00
do, Los Angeles	50 @ 75c
do, Bay	.75c @ 1.00
Eggplant, box	.75c @ 1.00
Lettuce, per crate	.75c @ 1.25
Celery, crate	Nominal
Tomatoes, River, per large box	\$1.50 @ 2.00
do, Merced	.60c @ 1.00
Sprouts	Nominal
Summer squash, lug	.75 @ 1.00
do, Alameda	.75c @ 1.00
Green Corn, Alameda, sack	\$2.00 @ 3.00

Potatoes—	
Oregon	2.25 @ 2.50
Idaho	2.00 @ 2.35
Garnets, new on street	\$2.40 @ 2.75
Other new on street	\$2.25 @ 2.60
Sweets, new, lb.	.6 @ 7c

Onions, Warehouse Stock—	
Australian Browns	Nominal
Onions, new red	Nominal
Browns	\$2.00 @ 2.50
Yellow	\$2.00 @ 2.50
Green Alameda	\$1.00 @ 1.50
Garlic	.15 @ 18c

BEANS.

The bean market is stronger than it has been for a long time. The acreage of new beans has been cut to such an extent that it is realized that a shortage may develop. The high price of rice has also turned the attention of the Japanese to beans, and it is reported that they are buying more freely than ever before. The advances in prices were all along the line this week, excepting Teparies and Garbanzos. Limas are nearly exhausted and the price was advanced from \$9 to \$12. Bayos, per ct.

Blackeyes \$5.25 @ 5.50

Cranberry beans \$6.00 @ 6.25

Limas (south, re-cleaned) \$12.00

Pinks \$6.40 @ 6.60

Mexican Reds \$5.00 @ 5.25

Tepary beans 2.50 @ 2.75

Garbanzos 11.75 @ 12.00

Large whites \$7.00 @ 7.25

Small whites \$7.75 @ 8.00

POULTRY.

The market on broilers and fryers was easy this week, while the rest of the market was firm. Hens especially were in demand and higher. Young turkeys dressed are more freely offered, the price varying from 45 to 50 cents.

Turkeys, dressed, young spring, lb.	.45 @ 50c
Broilers, 1 1/2 lbs. and under	.33c
do, 1 1/2 to 2 lbs.	.33c
Fryers, 2 to 3 lbs.	.33 @ 34c
Hens, extra, per lb. colored	.38 @ 39c
do, Leghorn	.31 @ 33c
Smooth young roosters, per lb. (3 lbs. and over)	.40 to 43c
Old roosters, colored per lb.	.22 @ 23c
Geese, young, per lb.	.22 @ 23c

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., July 28, 1919.

Prices in all markets on Bartlett Pears during the last week ruled lower, due to increased offerings. Despite the heavier supplies, however, there was a good demand. Receipts of Bartletts will be still heavier this coming week and we look for still lower markets, with an upward tendency the latter part of the week and a firm tone in all markets through the balance of the season. These conditions are usual. Shipments of Bartletts from the Sacramento River will continue for the next ten days, though the movement will be considerably lighter from now on.

There is strong demand for peaches on account of the offerings of stock of this variety from Southern States arriving in unsound condition. It is reported that brown rot has destroyed about 50 per cent of the New Jersey crop and has seriously affected the peaches from Southern states. The movement of peaches from Georgia and Texas has practically discontinued. Shipments from Oklahoma are light but the crop of Arkansas Elbertas has just begun to move. A great deal depends upon the condition of this fruit upon arrival as to how the Eastern markets will affect our California stock. The demand for California Elbertas in the Middle West markets should be very active and we anticipate being able to maintain satisfactory prices throughout the entire harvest.

The tonnage of Lower San Joaquin Valley Elbertas has been considerably cut down on account of the excessive heat, but the crop in the Northern San Joaquin Valley and Placer county is normal. Shipments will continue for three weeks.

It has been customary in former years for the trade to store Georgia and Eastern state peaches, but on account of the lack of keep-

ing quality of the stock this season, practically no cars have been put in storage, which should give a freer market to the late varieties of California peaches.

Government figures for June for Ohio, Michigan and New York peaches estimates the tonnage at 50 per cent.

Plum shipments from California are light, with only a few varieties yet to be shipped. The demand is very firm and will remain so for the balance of the season.

Thompson Seedless and Early Malagas are moving at considerably higher prices than last season. The present market will be somewhat lower under increased offerings, but shipments are well regulated and if the stock arrives in good condition, there is no question but what the entire crop can be moved to good advantage.

Averages for the week:
NEW YORK—Bartlett Pears, \$3.93; Malaga Grapes, \$4.02; Thompson Seedless, \$3.37; St. John Peaches, 99c; Hales, 70c; Crawford, \$1.36; Tuscan, \$2.71; Wickson Plums, \$2.30; Tragedy, \$1.84; Burbank, \$1.78; Duane, \$1.67; American Blue, \$1.74; Climax Plums, \$1.51; Gaviota, \$2.26; Santa Rosa, \$1.86; Diamond, \$2.04.

BOSTON—Bartlett Pears, \$3.88; Malaga Grapes, \$3.80; Thompson Seedless, \$2.62; Decker Peaches, \$1.75; Hales, 91c; St. John's, \$1.15; Wickson Plums, \$2.98; Tragedy, \$2.18; Diamond, \$1.96; Burbank, \$1.93; California Blue, \$1.96; Climax, \$1.61; Gaviota, \$3.16; Maynard, \$1.35; Santa Rosa, \$2.57.

CHICAGO—Bartlett Pears, \$3.64; Malaga Grapes, \$3.16; Thompson Seedless, \$2.61; Crawford Peaches, \$1.55; St. John's, \$1.83; Diamond Plums, \$2.11; Tragedy, \$2.06; Burbank, \$2.17; Wickson, \$2.27; Gaviota, \$2.70; Duane, \$1.85; Santa Rosa, \$2.20; Formosa, \$2.50.

do, old, per lb.	.22 @ 23c
Squabs, per lb.	.48 @ 50c
Ducks, young	.25 @ 28c
do, old, per lb.	.25c
Belgian hares	16 @ 18c
Jack rabbits	\$3.00 @ 3.50

BUTTER.

Butter has shown little fluctuation during the past week. It has been steady throughout July and shows but a half-cent change in range from that of June.

Th.	Fri.	Sat.	M.	Tu.	Wed.
Extras	54 1/2	55	55 1/2	56 1/2	55
Prime firsts	53 1/2	53 1/2	54	54	54
Firsts	51 1/2	51 1/2	51 1/2	51 1/2	51 1/2

EGGS.

Eggs have shown greater changes in prices than butter during the week. They have steadily advanced in price, notwithstanding heavy receipts in this market and in the eastern markets. The movement to storage has not been great and on several days more eggs were taken out of storage than were put in. The amount on hand in the ice houses is almost identical with that of a year ago at this time, although the prices at which eggs went into storage this year were considerably above the figures of a year ago.

Th.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	51 1/2	52 1/2	52 1/2	53	54 1/2
Firsts	49 1/2	48 1/2	48 1/2	49	52
Ex. pullets	44	44	44	45	46 1/2

CHEESE.

California cheese showed considerable strength this week under fair demand. The Oregon product was weaker, although quotations remain unchanged. California flats were in special demand.

Fancy California, flats, per lb.	31 1/2c
do, Firsts	29c
California T. A.	36c
California Y. A.	32c
Oregon Triplets	32 1/2c
Monterey cheese	23 @ 27c

FRESH FRUITS.

There is no longer a demand for the ice-house apples of last season as the local market broadens. Gravensteins are not yet in prime condition for home consumption. The bulk of the arrivals of this apple is now being shipped away.

Apricots are almost exclusively in bulk now and they sell at from 5 1/2 to 6 cents a pound, about what the canners are paying for them. Thompsons Seedless grapes are coming in in quantity, and sell from 75c to \$2 a box. The melon market is weaker. The Honey Dew melon at \$1.50 to \$2 is attracting attention among the buyers, and this affects the demand for cantaloupes.

Apples, New Red Astrakhan, boxes	\$1.50 @ 2.00
do, Gravensteins	\$2.25 @ 3.00
Peaches	75c @ 1.05
Apricots, bulk, lb.	.5 1/2 @ 6c
Plums	\$1.00 @ 1.50
Figs	.75c @ 1.00
Grapes, Seedless	.75c @ 1.00
Strawberries, chest	\$1.00 @ 1.40
Loganberries	\$1.00 @ 1.40
Raspberries	\$1.00 @ 1.40
Blackberries	\$1.00 @ 1.40
Currents, chest	None
Cherries, Black, bulk	None
Cantaloupe, Standards	\$1.25 @ 2.00
do, Ponies	\$1.00 @ 1.25
do, flats	.75 @ 90c
do, Honey Dew	\$1.50 @ 2.00
Watermelon, lb.	1 1/4 @ 1 1/2c

CITRUS FRUITS.

The citrus market is strong with fancy lemons selling at \$8. Valencia are no higher for the best, but the cheaper grades have disappeared and \$4 is the lowest price quoted for really good oranges. Grapefruit is also showing strength and sells fifty cents higher than last week.

Oranges, Valencia	\$4.00 @ 5.25
Lemons, fancy	\$7.00 @ 8.00
do, choice	6.00 @ 7.00
do, standard	5.00 @ 6.00
Lemonettes	4.00 @ 5.00
Grapefruit	4.00 @ 4.75

DRIED FRUITS.

The dried fruit market continues to show great strength as the season advances. While the dealers declare that prices are beyond reason they continue to buy and from time to time to bid against one another for choice stock.

Apples	20 @ 20 1/2c
Pears	20 @ 21 1/2c
Peaches	17 1/2 @ 19c
Apricots	23 @ 25c
Plums	13 @ 15c
Figs, Adriatic	14 @ 20c
do, Calymna	16 @ 23c

RICE.

The 1919 crop will undoubtedly exceed all early expectations, but there is no tendency to look toward lower prices. On the contrary, the trade seems a unit in predicting that prices will mount above the present market.

HONEY.

The reports of extremely hot weather throughout the San Joaquin Valley seems to end the hope that honey might go to a lower level. It is said that the bees in many locations have stopped working on account of the heat and that the crop will not be nearly so large as anticipated a short time ago.

Water-white orange blossom	18c
White to water-white sage (subject to production)	18c
Light Amber Mountain (Sage-Buckwheat)	13c
Light Amber Alfalfa	11 @ 13c

WOOL.

The wool market displays a healthy undertone, and there is an especially strong demand for the coarser grades.

Humboldt	60 @ 62 1/2c
Mendocino	55 @ 58c
Sacramento	40 @ 45c
San Joaquin	35 @ 37 1/2c

HIDES.

The hide market is going up and higher prices are considered certain. Some tanneries are forced into the market for supplies. No. 1 wet salt kip, 15 to 30 lbs, 50c; No. 2, do, 47c; No. 1 wet salt calf, trimmed, 75c; do, untrimmed, 75c; No. 2 calf, 2c lb. less. Wet salted horse hides—No. 1 large, skinned to hoof, \$10 @ 13; do, medium, \$7 @ 9; do, small, \$1 @ 3.50; No. 1 colts, 60c @ \$1.

LOS ANGELES.

Los Angeles, July 29, 1919.

BUTTER.

No change in quotations. The demand is good and market firm. Receipts for the week, 488,000 lbs.

California extra creamery57c
do, prime first55c
do, first54c

EGGS.

Fresh ranch and pullets make slight increase. Demand continues good and the market is firm. Receipts for the week, 1,207 cases.

Fresh ranch, extra52c
do, case count50c
do, pullets47c

POULTRY.

Broilers and friers coming in freely and demand fair. Friers lower. Hens selling a little better during the week. Ducks in fair demand. Turkeys dull.

Broilers, 1 to 1½ lbs.27c
Broilers, 1½ to 1¾ lbs.27c
Friers, 2 to 3 lbs.29c
Roosters (soft bone), 3 lbs. and up.32c
Stags and old roosters, per lb.16c
Turkeys34@40c
Hens27c
Ducks27@34c
Geese25c

VEGETABLES.

All good to choice stuff in good demand at quotations. Poor and stale stuff hard to move. Receipts continue to be very good.

Potatoes, new, per cwt.\$2.00@2.25
Onions, New Red, per cwt.\$2.50@2.60
do, Stockton yellows, per cwt.\$2.50@2.60
White globe, cwt.\$2.75@3.00
Cabbage, per 100 lbs.75c@1.00
Rhubarb, per 30-lb. box75c@1.25
Summer squash, lug20@30c
Peas, per lb.8@10c
Kentucky Wonders3@4c
String Beans, wax3@4c
do, Green2@3c
Tomatoes, lug box50c@1.00
Cucumbers, local, lug box15@25c
Lima Beans, local, lb.10@12c
Cantaloupes, shipped in, Stand. & Pony crates50@75c
do, home-grown, pony crate50c@1.00
Watermelons, 100 lbs.1.00@1.25
Lettuce, crate70@90c

Special Livestock Market Report

San Francisco, July 30, 1919.

CATTLE—The local cattle market is stronger on limited offerings. Improvement in the Eastern centers permitted of a resumption of shipments in that direction, which had the effect of strengthening the market here. There is an especially strong demand for the better grades of beef cattle.

Grass Steers, No. 1, weighing 1000 @1200 lbs.10@10½c

Grass Steers, No. 1, weighing 1200 @1400 lbs.9½@10c

Grass Steers, thin6@7c

Grass Cows & Heifers, No. 18@8½c

Grass Cows & Heifers, 2nd qual. 6½@7½c

Grass Cows and Heifers, thin4@5½c

Bulls and Stags, good4½@5½c

do, fair4@4½c

do, thin3@3½c

Calves, light weight12½@13c

do, heavy10@11c

SHEEP—Mutton sheep are being offered more freely this week, with a consequent weakening of the market. Indications are for higher prices for breeding stock in the near future.

Lambs, yearling10@10½c

Corn, lug box40@50c
Peppers, Bell, lb.8@10c
do, Chile, lb.7@8c
Casabas, lb.2½@4c

DRIED CHILE PEPPERS.

This market is reported to be very dull.
California12@14c
do, Mexican20@22c

ALFALFA.

The following quotations on Alfalfa Hay, f. o. b. Los Angeles, are furnished by the Alfalfa Growers of California, Inc., 525 Central Bldg.

No. 1 Dairy\$26.00@27.00
Standard Dairy\$23.00@24.00
Standard Alfalfa\$21.00@22.00
Stock Alfalfa\$12.00@17.00

FRUITS.

Apricots, peaches, plums, beans and grapes in good demand. Berries reported to be dull, selling higher. Pears on the market and priced at 5c and 8c. Receipts fair.

We quote from growers:

Apricots, lb.5@7c
Peaches4@5c
Strawberries—
30 basket crates, fancy\$4.25@4.50
Poor to choice3.75@4.00
Blackberries, case 30 boxes\$4.00@4.50
Raspberries, case 30 boxes\$3.50@4.00
Loganberries, case, 30 boxes\$4.25@4.50
Plums, Santa Rosa6@7c
do, Tragedy6@7c
do, Satsuma, lb.5@6c
do, Burbank, lb.5@6c
do, Sugar, lb.5@6c
do, Nectarines, lb.7@10c
Apples, White and Red Astrakhan, lb. 4@5c
Grapes, Thompson Seedless, lb.5@8c
do, Malaga, lb.7@8c

BEANS.

Limas in fair demand and quoted higher. Some little doing also in other varieties.

Limas, per cwt.\$9.00
Large white, per cwt.6.25
Pink, per cwt.6.50
Small white6.25
Blackeyes, per cwt.\$3.75@4.00
Tepary, per cwt.\$2.00@2.50

HAY.

Receipts fair and demand good for alfalfa and oat hay. Barley hay dull. Oat hay and alfalfa hay little higher.

Barley hay, per ton\$18.50@21.50
Oat hay, per ton\$22.00@25.00
Alfalfa, Northern, per ton\$20.00@21.00
Alfalfa, local, per ton\$22.00@24.00
Straw, per ton9@10.00

do, milk13 @13½c..

Sheep, wethers9½@10c

do, ewes7½@8c

HOGS—Hogs are stronger on reduced supplies, and in sympathy with the strong Eastern and northern markets. Under pressure by packers and butchers for supplies, an advance on all grades was made this week, the 140@300-lb. class bringing the top price of 20½c. The Eastern market is decidedly erratic, though the pendulum does not swing far from \$23 per cwt. either way for choice hogs. Still higher prices are anticipated before the middle of September.

Hard, grain-fed, 100-150 lbs.20c

do, 150-250 lbs.20½c

do, 250-300 lbs.20c

do, 300-400 lbs.19½c

Los Angeles, July 28, 1919.

CATTLE—Demand is light and no change in prices.

Per cwt. f. o. b. Los Angeles:

Beef, steers, 1000@1100 lbs. \$9.00@10.50

Prime cows and heifers. 7.50@8.50

Good cows and heifers. 7.00@7.50

AGENTS WANTED—SELL AUTOMOBILE Tires and Tubes on liberal commission. Address Arnott & Co., Dept. 11, Los Angeles.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

PATENT ATTORNEYS.

WEBSTER, WEBSTER & BLEWETT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

CO-OPERATION (not operated for profit) reduces living expenses. Particulars and catalogue from Co-operative League, Commercial street, San Francisco.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

BEEES FOR SALE—Golden Italians in patent hives. John G. Mee, St. Helena, Cal.

COUNTRY LANDS.

150-ACRE CENTRAL WEST FARM

\$7900, ONE OF THE BEST

Producers in the county, near depot; short drive city of 25,000. 100 acres record crop tillage, 50-head woven-wire fenced pasture, wood and timber to nearly pay for farm; variety fruit. Good 8-room house, 3 barns, granary, 2 corn houses. Aged owner made money here, retiring, names low quick sale price \$7900, easy terms. Details, p. 89 Catalogue Bargains 19 States, copy free. STROUT FARM AGENCY, 831AF, N. Y. Life Bldg., Kansas City.

PRICE \$10,000—14 acres Napa River bottom land 1½ miles north St. Helena; 6-room house, barn, out buildings; orchard, 15 a. corn. All farm implements, horse, cow, hogs, chickens, engine and pump included. R. 1, Box 37, St. Helena, Napa Co., Cal.

FOR SALE—My Equity of \$3700 in 40 acres alfalfa land, 5 miles from Manteca. Address Wm. Robertson, 889 Fulton St., San Francisco.

WANTED TO EXCHANGE—Improved ranch in Tulare county for stock ranch in northern California. Address 154 So. C St., Tulare, Cal.

CANNERS 5.00@5.50

HOGS—But few coming into this market, but demand is good. Prices show an advance.

Per cwt. f. o. b. Los Angeles:

Heavy average 275@350 lbs. \$16.00@17.00

Heavy average 225@275 lbs. 18.00@18.50

Light19.50@20.50

Rough docked 20 lbs. piggy sows 40 per cent.

SHEEP—Prices unchanged. Market is firm and steady.

Prime wethers\$8.50@9.50

Prime ewes8.00@8.50

Yearlings8.50@9.50

Lambs12.50@13.50

PORTLAND LIVE STOCK.

Portland, Ore., July 29, 1919.

CATTLE—Firm; receipts, 83.

Steers, best, \$10@12.00; good to choice, \$9.00@9.50; medium to good, \$8.50@9.00;

fair to good, \$7.75@8.25; common to fair, \$7.00@7.50; good to choice cows and heifers, \$8.00@9.00; medium to good, \$7.00@7.25;

fair to medium, \$4.50@5.50; canners, \$3.00@4.00; bulls, \$5.00@7.50; calves, \$9.00@15.00.

HOGS—Steady; receipts, 40.

Prime mixed, \$22.25@23.00; medium, \$21.00@21.75; rough heavies, \$20.25@21.00; pigs, \$19@20.

SHEEP—Weak; no receipts.

Prime lambs, \$11.50@12.50; fair to medium, \$9.00@10.00; yearlings, \$8@8.50; wethers, \$7@7.50; ewes, \$6@7.50.

DRESSED MEATS.

Steers, No. 114½@15c

Steers, 2nd quality14 @14½c

Cows and Heifers12 @14c

Calves as to size, etc.20 @25c

Lambs, Suckling23 @25c

do, Yearling20c

Sheep, Wethers17 @19c

do, Ewes14 @15c

Hogs28 @30c

PELTS.

Long wool, 9 to 12 months' growth, \$2.50 up; medium, 6 to 9 months, \$1.50@2.50;

short, 3 to 6 months, 80c@1.50; shearings, good, 1 to 3 months, 25@75c; do, shaved or damaged, 20c; lambs, large long wool, \$1.25 up; lambs, small, 25c@1; milk lambs, 5@25c.

Cover Crops

Melilotus Indica

Common Vetch (vicia sativa)

Canada Field Peas

Our stocks of these are of the best quality obtainable. Our Melilotus is thoroughly scarified, insuring high germination.

Engage your requirements of the above now. Write for prices.

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MISCELLANEOUS.

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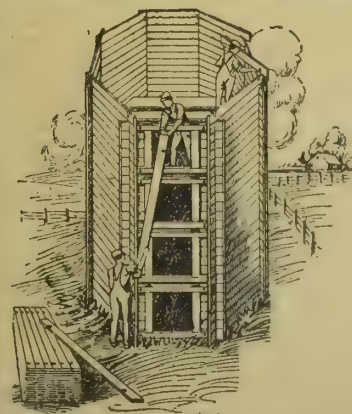
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Prevent the effects of the bumps from reaching the vital parts of your Ford Car or Ford One Ton Truck and you will find a saving of more than one-third in the up-keep and tire expense. You also will find that at least fifty per cent has been added to its life and resale value.

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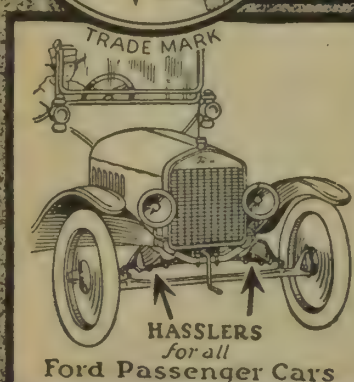
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THE PACIFIC RURAL PRESS

SAN FRANCISCO

AUGUST 9, 1919.

LOS ANGELES

Superior New Drought-Resistant Barley.

Written for Pacific Rural Press by Professor G. W. Hendry, University Farm, Davis.

MARIOUT BARLEY has been grown in the Sahara Desert of northern Africa since Roman times, and has thrived and produced well in the dry, arid climate of that region. It was introduced into California in 1904 through the State Experiment Station, and has been under continuous observation since that time. In 1912 seed was given to B. C. French, near Davis, for a test under ranch conditions, and in this it was at once successful and sustained its previous record at the University Farm by yielding several sacks per acre in excess of common barley. The following year Mr. Theo. Oeste, an extensive Yolo County barley grower, tried it, and has continued to grow it in increasingly large quantities to the present time. By degrees other Yolo County ranchers have adopted it, and all have spoken strongly in its praise. To date it has excited more interest among local growers than any other cereal previously introduced by the Experiment Station, and each year is becoming more firmly established in the opinion of all as a valuable and important addition to the productive resources of the county. In 1917 there were about 300 acres of Mariout in California; in 1918 there were 700; in 1919, 3,000 acres and the forecast for 1920 is 10,000 acres. Yolo County is the center for its production and all of it is grown within a radius of 20 miles.

It has shown the greatest advantage over common barley in dry years when it has yielded 5 to 15 sacks more per acre. In the dry spring season of 1919, for example, it yielded 39.5 sacks per acre at the University Farm, compared to 19.0 sacks per acre for the common variety under similar conditions. In a test at the U. S. Plant Introduction Garden this season (1919) Mariout yielded 29.3 sacks per acre as compared to 18.5 sacks per acre for common barley.

Mariout Best for Spring Planting.

Mariout may be spring sown (February and March) with much better prospects for success than common barley. On the flood lands of the Yolo Basin it has been planted as late as April 20th, and ripened 80 days later, yielding far in excess of common barley.

An instance illustrating its peculiar adaptation to spring planting occurred on the higher lands of Yolo County in 1919, where as a result of deficient spring rains, spring planted Mariout produced well, when the common variety handled in the same way failed entirely. Some of these fields of Mariout planted in March received no rain whatever subsequent to

COMMON BARLEY has been grown in California since the days of the Spanish Missions, and but little thought given to the question as to whether it was the best variety to grow. After nine years of critical experiments at and near the University Farm, Davis, California, it has been definitely concluded that the variety "Mariout" is a more productive and remunerative variety than common barley in the interior districts of California and that it regularly outyields common barley by 5 to 15 sacks per acre on dry soils and in dry years. It can be harvested two weeks earlier than common barley.



MARIOUT AND COMMON BARLEY.

The "rachilla" shown between ends of dotted lines is bristly in Mariout, the drought-resistant barley, which has been grown in Yolo county many years. This variety produces shorter straw than the common barley, but stools more and produces thicker, stouter heads, which do not shatter so badly in the north winds.

planting and yielded 10 to 15 sacks of grain per acre. In many of the Mariout fields, a sprinkling stand of common barley appeared simultaneously with the Mariout, but on account of the severe drought, only the Mariout produced seed.

A signal instance illustrating the special suitability of Mariout for spring sowing occurred in 1912. In that year the total seasonal rainfall amounted to only 9.46 inches and it was the most severe drought recorded in recent years. In a test of Mariout and common barley that year, in which the two varieties were sown February 2nd, under strictly comparable conditions, Mariout yielded 47.57 sacks per acre and common barley 20.7 sacks per acre.

In a series of fall planting tests at the University Farm extending over nine years, Mariout has averaged 4 sacks per acre above common barley. At the U. S. D. A. dry farm, field station at Moro, Oregon, with extremely low average annual rainfall of 11.6 inches; Mariout in competition with 28 other barleys, has maintained the highest average yield during an eight-year test; has outyielded the common barley in seven out of eight years that it has been grown; and has, on an average, produced five sacks per acre more than common barley.

Mariout Needs Less Rain.

Not the least merit of Mariout is its more economical use of soil moisture. An exact series of tests at Davis in 1919 showed that Mariout stubble land contained $1\frac{1}{2}$ inches more of rain in the "surface three feet" than an adjacent piece of common barley stubble. Based upon the moisture content of an intervening fallow strip, Mariout used 1.68 inches of soil moisture to complete its growth, and common barley used 2.96 inches. This wide difference in moisture draft must be accounted

the most significant reason for the well-known drought resistance of the variety, and may well account for the greater success of the variety on dry soils and in dry seasons.

Mariout Whips Out Less Than Common Barley.

Heavy losses are annually sustained by barley growers through the whipping out and shattering of the ripe grain during strong north winds. Fully 25 per cent of the barley crop of the Sacramento Valley was lost in this way on May 30, 31, and June 1, 1919. It has been observed by Yolo County farmers that Mariout suffers less wind damage than common barley. Mariout also ripens about two weeks in advance of common barley, and is well adapted to those lands subject to overflow during harvest season.

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JNO. J. FOX - - - - Horticulture
R. H. WHITTEN - - - - Livestock

EDITORIAL.

A CASE OF COW-BUOYANCY!

Some of us who delight to pass the late afternoon (after the amended clock has set us free from an eight-hour day) in the cool, dim silence of the movie-palaces, so promotive of restful, recreative meditation—have doubtless reached the conclusion that the cow-boys live no longer except as they meet the demand for film-heroes. And this conviction is deepened by what we read in the daily paper about up-to-date range operations to such an extent that in our mind's eye we see the sportive steers pursued by an aeroplane, branded by dropping the range-owners private bomb, or, later in their careers, roped from above, swiftly carried aloft to the knives of aerial butchers alighting on them from parachutes, who scatter their surplus contents over the landscape while the precious parts neatly fall upon trains of trucks which are pursuing their ways along concrete highways, scheduled to deliver carcasses still warm upon the blocks of metropolitan distributors! With such a dream, which the silent darkness of the late afternoon is fitted to create in the mind, the cow-boy of the past becomes, of course, only a property of the film-makers! And this conception of the apotheosis of the cow-boy is heightened also by what we read of the late Secretary of the Treasury donning the idealized cow-boy garb and riding with Douglas Fairbanks through the cactus-pylons into the cow-boy's paradise! They are really fine, these late afternoon dreams in cool, filmy silence! What less than Providence has given us this to fill the vacant cock-tail hour! How grandly comes this restful, recreative, stimulative silence of the movies to make good to mankind the clink and sparkle, amid bedimmed, herbaceous fragrance, of which prohibitive legislation has robbed the race!

EMERGENCY SHATTERS THE DREAM.

But the dream breaks! Out upon the silent shadows of the film of moving affairs comes this placard:

LIVERMORE, July 28.—The old-time cowboy is not a thing of the past, according to J. J. Moy and Rod Fallon, two veterans of the range, who have just returned from a ranch in the Berryessa Valley, where they roped and branded 1,000 head of cattle in three days. Last week a hurry call came from the San Francisco Feeder Company for four cow-boys to rope cattle which had just been received from Arizona. Most of the Rodeo cow-boys were away fighting fire in the Lone Tree country, so Moy and Fallon responded alone.

How keenly this announcement awakens us to the fact that handling live stock is really a thing of men and not of mechanism. And how suggestive it is of the fact that the future development of California, in all the fullness of which it is capable, depends upon the owners of lands and capital who will employ them both in the extension of our live stock products. And it is particularly significant of the fact that our great areas for fruit and field cropping are adjacent nearly everywhere to even greater areas which should be populated with animals to their full capacity for their safe support. South of the Livermore valley, with its wide plains

for grains, forage and field vegetables and its wide mesas for fruits, and east of the greater Santa Clara valley, with its already realized multitude of millions from orchard, vineyard and field products, lies the Berryessa valley and its environment of hill country running eastward to the San Joaquin, and southward to infinity in capacity for range production. Into this grazing region, as the above announcement indicates, there come a thousand cattle to be branded in three days and set free upon the range. It is, of course, only a drop in the bucket-capacity of the region, but it splashes out two things at least. One is the fact that California will increase her grazing stock until her grass is turned to wealth for the upbuilding of the State. Another very significant thing is that we still have skilled men in California who will meet an emergency by no six or eight-hour schedule, but will work as long as they can see or stand to achieve what the industry, in which they are skillful, requires. Such men as Moy and Fallon should be honored—they strike nothing but the trail which leads to what the business requires of them! Some poet should write of the ride of Moy and Fallon from Livermore to Berryessa! There have been great rides in history and great events have hinged upon them, but probably, in relation to their truth to the interests involved, none was greater than theirs. It is true: "the cow-boy is not a thing of the past."

THE DUTY OF CALIFORNIA STOCKMEN.

Out from such a stirring incident comes a train of suggestions—timely and significant in our live stock development. First of all, perhaps, the very existence of it depends upon men loyal to their employer's interests and handy with a horse and all the paraphernalia of the range, the rodeo and the corral. It is a business which utterly refuses to be bossed by the clock. If a young man will meet its requirements, it gives him about the best chance in the world for getting on. If he lives right and rides well for another, he will ere long have others riding for him and (as we learn from the movies) has the best chance of the whole country to have the lovely country school-maam riding with him. The cow-boy who is true to his manhood and to his job is a noble fellow. California, with her adaptation to producing types, can give the country the best type of cow-boy, and California is on that trail right now. Young men of our congregation think it over and see if that is not what California has bunched up for you!

But to prepare for the coming generation of live-stock men those who now own the cattle and own or lease the lands have a very important duty to perform. It would be very easy to stock up our ranges and go broke or be in slavery, unless it is done right on the financial and commercial sides—therefore it is up to the present generation to go to the economical bottom of the business and build it up on a fair-play basis. A good start has been made in that line by the organization of our cattlemen's and other associations in animal industry, but we have not yet gone deep enough into economic and cultural principles for a good foundation, nor far enough to secure the co-operation of all who have put time, money and land into live stock production—both in small ways and large. If the business attempts to build itself autocratically it will soon be sawing wood in Holland! If it attempts to build up radically it will flatten out like the Bolsheviks! What it needs is a sound democracy representative of every man and woman who owns an animal and respects himself for having earned the right to own it, and to secure a fit share of the rewards rendered by the increase and the products thereof. Every animal owner in California should be associated with some other owner to this end. Any man who cannot do more for this great State business and his own, than to put in his time envying the trusts and denouncing the demagogues without doing a thing to save the industry from both of them, is really not fit to own and determine the future of a jackass.

WHAT SHOULD CALIFORNIA STOCKMEN DO?

We do not know just what should be done for our great live stock industry. In this respect we differ from the trust-advocates and the government-ownership advocates, for both of them are trying

to make you believe that they know exactly what should be done. We do know, however, that above and beyond what all the factions are now doing by shouting themselves hoarse over their cures for the high cost of living, they are all doing politics and what the producers need is to see into and under their game and decide what really needs to be done to insure the stock owners a fair reward for their labor and investments and to furnish the consumer food at fair cost of production and handling. We do not know how to do that, but we believe the producers can find it out if they go about it in the right way, and that is by the force and insight of associated wisdom.

There are many reasons to believe that the hulla-baloo which is now assailing the ears of the whole country from Washington is a twin product of politics and profiteering. If they were squarely arraigned against each other it would not be so bad as it now is, because politics vies with baseball as a Great American game, while profiteering is a kind of European autocracy—even though it be pretty well acclimated in this country. The trouble arises from the fact that so many are doing profiteering to buy politics, and so many are doing politics to sell to profiteers. That is the reason why those who honestly desire pure politics and fair profits have to get together and see if they can demonstrate what is pure and fair—if there is any such thing in the heart of a man.

TWO SIDES OF A HIDE.

What can any man all by himself make out of these announcements in the way of determining the facts he needs to know, viz.:

WASHINGTON, July 28.—Ability of the "big five" packers—Swift, Armour, Morris, Cudahy and Wilson—to determine from day to day the general level of live stock prices was declared incontrovertible in the third section of the Federal trade commission's report on the industry made public tonight. The "big five" have an interest in twenty-eight of the fifty principal market yards of the country and a total voting stock in twenty-two others. It was said they buy most of the live stock sold at these yards. "They discriminate against and put at great disadvantage independent buyers who are their competitors," the report said. "They manipulate on occasions the live stock market in such a way as to cause extreme and unwarranted fluctuations in the daily prices paid for live stock. They have eliminated many competitors and prevented new ones from coming in. They have restricted the meat supply of the Nation by manipulating the daily live stock prices, thus discouraging the producers of live stock."

And then this:

WASHINGTON, August 4.—In the debate in the Senate today, "the packers are not to blame for the high cost of living," Senator Sherman asserted. "They only made 1.6 per cent profit on all their business," he said. Senator Smoot urged the American people "not to lose their heads over this thing. If any members of Congress wants to know where to begin," he said, "let him begin with the retailer. The whole system of distribution is wrong and too costly. As long as retailers agree on prices, I doubt whether local action against individual offenders will be sufficient."

HOW WASHINGTON WILL PULL IT OFF.

What can the isolated man make of these two declarations, or what can he do about it if he thinks he can see through it? The leaders at Washington go at it by appointing investigators, but their investigating committees or commissions are made of three ingredients, viz.: one part serviceable politicians, one part professional experts, one part representatives of federated labor. All farmers are excluded just as all packers are excluded, because they are held to be "interested parties." And the report will deal a straight slap at the packers and a side-swipe at the farmers in the recommendation that the packers shall be "regulated" and the farmers shall have a selling price fixed—without regard to the fact that labor is allowed to strike until wages are raised to an equivalent to the new cost of living, while prices to producers are fixed so as to bring the cost of living down to the old rate of wages!

So far as we can see, it is up to California live stock men to help clear the way of all such economic snags which politics and profiteering are now setting up for popular delusion. By effective organization they can take part in the movement to secure proper agricultural representation in all governmental dealing with agricultural interests.

and thus safeguard the wonderful development which is coming to California live stock industries.

HOW OHIO WOULD CHEAPEN CATTLE!

But perhaps we are taking this matter too seriously. Certainly Governor Cox of Ohio thinks it could be very easy to solve the problem. He is credited with this recipe:

CINCINNATI, Aug. 2—"The whole structure of the high cost of living can be made to collapse quickly by knocking out the main props," Governor James M. Cox of Ohio, here tonight said: "The main prop is the present high price of wheat fixed by the government at \$2.26 a bushel. Knock out the prop and the structure will tumble. Reduce the high artificial price of wheat approximately to the level held by wheat before the war. The government can make up to the farmers the difference between the guaranteed price of \$2.26 a bushel and the new price. Reducing the price of wheat will cause a quick drop in other food prices, in my opinion. Corn will move in sympathy, as usual, so that with a reduction in the cost of feed, there should be a prompt decline in the price of beef-producing cattle. Lower cattle prices mean lower prices for meats, of course, and also for hides, which, in turn, will influence lower prices for shoes."

We hope it would also reduce the price of hats for a head which created that idea ought to have a larger one immediately. Governor Cox does not seem to know that the government price of wheat is too low, not too high, in relation to cost of production, and what a wreck it would make of the country to make flat prices like those of 1914! Lloyd George said the other day before the agricultural committee of the House of Commons: "No one can imagine prices are going down much in the next year or two. The shortage of raw materials and foodstuffs is too world-wide to permit a reduction." But Governor Cox innocently thinks that it would be all right to drop the price of corn and meat and hides. He forgets that the meat and hides have been growing two or three years upon corn and other feeds at war prices and have been cared for at war-time wages, etc., and that it would be confiscation and ruin to farmers and all their creditors, too, if it could be done—which it could not. It is, however, a fair sample of the "statesman's" solutions for agricultural problems!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Leaf-Glands Not Dangerous.

To the Editor: I am sending four leaves taken from four cherry trees. Two of the trees will be two years old next spring, and two one year old next spring. Every leaf on the trees is infected with the little growth which you see on the stem. Can you tell me what they are and to what extent they will damage the trees?—H. S. W., Menlo Park.

They are the natural excrescences on the leaf stems, which are often called "leaf-glands." They are just as much a part of a cherry tree as the prickles on the leaf stem are parts of the rose bush. Why they are there and what they do we do not know.

How Do Spiders Do It?

To the Editor: There have been more spider's webs this year than I ever saw before. Where do the spiders get the web and how do they spin it so fast and such strong webs?—Reader, Orland.

The spider carries the viscous liquid out of which the web is formed in an inside pocket. As this liquid comes out into contact with the air, it thickens and solidifies and becomes tough and strong. It is drawn out of the spider's pocket by two organs called spinnerets. God only knows how the spider came to have such good, rope-making materials and machinery.

Will Be Same, But You Know Not What.

To the Editor: Will a scion from a tree not yet in bearing (though of good stock) produce as good a tree as one taken from a bearing tree. Some of my neighbors contend that it will not, while others say that it makes no difference.—R. B. W., Morganhill.

The growth on the scion will be the same as the young mother tree from which it is taken. It is not a wholly safe proceeding, however, for you can not know what the mother tree will yield until you see it. For this reason buds and scions should only be taken from bearing trees and from

the trees bearing the best types of the kind and the most of it. So far as strength of tree goes, it would be as good from a young tree as from any other, but it may be longer in coming into fruit than a scion from a bearing tree.

Tip-Bearing Apples.

To the Editor: My apple trees bore for the first time this year—with clusters of fruit at tip ends of long branches. Would you advise summer pruning these long branches in hopes of fruit setting inside next year?—R. E., Butte City.

You will have to get more tips on short laterals or spurs from the larger branches to distribute the fruit better. It is probably too late now to start new shoots. Pinching should have been done nearly two months ago. You can guard next year's crop by not shortening this winter the laterals which you now have which are old enough to bear next year. Early next summer you can pinch for more tips if it seems desirable.

Nematode Vegetables.

To the Editor: I send two roots: one of a crooked-neck pumpkin, the other a cantaloupe. What is the matter with them? They seem to die gradually. Tomatoes are also dying from the same cause. What can I do to prevent return of this next year?—I. A. R., Turlock.

You send about the finest specimens of nematode infestation we ever saw. The roots are knotted so that they look like a succession of disks on a string. Nematodes are small eel-like worms (the males) and pear-shaped, pearl-colored bodies (the females)—which are bedded in the substance of the root they infest. They are too small to be seen by the naked eye, though their glistening can be seen when the substance is broken open. Their presence is revealed by the distortion which they produce on the roots they infest. They remain in decaying roots until new roots grow for them to go into. No treatment is practicable. You must run away with all flesh-rooted vegetables to a new piece of ground and use the infested ground for grain or hay for a year or two.

Olives Needing Drainage.

To the Editor: When we planted olives we did not know that we had clay underneath in some places—sometimes only 16 inches down; sometimes deeper. Last year the trees showed too much water. What do you advise in soil treatment to avoid the clay, which prevents drainage?—W. R. Q., Yuba county.

You have three choices. One would be to irrigate very carefully and very often in small amounts, so as not to swamp the shallow soil over the clay spots. The second would be to under-drain these spots with tile if you can get an outlet into gravel, which would carry away the surplus. The third would be to shoot the spots in the middles with light charges of powder, so as not to injure the trees and thus make fissures through which the water would sink or flow away to strata which would dispose of it. As the land is spotted, this might be quite feasible. You ought to put in spare time this summer in prospecting with a spade or soil-auger, see what you really have below, and make a map of soil depths and characters so that you can see how to relieve the shallow spots.

Leaf Stem Gall on Cottonwood.

To the Editor: I send a leaf from one of the cottonwood trees in this locality. The growth on it has some form of insect in it. Most all the cottonwoods in this vicinity are affected the same way. Will you kindly tell me whether the insect is injurious and what to do to destroy it?—J. N., Palm-dale.

The large circular swelling on the leaf stem, just below the blade of the leaf, looks like a large bead on a string. The gall is caused to grow by a minute plant louse, which lays eggs at that point and keeps on laying them until she has the gall filled with them. They are the insects which you see and their name is Pemphigus populicaulis. There is probably nothing which you can do to catch up with this inhabitant of the tree which has lived upon it from time immemorial. It will not kill the tree because it will be held in check by its natural enemies. This is nature's plan to keep her wild life alive. It is only when man upsets the scheme by his operations that he has to get in and fight for what he tries to grow. The cottonwoods will take care of themselves. We find on opening

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If you think that, with proper training, you could make good, write us a little about your qualifications and experience, and we will send you full particulars of what may prove your opportunity to connect up with Great Success. Better investigate, anyway.

the galls that a louse-eating larvae is in the midst of them. Nature is on her job—don't worry!

Almond Roots for Peaches.

To the Editor: As peach seedlings are very short throughout the State this year—not over 40 per cent, I have been figuring on the advisability of working some peaches on bitter almond root. Please advise me if, from your wide experience and observation, it is advisable. Do they make a good union? Do they make a tree as long lived and as productive as on a peach? Are they more or less subject to sour sap?—F. F. E., Newcastle.

From the earliest California times the almond has been used for the peach and the hard-shell sweet or bitter almond seedling has been commended as the best of the almonds for this purpose. Many of these old claims for the particular kind of almonds have never been either demonstrated or disproved, but experience certainly shows: (1) that the peach takes well to any almond seedling; (2) that the almond root carries the peach on a deep, loose soil better than the peach root does; (3) that the almond root on a soil which holds water too long is more quickly subject to sour sap than the peach root, although, even on a heavy soil, the almond root may be very thrifty and long-lived if the soil does not get water-logged. The almond root is also somewhat more subject to root-knot. The use of the almond root for the peach has, however, always been largely a question for cranks and academicians. There has never been 10 per cent of the peach trees worked on almond seedlings, which may be due to the fact that peach pits are cheaper and easier to get.

A Shy-Bearing Apricot.

To the Editor: I have a five-year-old apricot tree, 12 feet high and with a spread of more than 12 feet. It is a very healthy tree, but had but little fruit this year. What there was of it were very large and fine flavor. There were very few blossoms at the top. From the first year I have pruned by cutting back each year all new growth to one foot. Is that right? Should some shoots be cut back to the parent branch? I was told by a horticulturist that I should prune the tree this summer as soon as the fruit was off, and give it plenty of water to start new fruit shoots. Is my information right?—C. T. I., San Diego.

Cutting back to one foot is a recipe—not a rational pruning operation. You may in some cases have cut back too much and in some cases too little. It is often desirable, for one of several reasons, to remove a shoot entirely as you suggest. The advice given you to stop winter pruning is good, and unless this season's growth is very heavy, we would not cut it back now, but there is probably a chance to thin out, that is, to remove entirely a number of shoots which have made a rank growth—saving the short shoots or spurs which can give you bloom and fruit next year. We see no reason to force more shoots as late as this unless all small growths have been skinned off in previous pruning. Reasonable irrigation is desirable to keep the leaves active for a couple of months or more. Stopping the cutting back in winter may cause your tree to bear, but it will not certainly do that for some of the large apricots which are shy-bearers in spite of all treatments thus far prescribed for them.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending August 5, 1919.

Stations—	Rainfall			Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest	Lowest
Eureka .....	.01	.02	.11	62	50
Red Bluff .....	.00	.00	.00	90	60
Sacramento .....	.00	.00	.00	84	52
San Francisco .....	.00	.01	.01	61	50
San Jose .....	.00	.00	.00	76	46
Fresno .....	.00	.00	.00	96	60
San Luis Obispo ..	.00	.00	.03	74	48
Los Angeles .....	.00	.00	.00	76	58
San Diego .....	.00	.00	.00	72	62
Reno, Nevada .....	.00	.00	.14	86	50
Tonopah .....	.00	.34	.36	82	56
Winnemucca .....	.00	.00	.17	86	46

American Beans and Oriental Imports.

Written for Pacific Rural Press by R. E. Hodges.

THE BEAN MARKET has started what is termed in some quarters a "speculative rise," based on short acreage in all principal producing sections and poor conditions in most of the areas planted. Six States produce normally about 90 per cent of the commercial beans in the U. S. These are, in order of their production last year, California, Michigan, New York, Colorado, New Mexico, and Arizona. Their total production last year was 17,437,000 bushels and was forecasted by the U. S. Department of Agriculture on July 1, at 12,302,000 bushels for 1919. Probably this forecast was what started quiet buying. Now that it is more widely known, prices have gone up on most varieties and therefore the owners are holding for still higher prices.

U. S. Acreage and Condition Low.

California's acreage is only 70 per cent as great as last year, being estimated at 415,000 now. The crop conditions, especially in the coast counties, are poor and our total yield looks not over 5,602,000 bushels as against 8,584,000 last year.

Colorado's acreage of 252,000 last year produced a crop which made everybody sore because they couldn't sell it. Thus only 90,000 acres were planted in that great bean State in 1919, and a recent visitor to their fields reports the crop in poor shape, due to shortage of irrigation and ravage by insects. Its condition was estimated July 1 at 74 per cent of normal, as compared with 94 per cent a year ago. Colorado's forecasted crop of 866,000 bushels seems likely to be beaten by New Mexico this year.

Michigan has grief most every year, one way or another, but growers in the best yielding districts stood by their guns and put in full acreage there, though the total State acreage is reduced from 543,000 last year to 353,000 this year. Its condition July 1 was estimated at 90 per cent, but it has rapidly grown worse since then. Last year's Michigan crop is practically cleaned up.

New York, which produced 1,660,000 bushels from 200,000 acres last year, has only 108,000 acres this year and its condition is poor.

Arizona and New Mexico are increasing their production this season, the former from 72,000 bushels to 137,000 and the latter from 596,000 to 913,000 though the acreage in each is less than last year, and unfavorable conditions may yet reduce their favorable prospects.

Will Tariff Prevent Imports?

Dealers are inclined to believe that if growers succeed in getting a tariff

on Oriental beans it will make no difference in the amount of imports, but will simply reduce the Oriental growers' profits. They say that even a three-cent tariff could be taken out of the price paid to growers in Asia and production would still continue for export.

However, true this may be, it is a fact that Californians are unable to attract ships desired to carry our products to the Orient, because there

the captain of one of his ships, which was at that moment returning from Japan with practically no revenue load. This being the case, it is small wonder that beans are carried on the return trip at 75 cents per hundred. Freight rates could be reduced to nominal sums.

Shall Bean Imports Alarm Us?

Just how important Oriental bean imports have been may be judged by the quantities imported and exported

1917, came a remarkable jump to 3,747,993 bushels total imports, of which Oriental beans comprised nearly one-half and were nearly four times as great as in the previous year. In the year ending June 30, 1918, came another increase in imports, totaling 4,145,625, of which Oriental beans comprised considerably over three-fourths. In the eleven months ending May, 1919, our total imports of beans were 3,713,122 bushels, showing no great increase over the preceding twelve months.

Exports Increase.

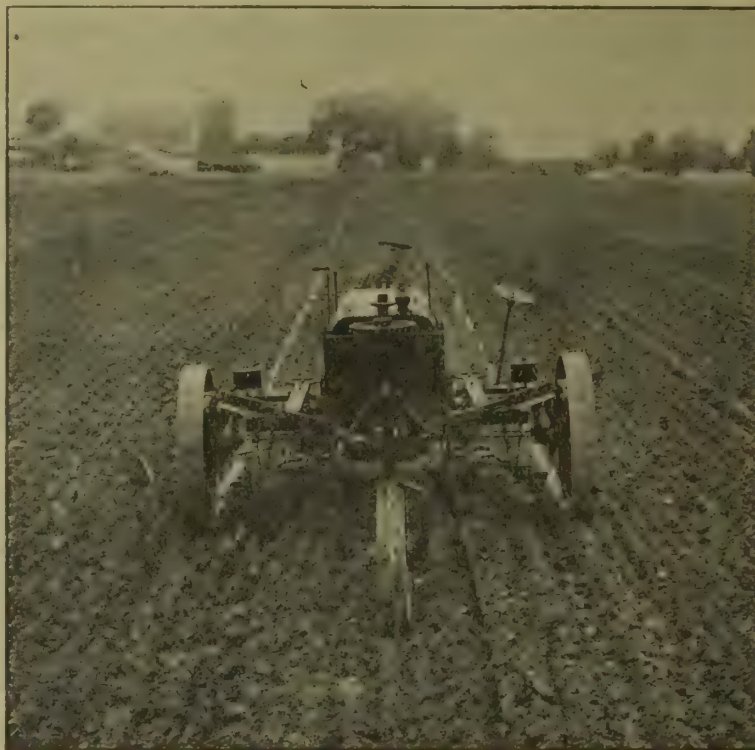
We exported 1,530,392 bushels of these as compared with 724,596 in the entire year ending June 30, 1918. We should feel just that much less pressure from the foreign beans now. In addition, we exported 3,934,819 bushels of American-grown beans in the eleven months ending May 31, 1919, as against a third that many in the twelve months ending June 30, 1918. This should relieve the pressure still more.

During the eleven months mentioned, we exported more of our own beans than the total imports, and in addition we exported five-twelfths of all that we imported. Of the seven-twelfths which we imported and kept, a large proportion has gone to the canneries.

It appears from the above study and from the fact that our net imports of beans in the eleven months ending May 31, 1919, comprised only one-eighth of our 1918 production that we need not be greatly alarmed by the imports. This feeling may be further strengthened by the rice shortage in Japan whence most of our Oriental beans have come. If rice is scarce, the Japanese may raise fewer beans and eat more of them, thus keeping them off our markets.

More Tariff Would Be More Fair.

However, it will be only fair to American growers whose interests the consumers also must consider if food-crop production is to be assured, that the Government should place a tariff on Oriental beans grown by cheaper labor than Americans. Such a tariff is sure to do some good, not only in reassuring growers, so that we may not be endangered by depending on a foreign country for a staple food, but also by the revenue which may help pay our war debt, and perhaps by actually preventing some Oriental beans from competing with our own. Have you written your Congressman and Senator in favor of a tariff as we urged in the issue of July 26?



Thousands of ranchers in California use tractors for plowing, disking, harrowing, hauling, threshing, and all kinds of belt work, but not a large proportion have yet learned to adapt row crops to their tractors. Motor cultivators of several makes are now taking the place of horses where horses were supposed to be making their last stand. Rows may be of any distance apart and any length for the motor cultivator is adjustable to row widths and it turns about as short as a team of horses.

is not enough return load to pay under present conditions. Many ships return with ballast, which not only pays no revenue, but costs money to load and unload. Statements have been made regarding the immense tonnage of merchandise on Oriental docks awaiting ships. Such a statement was made at a meeting in San Francisco recently, but one of the best known of the ocean shippers said that if it were true he was going to fire his organization in the Orient and

as shown by U. S. commerce reports. The total imports of beans to the United States were around a million and a half bushels in the year ending June 30, 1914, of which only one-sixth came from the Orient. In 1915 the total imports were smaller, but those from the Orient comprised well over one-third of the total. In the year ending June 30, 1916, the total imports were still smaller, but those from the Orient comprised over two-thirds. In the year ending June 30,

An Efficient Home-Built Fruit Drier

(Written for Pacific Rural Press.)

When the drier was first built a two-foot fan was installed which ran at the rate of 1,000 revolutions a minute but it was found insufficient. The distribution of the hot air was uneven and a settling back of moisture resulted. So the large seven-foot fan was designed and built. It has four-inch-wide wooden blades set at a windmill angle with a binding of iron round the outer rim like the tire on a wheel—the hub plates being of boiler iron. The spindle looked to be about one and a half inch. This fan was built by the local blacksmith for \$12 about four years ago—would probably cost three times that much now. It runs at the rate of 450 revolutions a minute and takes a 15 h.p. engine to run it steadily. Mr. Swenson has a Moline tractor and could utilize that, only he happens to have the gas engine as well.

Time for Curing Grapes.

Mr. Swenson said that it takes about 75 hours to make finished raisins out of a batch of grapes. The large fan and large narrow building conducts the heated air to every stack of trays and carries off the moisture completely, though the ventilator

shaft looked pretty small to us. Nevertheless, he said it was quite large enough—about two feet square in capacity. Last year, after the rains, he dried 18 tons of Muscat raisins for himself and about the same tonnage for his neighbors. He says, "I look upon my home-made drier as a pronounced success. It is not only an insurance against loss by rains—and that may come any year—but it reduces expense by curtailing time needed for curing and allows us the possibility of letting our grapes stay on the vines longer without fear of loss. The longer the grapes stay on the vine the more sugar they have and the less moisture. Sugar means weight. The grapes, too, are of better quality, and cure better by being left on the vine as long as possible."

Supplements Sun-Curing.

Mr. Swenson's plan is under suitable conditions to at least start curing his raisins in the sun in the ordinary way and then, if necessary, to finish them in the evaporator. He has ten acres of muscads and 7 acres of Thompson Seedless as well as 15 acres of peaches and two of apricots, so that whatever happens he feels he

is well able to take care of his drying fruit without any particular anxiety with regard to the weather. There is a large crop of fruit and grapes set now, and Mr. Swenson can view it without fear of fall rains on the dried or semi-dried fruit. The outlook for a good crop of raisins in Tulare

SPEEDING UP PRUNES BY SUMMER PRUNING.

(Written for Pacific Rural Press by C. E. Leek, Hopland.)

I am sending you a photograph of a five-year-old prune orchard in full bloom. This was summer pruned and pinched back the first two years, but not headed back after that, but thinned in the winter and suckered in summer. This bore 100 pounds prunes per acre the third year, one ton the fourth year and looks like five tons the fifth year now. I have some younger trees that look even better for their age.

You cannot emphasize the summer pruning too much if you want trees and fruit too, which is the object of planting an orchard.

Thompson Seedless and Sultanas are estimated at 90 per cent of normal in Yolo County, and are in fine flourishing condition.

G. A. Swenson of Tulare county (on Kings River) has a home-built drier which he uses on raisins in a poor-drying season. It is said to be the only plant in his vicinity that was a pronounced success last fall in saving the raisins. He attributed this largely to the enormous fan used in circulating the heated air and carrying off that which is moisture-laden. That fan is the first thing to attract one's attention on entering the plant, for it is seven feet in diameter. Mr. Swenson explained how he came to install such a fan.

The Building and Equipment.

The entire structure is only 40 feet long by 14 feet wide and about 9 feet to the plates. It is built of rough lumber well sealed—just one plain long room. It holds 3,000 trays of grapes to a charge. The moist-air ventilator is one end of the building and the furnace and fan the other end. The furnace is a three-foot boiler plate drum of ¼-inch iron heated by an oil burner burning stove distillate, which, with a regulated intake of air keeps the drum very hot. An iron sheet covers this to keep the heat down and directed towards the fan in the boiler-house, while a brick or two out of the wall allows for the intake of air from the outside to be heated in passing through the boiler chamber.

Letting Pigs Make Hogs of Themselves.

Written for Pacific Rural Press by R. H. Whitten.

Feeding hogs is an art. But who is the better artist—the farmer or the hog himself? We want a pig to make a hog of himself, but do we give him a fair chance? The commonly employed system of hand-feeding is based upon the arrogant assumption that man knows more than the hog. Undoubtedly he does in most respects, but nowadays the wiser a man becomes the more he realizes that a shote knows better than any man what it likes and wants, when it wants it, and how much it can use to the best advantage.

This simple fact, deduced from numerous practical tests with self-feeders, represents the most important step that has ever been taken in America toward a sounder, simpler and more economical method of hog feeding. With efficient farm help scarce and wages high, the progressive farmer would like mighty well to remove hog feeding from his list of twice-daily chores, and if the hog can feed himself as well as, or better than, the most expert feeder, why not let him do it?

Hogs in the wild state were self-fed animals, living upon such feeds as would satisfy their appetites, and under domestication why should they not do their best when fed by the same principle? It is acknowledged that best results are obtained when they are on pasture instead of in a dry lot, and why? Largely because they have an opportunity to balance their own ration and eat as much of alfalfa, or whatever the pasture is, as they desire to go with the grain that is thrown over the fence to them.

Hogging down crops is nothing more or less than a self-feeding system; so is giving hogs free access to water and tonics. Many feeders place salt, charcoal, ashes, lime and other ingredients before hogs, believing that they will mix them in with their daily diet in a better and more economical way than when they are mixed with the feeds and doped out as so much unwelcome hash. And doesn't it seem queer that these feeders have utmost faith in the ability of the hog to choose such feeding materials, yet they hesitate to trust him with high-priced feeds, such as grains and tankage?

As Prof. Evvard, of Iowa, the leading swine feeding authority of the United States, says: "Man himself is a self-fed animal. He has made the dairy lunch and cafeteria system of eating popular because it is efficient in administering to his needs. He believes soup to be an appetizer and eats it at the beginning of a meal, and science has shown that he is right in this. Disregarding expense, he prefers the a la carte method to table d'hôte because in the former he chooses and in the latter he does not. He does not relish hash even as a side dish, ordinarily. Then why should we expect swine to relish it as the one and only dish?"

The Economical Way.

Some persons have argued that the hog is a physiologist, not an economist, and that he chooses his feeds regardless of their monetary value; therefore, while self-feeding may be a quick route from pighood to pork, it is not an economical way. These persons believe that if the grain fed to hogs on pasture is limited, more storage will be eaten and cheaper gains will be produced. But this belief is not substantiated by the numerous feeding tests that have been conducted. It has been proved that a full feed of grain to hogs on good pasture not only produces the most rapid gains, but also gives the most profitable results—sometimes marks the difference between profit and loss.

At the Kansas Agricultural College, two lots of pigs averaging 79 pounds each were bought at \$19 per cwt. and put on a 100-day feeding test. They received exactly the same feeds, but one lot was self-fed and the other hand-fed. Those in the first lot made an average gain of 1.83 pounds daily and a profit of \$7.15 per head, while those in the second lot made a gain of only 1.25 pounds daily and a loss

of 20 cents per head was the result.

The lesson, according to the Kansas authorities, is that a hog does not need any advice or guidance as to when and how much he should eat. Here at our own University Farm the results of different tests lead to the same conclusion. In one experiment there were 8 lots and the 4 leading pens, judged by economy of gain, were those that looked after their own needs through the cafeteria system, and with alfalfa pasture at hand to obtain exercise and keep up the appetite.

Short Route to Pork Barrel.

The Department of Agriculture made a compilation of results obtained with the self-feeder at numerous experiment stations throughout the country, with the following averages:

Number of Pigs	Method of Feeding	Average days fed	Av. daily gain head	Av. daily feed head	Av. amt. feed for 100 lbs. gain
262	Hand fed	82.2	1.23 lbs.	5.47 lbs.	445 lbs.
332	Self fed	68.5	1.92 lbs.	8.00 lbs.	417 lbs.



On self-feeders hogs make the most economical use of grain, fatten quickly, get to market early, reduce the risk, save labor and increase profits.

These results show clearly that more rapid gains are obtained with the self-feeder than by the best of hand-feeding methods, owing partly to the larger daily consumption per head, and partly to the more efficient use of the grain.

Another Government experiment with 275 shoats showed that in comparison with the hand-fed pigs, the self-fed pigs ate grain 19 per cent more rapidly, and gained weight 28 per cent more rapidly, yet consumed only 92 per cent as much grain in making 100 pounds. This shows conclusively that pigs eat more grain per day on self-feeders than when self-fed, but it also shows that this extra consumption is not wasteful of grain; in fact, it saves grain, for an increase of 19 per cent in the rate of eating caused an increase of 28 per cent in the rate of gaining. The chief object of feeding is to put on fat as rapidly and with as little grain as possible, and certainly a method which will increase the rate of gaining 28

per cent and at the same time decrease by 8 per cent the grain required to produce a unit of gain—certainly such a method is worthy of serious consideration.

When to Begin Using.

When shall pigs be put on self-feeders? There is a difference of opinion on this question. Some feeders claim that pigs started before being weaned do not stand up under the heavy feeding until they reach a marketable age, and that they not only go off their feet, but finish too chubby and light. They prefer to hand-feed pigs until they reach 75, 90 or 100 pounds in rather moderate flesh, and then finish them out on self-feeders. Others use self-feeders entirely, and with excellent results. Peters, Lam-

boars reach an average of 100 to 150 pounds they begin to get too fat, and it is then necessary to prevent them from making hogs of themselves too early by either using a filler with the grain or putting hinged doors on the self-feeders, so that they can be closed a part of the day, thus compelling the pigs to exercise more.

Alfalfa meal makes an excellent filler; also it is good to use with grain in carrying brood sows along, and for winter feeding in place of alfalfa hay. For growing pigs, use about 1 pound of the meal to 5 pounds of grain; for thin brood sows, 1 to 4; for sows in good flesh, 1 to 3. Watch the animals carefully, however, and feed more by eye than by measure.

Easy to Make.

There are many types of self-feeders, but all employ the same principle of letting the hog do the work. There is a hopper large enough to hold several days' supply of feed, and below it a trough into which the grain flows as the pigs eat it. Any farmer handy with tools can put together a most satisfactory feeder. The one illustrated was made by farm hands, and without any plans except rough sketches made by the proprietor. It has given excellent satisfaction. The roof projects enough to protect the grain in the trough from rain; the roof lifts up, so that the hopper can easily be filled from a wagon; the sides slide up and down, being secured by thumb nuts, and thus the opening at the bottom may be regulated according to the kind of grain used. To prevent rooting the grain from the trough, metal rods (long bolts) are placed across the trough about a foot apart. The feeder is mounted on redwood runners which do not rot, and it can easily be moved from one field to another.

Sometimes there is just one large hopper space, and mixed grain, or grain and tankage, is put in it. Again there is a large space for grain, and a small one at one end for tankage; or there may be two small spaces—one for tankage and one for tonic. Again, when two or more grains are used, there is a space for each grain, so that the hogs can balance their own rations. The kind and size that a farmer will want will depend upon the size of his herd, and the method of feeding that he adopts. Blue prints and directions for building different types may be secured free by writing the Farm Engineering Department, University Farm, Davis. Also, it may be well to write to the Division of Publications, Department of Agriculture, Washington, for a copy of farmers' bulletin No. 906, "The Self-Feeder for Hogs."

To Get Best Results.

Few instructions are necessary for the successful operation of self-feeders. Some of these devices clog and occasionally do not feed down properly, thus withholding some kind of feed. Even when a feeder is working properly, the feed in one compartment is likely to become exhausted before that in another, so look to the feeders frequently and don't wait until squeals proclaim that something is lacking. In such a case the hogs are sure to eat more heavily of the remaining feeds—often the most expensive ones—and this not only causes a loss of profit, but has a detrimental effect on the digestion of the hogs.

An abundance of drinking water should be provided, for hogs like to eat a little, drink a little, and so on, going back and forth until they have had their fill. A little at a time—that's the way they get their feed when their "mammy" nurses them. Why not let them keep it up? It is the case of letting the animal instinct take its natural course, and when it comes to such a natural function as eating you can bet on the animal instinct to win every time—at least, when you want the pig to make a hog of himself as quickly as possible and pay you the highest price for the keep.

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?

Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

SAN FRANCISCO

The Currant of Commerce in a Wine Country

Written for the Pacific Rural Press by John J. Fox.

So long ago that history is lost in tradition, Southeastern Europe and Asia Minor were producing wine, also currants and other dried fruits for home consumption and for trade with the world. The Phoenicians doubtless carried currants, as well as wine, dates and olives, to all the ports of Europe, Asia, and Africa that existed. Until recent years the Latin countries, the Levant, Syria and Palestine have enjoyed almost a monopoly in the production of these things.

California Sails In.

But California has changed all this. First of all she became so proficient in wine-making that she was a serious rival to all wine-making countries. The light wines of Napa and Sonoma have established a reputation that is world-wide. The dates produced in Southern California are of excellent quality, and the crop is growing in volume. Last year we furnished nearly all the dried olives consumed in this country. The Near East never thought about so many raisins as we are producing. Now, since prohibition is in sight, we have turned our attention to the Zante currant—the Greek currant of commerce—as one alternative for the grapes used in wine-making—at least a portion of it, for the market in any event is limited.

Currant Possibilities in the Wine Counties.

The raisin sections of the San Joaquin and Sacramento Valleys can probably make more money out of raisins than they can by raising currants. The coast counties of Napa and Sonoma cannot raise raisins. Nor could they cure them without the use of evaporators. Table grapes are not within their scope for Emperors do not condition for the market. Tokays are apt to mildew, and they do not sugar well and anyway the table grape market could not be usurped by a county whose quality and production on strong land would be in the least inferior.

John H. Wheeler of St. Helena (Napa County) has proved that, under the right conditions, the Zante currant or Black Corinth grape can be raised there and ripened in time for drying, grafted on the wine grape stock. That is

One Problem Solved.

A demonstration meeting was held at his place at Zinfandel July 29, which was attended by many grape-growers, wine men and scientists from the University of California. Before proceeding to the field Mr. Wheeler addressed the assembly giving a general outline of his experiments and their results. The Panariti or Black Corinth is the variety demanded. The White Corinth and Pink Corinth were also tried out and showed excellent yields, but a demand for them has not yet been created. The White is the best grower and bearer, the pink next, but the black bears the fruit which is in demand, and so only the Panariti or Black Corinth is to be considered.

Cultural Requirements.

Mr. Wheeler first told us that the Black Corinth demands a strong soil, being such a free grower. Vines planted on poor soil could hardly be expected to develop into a success. Though the currants would doubtless do best in the interior valleys, he could still show us that they would do well in Napa and Sonoma on good soil. Phylloxera resistant stocks of course have to be used in these counties—the Rupestris St. George giving excellent results or such stocks as are generally used for Zinfandels. The Lenoir stock is an exception.

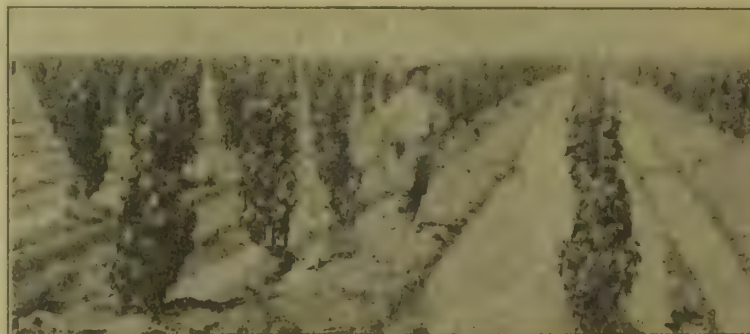
The pruning must be long and free. Mr. Wheeler has been using an equal number of long and short spurs, and ties up the vines to a stake with a view later to wiring like other seedless grapes.

Girdling the Wood.

The most important operation is the making of an annular incision round either the cane, the spur or the body of the vine at blossom time. This girdling at the proper time induces a heavy set and an earlier ripening of the fruit. Two parallel cuts are made completely round the spur, cane or

body of the vine, and the strip of bark taken out all around. This incision must be about a quarter of an inch wide and not wider than 5-16 at the widest.

Rollo Wheeler (the exponent's son) has just returned from the San Joaquin Valley, investigating experiments there. He told us that some men in Fresno had doubled their crops of currants by girdling the vines. There are said to be 100 acres or more there grafted on Zinfandel stock. He noticed that where annular incisions had been made round the vine below ground the vines were full and the fruit uniformly ripened. When the vines were left ungirdled, the bunches were light, feathery and uneven, the ripening was retarded and poor, and you could shake the bunch and many berries would fall off. The Whites made a better set and produced better bunches, but the demand is for the Black at present. He was surprised to see how the incisions below ground had healed over so smoothly, while those above ground all presented a



This cut exemplifies the way young Zante currants are tied up to stakes. Mr. Wheeler's vines, however, are not irrigated. Irrigation of vineyards is not practiced in the two counties named.

swelling. Girdling beneath or at the surface gives the "set" a thrust for about three weeks just when it is needed. This will be tried at the Wheeler vineyard next spring.

Mr. Wheeler said that the manager of the Raisin Growers' Association was of opinion that if conditions returned to those obtaining before the war, the Zante currant would not pay to raise. Greece was able to sell them to us at four cents a pound. They are dirty and have to be cleaned, but it would not allow over six cents for our product. Protection only would make the possibility of growing the Zante currant in California a success.

Pruning and Girdling.

Professor Fred T. Bioletti said that the Black Corinth had been tested in California for 25 years and had been a failure. This fact emphasized the importance of Mr. Wheeler's successful demonstration. The early failures were the results of improper pruning partly, for they were pruned like wine grapes instead of being pruned long. Secondly, no annular incisions had been made, with the result that one year there might be a crop and then two or three years followed with no crop. There must be a good crop every year. The little strips of bark must be taken out completely—all round or the effect is minimized.

The incisions made just below the surface of the ground completely circling the vine there, is the method practiced in Australia—is the cheapest method to carry out, gives a sharp shock to the vine at the time it is needed. The vine rapidly recovers and heals over the wound. Future girdling on the body or base of the vine should be at least one inch away from the preceding wound—either above or below it. To girdle the body of the vine above ground is harmful in the long run. It is better to girdle at the

surface of the ground and then cover it up with earth. The incisions should under no circumstances exceed 5-16 inch in width. About a quarter of an inch is right.

In the Field.

Mr. Wheeler showed us four separate and distinct experiments in the field of Panariti grafted on green Hungarian vines aged 18, 3, 15 and 12 years, respectively. The vines in each instance were girdled and ungirdled alternately all up the rows and showed conclusively the results obtained by girdling. Those with the incision showed good crops of nearly ripe currant grapes—perhaps 30 pounds on some vines—while those ungirdled showed feathery, insignificant, shapeless clusters of unripe fruit. The grafts were 15 months old. The Green Hungarians were on Rupestris stock in three instances, and there are eight inches of Hungarian wood between the Rupestris and the Panariti graft. Those grafted on Lenoir were very poor.

Method of Grafting.

Two scions were saw-grafted into each stock and then a piece of paper placed over the stub to keep out the dirt; no waxing, painting or tying. The stubs are painted the year following grafting to preserve them. Petroleum paints, with no strong acids, are used. The grafts on Lenoir stock

counties for a full yield from young vines on resistant stock. An average of one ton to the acre of dried currants can be expected on good currant land. Fresno has done this. Our imports from Greece the last year we imported, amounted to 15,896 tons, which was an average. If we averaged a ton to the acre, there is therefore room for us to produce 15,000 acres of Zante currants to fill our

Madewell
Surface
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present requirements. We paid \$8,000,000 for this 15,000 tons. Greece's currant crop in 1912 amounted to 165,000 tons and in 1913 she had a carry-over of 7,500 tons. Prices in New York before the war were 6 to 7 cents a pound graded. We may assume that after things are settled they may be 10 to 12 cents a pound.

How Long to Cure?

Last year the Association took in currants from its members around Fresno guaranteeing them 12 cents a pound. But the members were paid 18 cents. At Watoki the raisins were harvested by July 22. The fruit was two days on the trays, two days in the sweat boxes and delivered at the warehouse six days after they were picked bringing the growers \$360 per acre.

Other Varieties

Have been tested by Mr. Wheeler with the annular incision, including Isabella Regia, Cabernet and Sauvignon. The Chasselas Fontainebleau and Muscat on Rupestris will also be ringed to try to produce earlier ripening for drying. He showed us some Chasselas Fontainebleau raisins. This seems to be good drying stock. The grapes tested 22 deg. Balling and cured $4\frac{1}{2}$ to one. They were dipped in ordinary prune dip and were cured in good order.

Summary.

To tot up the chief points demonstrated by the above experiments by Mr. Wheeler and his son and by Professor Fred T. Bioletti of the University of California, we will place them in the order of their importance as we gathered them.

First, the Black Corinth requires a

strong soil. This is rather disappointing, because it is our vineyard land that is really fit for nothing else that we were hoping would benefit. Next, it must be girdled at blooming time as explained. Special double-bladed knives are made for this purpose in Australia, Professor Bioletti tells us.

In phylloxera counties it requires a strong grafting stock, taking well on vinifera wood on these stocks. It requires long and free pruning and tying up or training.

NURSERY STOCK FOR THE COMING SEASON.

(Written for Pacific Rural Press.)

In an endeavor to ascertain the general outlook for nursery stock for the coming season we have visited a number of nurseries and from different managers' talks are able to give a general survey. One man says:

"This year's supply of nursery stock in the State is approximately 65 per cent of normal. Nurserymen planned and made their plantings for this year's budded stock December, 1917, and January and February, 1918, under the then existing war uncertainty, war labor shortage and war high cost of production, and particularly in view of the then existing uncertainties, and the fact that on account of the war uncertainties land improvements were being held in abeyance, it was generally deemed advisable by nurserymen to curtail their plantings. As a result, the supply of budded stock this year is not over 65 per cent of normal.

"With the cessation of the war, how-

ever, these plans for land improvements that had been held in abeyance are now being carried on, which, together with the enormously profitable fruit seasons of both 1918 and 1919 has created a demand for trees far in excess of the available supply, and while our own stock is up to normal, yet, with the heavy sales being negotiated, there will be a great shortage in trees, and the best sellers will be sold out before we get half-way through the selling season. In fact, our sales to date are what they normally are January 1st."

Another grower supplemented similar remarks with the fact that 1918 was a dry spring and a poor stand of seedlings was common with growers. He has not over 70 per cent of last year's stand, he says. With regard to prices he told us he had sold 15,000 prune trees to one corporation at \$450 a thousand. His supply of pears and prunes are about equal to last year's, almonds 50 per cent and 'cots shy of last year's.

Another nurseryman says, "My prunes and 'cots are fewer than last year. The shutting out of European seedling stock on which we used to depend, has lightened plantings, and last year's seedling plant is not so good as usual. Buying has begun this year in quantities earlier than I have ever experienced. Eastern buyers are coming to us for apple and plum stock."

Another: "We still have a good stock of prunes, pears and almonds, and while in other varieties our assortment is fairly complete, yet this won't last long under the present demand."

We mentioned some six weeks ago

that an early demand had developed for figs and walnuts, and apparently both these stocks stand a good chance of being cleared up early. Prunes, pears, almonds and apricots are a fair supply taken altogether. Peaches, in view of the demand, may be light with olives fair. Citrus stock is also fair.

All stock we have seen seems to be of fair average quality.

Planting young trees in the midst of old ones in the orchard is something like raising an infant in an old ladies' home. It becomes stunted in habit and prematurely old with small profit to anyone.

The retail prices of navy beans in New York in July, 1915, averaged 8.1 cents; in July, 1916, 11.3c; in July, 1917, 18.8c; in July 1918, 17.5c; and in April, 1919, 12.7 cents.

Alfalfa is displacing hemp on Ryer Island in Sacramento County, and an alfalfa mill is being built.

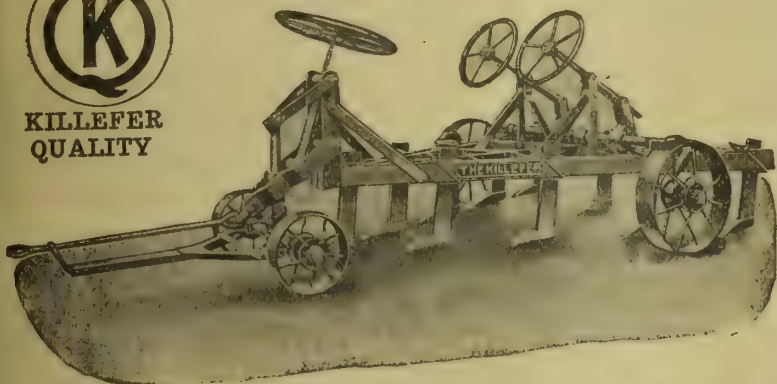
Pink-root disease of onions has appeared in the Delta, one infected field having been found.

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All authorities are agreed that three elements enter into plant life, viz.: air, heat and moisture, and when these are totally or in part excluded by formation of plow sole, due to the old methods of cultivation, just to that extent is plant life cut short in some cases to total failure. How often is heard the statement that certain pieces of land are worn out and will not produce a crop, while we maintain that they are only shut out, and by this we mean, that owing to the formation of this plow sole, the elements above named are not allowed to penetrate the soil, which naturally results in partial or total failure of the crop, and it has been proven in every instance where this plow sole has been broken by subsoiling or chiseling, that as good or

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Here and There in the Fruit Business

[Written for Pacific Rural Press.]

By-Products from Citrus Culls.

There are now four concerns in the South manufacturing lemon by-products, which have an annual capacity of 50,000 pounds of lemon oil, 500,000 pounds of citrate of lime, and 1,500,000 pounds of citric acid. Twenty concerns are producing orange by-products also, according to the U. S. Department of Agriculture, turning out 3,000 tons a year. This includes marmalade, marmalade stock, jellies and candied peel. These concerns have been developed since the establishment of the U. S. Citrus By-Products Laboratory in 1914, which has also developed methods for the manufacture of orange vinegar and candied peel and juices from cull grape fruit. Cull lemons have risen in value from \$5 to \$25 a ton and the same with oranges since these factories were established, part of which is due to increased general prices and the rest to this definite new market.

A Profitable Transaction.

Seven years ago W. G. Gard of Kelseyville, a teamster, planted out 20 acres to pears. He was to receive half the land for planting it and caring for it to bearing age. A few weeks ago he sold out his ten acres of 7-year-old Bartlett for \$10,000 or \$1,000 an acre—no buildings or improvements being on the place other than the trees. Mr. Gard probably never missed the time spent in attending to this place as he was working with his horses on other places, while this transaction brought him in the neighborhood of \$1,500 a year for the time he was working it.

Experimental Drier at Davis.

A small practical experimental drying plant has been installed at the University Farm at Davis, which it is hoped will serve as a model for small growers. The Viticultural Commission assisted in the cost. The many angles of temperatures and dehydrating will be studied for prunes, pears, grapes and peaches. It is now in action.

Olives in Placer County.

There is a very irregular set of olives in Placer county, making it very hard to estimate the crop, according to C. K. Turner, Horticultural Commissioner, who thinks it may amount to about 50 per cent. Plums are panning out according to his original estimate of 65 per cent.

Where's That Rabbit's Foot?

Last Friday we received a letter from Wm. Gould, Horticultural Commissioner of Yolo County (written on the 23d), saying, "I am sending you a branch from one of my Smyrna fig trees, which has 23 figs on. Don't you think that will beat your fig story of last week—the Capri that had only 13 on it?" The Capri was a single twig while Mr. Gould's was a branched one. We remarked on the size as well as the number of fruits

on the Capri fig. The figures in this story are "inauspicious!"

To Support Loaded Limbs.

Dr. Garrison of Healdsburg, in wiring up the limbs of his apple trees, bores a small hole through the limb, runs a stout wire through, turns down the end and staples it on the outside. This sounds pretty good and practicable, though the holes really ought to be stopped with asphaltum to keep out any fungus spores of heart rot.

Save Every Apple.

Every apple is worth money and will pay to ship even from distant points if the railroads give commodity rates. You folks up in the mountains, don't forget that dried apples are quoted at 20 cents a pound. A little sulphur house and two or three small apple-parers will make that family orchard turn out big money. Some of the finest winter apples we have come from the mountains. If they are carefully picked and cared for, the sound ones, free from worms, will be worth big money packed, and the rest can be cut at home. Those fine winter apples dry and weigh up well.

Berries in the Gold Ridge Section.

Blackberries, Lawtons and Mammoth, will probably not turn over half a crop this year between Sebastopol and Forestville, while Loganberries run from one-fourth to one-third of a crop—less on thin hill land. One man who has 100 acres of apples interplanted with berries, picked only 300 pounds of Logans to the acre, that last year went three tons. He has a nice crop of apples though, and that will help some.

Used Dry Lime-Sulphur for Scab.

J. W. Keegan, near Forestville (Sonoma county), has sold his pears at \$65 a ton—orchard run. He has a 72-acre ranch, half of which is in fruit. We noticed his pears were very scabby, though they were fine in size and generally good in shape. He explained that he used dry lime-sulphur, 16 pounds to 100 gallons of water before bloom and 9 pounds to 100 after bloom, and attributes the scabbiness to the use of this material. A neighbor used 28 pounds to 150 gallons and has clean pears. Mr. Keegan has a good heavy crop.

Picking Thompson Seedless.

The wastage in careless picking of Sultanas and Thompson Seedless grapes amounts to a very large aggregate loss each year with careless pickers. It pays to watch your men and see that the grapes are deposited on the trays and not torn off and thrown at the trays, and then the heap hastily straightened out. Every year one can see far more raisins lying along down the rows than there is any need for. With the money that is paid this year for picking and the good price promised for the dried product we have a right to expect extra good cares to insure quality.

Pears Have Been Picked Too Green

[Written for Pacific Rural Press.]

July 29—We have seen a lot of pears in various delivery stations that have been picked much too green as numbers of snapped stems testify. In Sonoma county picking started two weeks ago. Why is picking started on such immature fruit?

Several reasons present themselves. Many pear trees have borne and are bearing enormous loads. Props are dear and hard to get and expenses are high. Therefore, a rapid picking of pears has lightened the trees of their dangerous surplus and the pears have been accepted.

Another reason is that vacation season is on and the growers are using the help while they can get it. Every week more and more hands are needed by other industries as the harvest advances.

Some men say, "The pears are dropping, so they must be ready. Anyway,

I would rather pick them off than pick them up. A great many poor crops were sold at a flat price—orchard run. In short, it is an uneasy feeling that is prompting men to get that fruit to market and get the money for it so as to be sure they have got it.

It seems rather a pity that fruit should be taken so green. We have seen some sent in to be cut that will shrivel rather than ripen. This is not only a loss in quality for the dried product but a heavy loss in weight—for it is the sugar that pulls down the scales. The early pick is expected to be a bit green and uneven, but it doesn't pay to overdo it. We noticed a lot of orchards where straw and manure has been spread beneath the trees to save the windfalls—a wise precaution when they are worth at least \$35 a ton.



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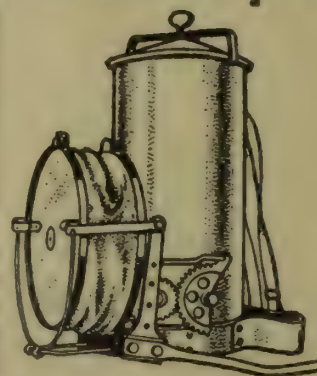
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LABOR IN THE STATE'S FRUIT HARVEST.

(Written for Pacific Rural Press.)

Some of the apple, pear, prune, peach and grape growers will be put to it to handle their crops, is the opinion of some growers in Sonoma County. We heard one grower ask another, "Can you tell me where I can get a few pear pickers? I am shy on help and my fruit needs handling." The reply was, "I let out two this morning who wanted \$5 for an 8 hour day. I was paying them \$4.50, and if they had been good pickers I would have kept them—but they were just putting in time and I had to let them go."

Stanislaus County is rather better served. A. L. Rutherford says, "Labor is plentiful, but not at all satisfactory. Wages are high."

"Labor is plentiful here at Paso Robles so far as orchard work is concerned, but there is not enough for the wheat crop," says Tom Henry of that city. "We have a very good wheat crop, and the almonds will yield 100 per cent or better."

Fred G. Stokes of Lake County says: "You ask about labor. We have enough at present. In fact to be fair to those who depend on work for a living, I may say that our labor situation is fairly well balanced, though others might say that help is scarce. No one has any difficulty in getting employment, but if you want to hire a man you must look ahead sometime as apparently there are few, if any, really good men looking for work. They are all busy, but it is not fair to say that any crops are suffering through lack of help."

"There should be more uniformity in the number of hours for a work day throughout the state and also even in the county. Around Kelseyville they work an eight-hour day and further north they give a nine-hour day or even a ten-hour day. Personally I have no use for the clock being ahead, as it throws the dinner hour too early on a ranch and most of the men go to work again in the hottest hour of the day. This is hard on both men and teams, and quitting at 5 p. m. (which is really 4 p. m.) just when it is pleasant to work, may be alright for a city man but is no good for the country."

D. F. Norton of Grass Valley (Nevada County) says, "I think we will be a little shy on pickers, but will be able to handle the packing as a great many women and girls have learned the trade during the past few years and are keeping things going."

"In Yolo county the only farmers complaining at the present time are the tobacco growers; they are experiencing some trouble in getting enough help to string the tobacco," says Wm. Gould, Horticultural Commissioner. "I have been told that Mr. Chiflokos has 40 mutes from Berkeley to do his work. One of our apricot growers, E. T. Anderson, lost about 1500 lug boxes of apricots due to the shortage of labor and the unusual hot spell which brought the cots on with a rush."

The Boys' and Girls' Aid Society have 125 children picking berries on the Gold Ridge at Sebastopol. The school boys and students everywhere are rendering good service during vacation. Their efforts will be missed in some growing sections when school "takes up" again.

C. K. Turner of Auburn says that up in that section there are more people looking for work than there are jobs. Labor is short in Napa County.

We have the worst hill yet to climb. It pays to see that the team is in good order and the gear sound before we have to negotiate that hill. Even where there's no hump there may be a crease, and you can't seize time by the short hairs.

CIRCUMVENTING MR. RABBIT.

To the Editor: I note in your last edition a query from a Napa County party asking a way to prevent rabbits from eating young fruit trees. I had years of experience along these lines, having tried blood, aloes, etc., with varied success, mostly bad, and at the best only temporary. I was



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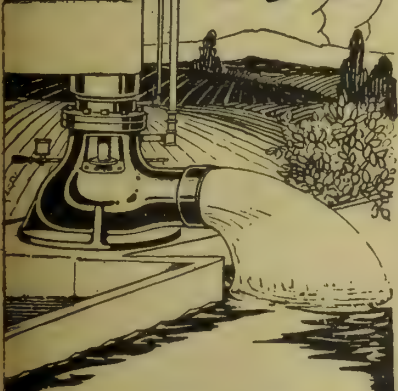
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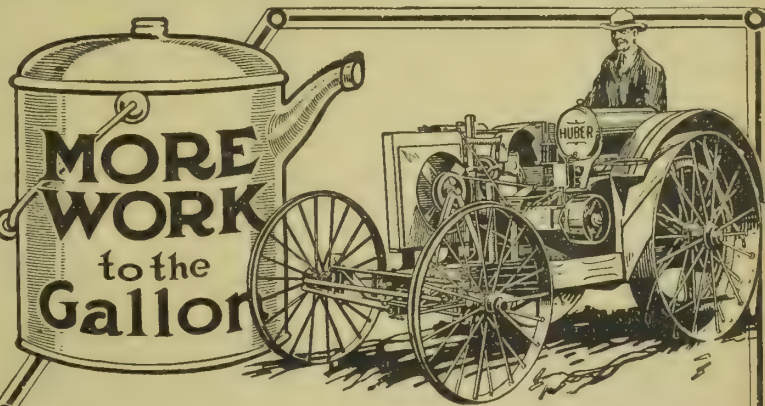
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told by a neighbor to cut fairly bushy live-oak twigs from fourteen to eighteen inches in length, pointing the ends and shoving them down around the trees so that the leaves were close enough together so that Mr. Rabbit cannot get to the tree without his

nose coming in contact with the prickly leaves of the live oak.—Sub.

"The cleanest crop of pears we ever produced in Mendocino county," said the Horticultural Commissioner of this year's yield.

A Message to California Peach Growers

(Written for the Pacific Rural Press by John J. Fox.)

In an extempore address to all fruit growers, and to peach men in particular, A. E. Sunderland, Secretary and Treasurer of the California Peach Growers' Association, gave out information that is of value to all fruit growers:

Then and Now.

In 1915 the maximum price paid to the grower for dried peaches was three cents a pound. Hundreds of acres of peach trees were taken out as the prices the growers were receiving did not pay actual cost of production, to say nothing of interest on investment, etc. In 1916 the newly formed association took over 1500 tons, which couldn't be sold at 2½c, and for these we netted the growers 5¼c through the Association. The average price for 1916 crop was 6c, for the 1917 crop 8.32c, and for the 1918 crop 11c, and it will be still more for the coming crop.

We recognize that the war has had some influence on prices, but it is co-operation rather than the war that has enabled us to put the industry on a sound basis. It has done two things besides giving us a voice in the disposal of our own products. First, it has given us control of the peach peeling machinery; and, secondly, it has given us the means to advertise our wares—something that can only be accomplished successfully by united effort.

The Peach Peeler.

The peach peeling process has revolutionized the peach industry and

placed a really palatable article on the market at a reasonable price that could have been obtained in no other way. For it has so reduced the cost, as compared to hand peeling, that we are enabled to place our Practically Peeled Blue Ribbon Peaches on the market in neat cartons in such an attractive, palatable, ready-to-eat form that they readily appeal to the discriminating housewives both as an article of food and confection. The first year the peeling process was installed 11 per cent of our total sales was in Practically Peeled form, in 1918 30 per cent, and this year over half of the crop will be marketed in this manner. We feel in a short time the once-despised unpeeled peach will be entirely replaced in all the markets of the country by our Practically Peeled, which will be a great advantage to the producer, as on account of increased sales and consumption it will mean there will not be a liability of an over-production of dried peaches.

The Progress of the Association.

The dried peach crop of 1916 was 30,000 tons; 1917, 20,000; 1918, 40,000; all of which was put into consumption without large carry-overs as in the past. We could not possibly have marketed this tonnage in the pre-organization days and the outlook for the coming season is that we could sell twice the amount that will be produced.

We have endeavored since our organization to instill into the minds of

the growers, for their own benefit, the advantage of better farming in order to produce the best quality, as well as quantity, of the dried product. We have had taken two reels of moving pictures showing the industry from the planting of the tree to the baking of Blue Ribbon peach pie by the consumer. In these pictures we endeavored to have shown the right and wrong methods from the spraying of a tree to the time the crop is delivered at the packing house.

National Advertising of the Blue Ribbon Brand.

Here are some of the results of consistent advertising and pushing: The jobbers are no longer afraid to buy because our prices are assured for definite periods. Freedom from market speculation and fluctuation of prices has established a confidence in the trade measured by the foundation of our industry. In the old days if the jobber saw no decided chance to make money on speculation he left our fruit alone. He didn't try to push sales as there was too much risk on a small margin. Under existing conditions of stabilization of the market by our Association the jobber cannot lose; consequently, our goods are persistently pushed by the jobber and sold to the retailer, who, by the assistance of our advertising, is enabled to readily resell to the consuming public. Thus a market continually active for all-year-around business is being built up to the ultimate benefit of the producer. This is exemplified by our operations last year, wherein we returned to growers 74 per cent of the entire gross amount received from the sale of their peaches, after deducting all overhead

and manufacturing expense—cost of marketing, processing, packing and material, labor, administration and transportation.

All fruit growers are now actively aware of what the growers' organizations have accomplished since they became established. This is not enough. With our rapidly increasing production in all lines we must keep pace by establishing new markets and enlarging our export trade, and this year the California Peach Growers is going to enter the European market where they expect to do a large business.

Proper and Improper Harvesting.

In conclusion Mr. Sunderland said: "A word to the growers before harvest is out of season. Pick your fruit when it is ripe—don't knock it off and gather from the ground. The results of the latter practice are: First—that you get a lot of slabs and dark-colored peaches that reduces your quality and values. Secondly—that a number of unripe peaches fall with the ripe ones if you "knock," and these do not show the right color and do not peel well. Added to this, the fruit that is unripe is not only poor in quality, but the producer loses in weight. It is in the last few days of ripening that the fruit sugars up and sugar means weight that cannot be evaporated. The added weight to properly ripened (and not overripe) fruit is enormous. The members of our organization work all together for the producer. The Association is their individual and collective business and each one must contribute his best productive effort to uphold its dignity and standing."

Test Special

There is much competition in Belt making. The buyer finds numerous kinds and makes, but yet identical in appearance and construction. There is only one safe and sane way to purchase a belt and that is to **TEST IT YOURSELF** and depend upon the experience and skill of the firm who made it. The firm that makes a Belt that has a reputation of **MAINTAINING ITS QUALITY** is the firm from which you know you can **SECURE A SQUARE DEAL**.

TEST SPECIAL RUBBER BELTING is manufactured by the **NEW YORK BELTING AND PACKING CO.** For 75 years we have supplied belt users with Belting that has won a reputation for its quality and service. When your purchase a **TEST SPECIAL** you receive the benefit of our 75 years' experience.

We know that when we put a **TEST SPECIAL** on your machinery it will give you long and satisfactory service, and we therefore do not hesitate to guarantee it.

The name "**TEST SPECIAL**," stamped on every 30 feet of belt, is your guarantee that it will give **LONGER AND BETTER SERVICE** than any other **RUBBER BELT** manufactured.

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Send me samples of Belting that you will guarantee to give satisfactory service on my work, and quote prices delivered at

Station

Horse Power	Diameter in Inches
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Steam Engine	
Gas Engine	
Driving Pulley	
Driven Pulley	

Kind of Drive

Cross	
Straight	
Perpendicular	
Width of Belt	Ply
Distance between centers of Pulleys	
Rev. per minute of Driving Pulley	
Kind of Machinery Driven	
My dealer's name	
My name	
Address	

TEST
SPECIAL

TEST
SPECIAL

HORTICULTURAL JOTTINGS.

Peach packing is in progress at Porterville packing plant.

The first straight car of Malaga grapes was shipped from Clovis, July 29.

Elmer Bros. have sold their Tuscan clings from a seven-year-old orchard (10 tons to the acre) at \$110 a ton, to the cannery.

Some of the raisin growers in Yuba County are expressing a fear of early rains and that grapes are backward on account of cool weather.

Olive set is 90 per cent in Stanislaus County, according to A. L. Ruthertford, Horticultural Commissioner. Peach cutting began there July 25.

To handle their own crop of about 500 tons of grapes, a drying plant has been built near Yuba City by W. F. Hoke, J. C. Ray, and C. W. Jones.

Representative Kettner says he has every hope that favorable action will be taken on his bill providing for an import duty of one cent a pound on citrus fruits.

A great many of the pears in Sebastopol district were sold flat—orchard run—the prices being \$50, \$60, \$65, \$67.50 and \$70, according to the quality of the run.

Porterville's naval orange crop is estimated to run ten per cent over that of last season, while the Valencias promise to produce as heavy a crop as they have ever had.

Dried fruit houses in the San Joaquin Valley and other points are contracting for dried wine grapes up to 11 cents a pound, it is reported. Prices depend on variety and quality.

The Yakima Valley (Washington) promises about 2200 cars of Bartlett pears—a 15 to 20 per cent increase over last year, and the Rogue River (Oregon) from 700 to 800 cars of 512 boxes each.

About 1,500,000 pounds of surplus prunes of the 1918 crop have been thrown on the market by the War Department. They run chiefly from 40's to 70's and are mostly in 50-pound cases.

A straight carload of plums—Santa Rosa and Climax—from Newcastle was sold in New York City for \$3,150, according to the California Fruit Exchange. Some Beauty plums have sold at \$3.75 per crate.

Imperial and Sugar prunes in Yolo County will be ready about the third week in August, according to Wm. Gould, Horticultural Commissioner. The crop is showing up even better than his earlier estimates showed.

Joe Davis of Sebastopol, a prominent Gravenstein apple grower, has contracted 15 orchards besides his own, using them to feed his packing plant at Fulton. He is offering \$40 per ton for gravenstein apples.

The chestnut grove on the California Mountain Fruit Co.'s ranch at Grass Valley is loaded with nuts again this year. They are the im-

proved Rochester variety on sweet stock, and produce a nut equal to the imported stock.

A large new packing plant has been started at Healdsburg by Zerillo and La Fala. They are prepared to pack, ship, can and dry pears. Miller & Gobbi are packing two cars of apples a day here (July 29). Apples and pears are coming in fast.

The Libby Cannery workers at Selma are reported to have struck on August — to obtain a scale of wages recently established by Ralph P. Merritt, with the approval of Governor Stephens, after conferences with packers' and employees' organizations.

It is expected that 12,000 carloads of wine grapes—or call them jelly grapes—will be shipped out of the state this season if cars hold out. The wine grape crop this season will be approximately 600,000 tons, according to H. F. Stoll, of the California Grape Protective Association.

The California Packing Corporation recently purchased ten acres in Scott's Valley, Lake County, from J. H. Godfrey for \$3,000, for a drying plant, which will be in operation by August 15. This corporation has four units of this kind in Lake County to deal with the pear crop.

Prof. R. H. Taylor of the University of California has been appointed as assistant to the chief of the Division of Plant Industry by George H. Hecke, Director of the State Department of Agriculture. Mr. Taylor has had a wide experience, both field and laboratory, in horticultural work in California.

AGRICULTURAL NOTES.

About 800 pounds of new-crop sweet potatoes were shipped out of Turlock, July 25.

The fifth major convention of the National Board of Farm Organizations will be held September 16 and 17 in Washington, D. C.

Special arrangements to admit Mexicans for cotton picking may be made through the Director of the U. S. Employment Service, San Francisco.

One hundred pounds is the official weight of a sack of onions when sold "by the sack," as recently defined by the State Superintendent of Weights and Measures.

Sixty cars of lima beans, practically all that remain in growers' hands, are to be held over to help on the short crop which will be harvested this fall, according to Secretary E. O. Essig of the Lima Bean Selling Agency.

The Baart wheat pictured in our issue of July 19, as having been grown in rotation with rice, averaged twelve sacks per acre. It went 20 sacks on well-drained land, as reported by J. G. Beekler of the Dodge Land Co., who grew it.

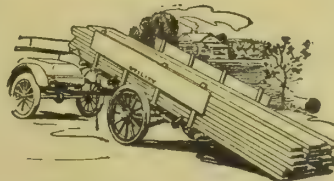
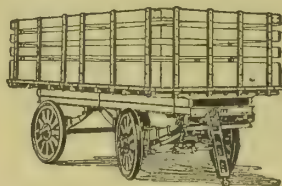


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Two Loads for One Cost

Cheaper Hauling Costs For Ranchers



UTILITY TRAILERS

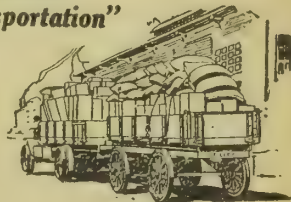


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2 and 4-wheel models in light, medium and heavy capacities. Built like the finest motor truck. Will not wobble or sidesway. Ask for name of distributor nearest you.

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Transportation"



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When you install a pumping plant you want water—plenty of water—full-rated production and more, if possible. And that's what you get when you install.

AMERICAN CENTRIFUGAL PUMPS

These pumps produce the full guaranteed amount of water and they keep power bills down to a minimum! That's more than a claim—it's a guaranteed fact.

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—which illustrates and describes the entire line of American Pumps and proves their advantages beyond a question. The American Catalog points the way to irrigation efficiency.

Open territory for live dealers.

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SAN FRANCISCO. LOS ANGELES

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- Vertical Pumps
- Deep Well Heads
- Deep Well Cylinders
- Oil Engines
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Cheapest and most efficient fertilizer — Highly concentrated — Dry, Odorless — No weed seed or foreign matter—a natural fertilizer.

Contains plant food as follows:

2.50% Ammonia
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Will handle 3 14-inch plow bottoms under normal conditions. Furnish ample power for hay baler, silo filler, grain separator, with weigher, wind stacker and self feeder. Furnishes steady power for pumping water or any similar farm work. Interchangeable road wheel attachment —can be converted in less than hour into rubber tire wheel road truck. Will do anything that a 3,500-lb. truck can do with trailers. Good territory open for dealers.

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Past the Experimental Stage
Eleven different models, with or without Engine, mounted complete
Ranging in Price from
\$190. to \$2175.
All Repair Parts Carried.



THE AMERICAN

Government Wheat Price Not for Farmers

(Written for Pacific Rural Press.)

What is generally understood as the Government wheat price of \$2.20 per bushel will not be paid net to farmers for any bushels; and the misunderstanding should be cleared up. The \$2.20 price is for No. 1 clean hard wheat, delivered at San Francisco Bay terminals or Los Angeles terminals with weight of sacks deducted and with one per cent deducted to cover the Grain Corporation Administration charge. Farmers pay the equivalent of freight to San Francisco or Los Angeles. They lose whatever foreign matter (grain, straw, weed-seed, nails, smut, etc.) may be found in the wheat. Its weight is deducted before figuring the total payment. Inseparable foreign matter also reduces the grade and reduces the price per bushel correspondingly. Discolored, shriveled, wheat or soft varieties also take lower grades and prices.

Farmers Pay the Freight.

Farmers hauling direct to the mills must accept the Government price less the freight to Los Angeles or San Francisco, the mills retaining the freight charge to cover the cost of shipping the flour and mill feeds to the terminals, whence they are sent to world markets. They probably make a little on this, although the freight on flour is higher than on wheat, but the Grain Corporation recognizes that not every activity of every mill can always make a profit, so losses on some operations at some places some times are permitted to be balanced by profits in other cases and to a limited extent.

Weight of sacks is assumed to be $\frac{3}{4}$ pound each. This is deducted from the total weight, but $4\frac{1}{2}$ cents per bushel is added to the total price as a recompense for the sacks.

Government Price Is for Cleaned Wheat.

The wheat is bought always by the Grain Corporation or the mills all over the U. S. on a "cleaned" basis, which means that the weight on which the price per bushel is figured is the total weight less the weight of all foreign material. Such foreign material is loosely called dockage. Last season, California farmers were paid for valuable dockage because it contained some wheat which was not allowed to be used in chicken feed. But now that there is a free market for wheat and dockage, the rule has been made by the Grain Corporation that dockage will not be paid for up to five per cent, because as a general rule that is the cost of cleaning. Where dockage runs over five per cent, the Grain Corporation is paying \$1.25 per hundred for the excess except the straw, chaff, knuckles, etc., that are manifestly of no value for chicken feed.

There is a feeling that farmers are also entitled to payment for the five per cent on the ground, as President Geo. H. Sawyer of the Stanislaus

County Farm Bureau insists, that "all wheat is cleaned before it is manufactured into flour, the expense of this cleaning being part of the cost of making the flour and charged to the consumer. If the producer pays for the cleaning, the miller will be paid twice for the same operation."

Millers do run all wheat over their cleaning screens. If it has been cleaned previously it goes fast and costs but little for the last cleaning. If it is full of dockage it has to be run over the screens two or more times and it goes slower. There is more cost to the miller to clean foul wheat than to clean wheat from which the dockage has already been taken. How much more it costs we are not able to say. Five per cent dockage is assumed by the Grain Corporation to pay the costs of cleaning simply because, we suppose, that figure has proved to be about the average cost in California.

Western Flour Competes with Eastern.

But the following facts must be borne in mind. California flour is sold on the markets of the world in competition with eastern flour. If we handicap our western mills, it is possible that they cannot continue to handle our crop, in which case we would ship our wheat elsewhere, and return our millfeeds at some expense. Nowhere else in the U. S. has payment for dockage been given by the Grain Corporation. It was done last season in California on account of restrictions on the use of wheat screenings for feed and the ability of the Grain Corporation to buy the flour at whatever differential was necessary to protect the mills. But this season the markets for grain and flour and mill feeds and screenings are on a competitive basis.

Eastern millers do not pay for the preliminary cleaning of wheat. Farmers haul to elevators where the wheat is generally cleaned at so much per bushel. The farmers pay for the cleaning and take the dockage back home. If they do not pay directly, they accept a lower price for their wheat. In some cases all wheat from a district, clean or foul, is bought at the same price, and the man who delivers clean wheat to the buyer accepts a price set low enough to reimburse the buyer for cleaning his neighbors' foul wheat. The eastern mills pay for the clean wheat in any lot, subtracting the weight of dockage and the cost of taking it out and then adding the value of the dockage. It seems to us that this is all we can expect California mills to do when their products are sold in competition with those of eastern mills.

If such a system is expensive to us because we use sacks or imperfect harvesters, it is up to us to turn to more economical methods and more efficient machines.

Easier to Borrow on Warehouse Receipts

(Written for Pacific Rural Press.)

"It's easy to get plenty of money at reasonable interest on the security of warehouse receipts for grain in California," asserted a leading grain dealer and a leading warehouseman, at a hearing August 4 in San Francisco, held by R. L. Nixon of the U. S. Bureau of Markets, to discuss regulations for enforcement of the U. S. Warehouse Act. This act, according to Mr. Nixon, was designed to make it easier to get loans on warehouse receipts issued on storage of grains, wool, cotton, tobacco, or flaxseed. It provides that warehousemen who choose to accept its benefits must contract with the Government to do certain things, which make their receipts more universally dependable as security.

Here in California our warehousemen are under control of the Railroad Commission, and their receipts are of uniform wording so it is said that in general a banker knows at a glance whether such a receipt is good security and will justify making a

loan quickly on good interest terms. Our readers know how easy they have found it to get money on such receipts.

A San Francisco man died in the penitentiary not so long ago. He had operated a grain warehouse and had defrauded banks and business men out of thousands of dollars by manipulation of receipts which represented grain that wasn't there.

A Memphis, Tenn., cotton warehouseman stood high in financial circles. His probity was unquestioned. His warehouse receipts were accepted as collateral for loans in every bank in that city. One day one of his customers paid a note for \$25,000 at one of the banks. He told the banker that he did not care about the warehouse receipts which had secured the note, as the cotton had all been shipped two or three weeks ago, without the receipts. The banker, of course, called in all of his loans secured by receipts from that warehouseman, and six days later every

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140 Beale St., San Francisco, Cal.
 Branch Sales Office at Los Angeles.

other bank in town was holding the empty sack, for the warehouseman had failed. The actual security (cotton) was all gone. Of course borrowers on such receipts had to make good for their loans, if they could, but it made the bankers leary of lending on warehouse receipts. They had to charge a higher rate of interest and go to more expense to verify such security, and so the borrowers suffered.

In California are local warehousemen who keep account of stored beans, grain, etc., in pocket memorandum books, as stated by one man at the meeting. If that is true under our present laws, we can see why a banker would have to be personally acquainted with the warehouseman whose receipts are offered before he would make a loan on them.

That is why the borrower who offers legitimate warehouse receipts as security is subjected to difficulty in getting a loan and a high rate of interest if he gets it.

U. S. Warehouse Act.

The U. S. Warehouse Act was approved August 11, 1916, but has not been enforced. The Bureau of Markets has this summer held about two dozen hearings in the big markets to discuss the regulations by which it will be enforced. The meeting at San Francisco was one of the last of these.

The law is designed to insure warehouse receipts and make them readily acceptable at distant banks. Every warehouseman who wants to enjoy its benefits must take out a license. He can't do it unless he has a good reputation, a good warehouse, and a good system of running it. He must have assets clear of all other incumbrances which will be liable for any losses encountered on receipts he issues, up to \$100,000 of such liability. If he lacks any part of that \$100,000 he must make up the difference by filing a bond acceptable to the U. S. Bureau of Markets. In addition to this, he must file a bond not less than \$5,000 nor more than 5 cents a bushel storage capacity to insure faithful performance of his contract with the government and with owners of stored products. The receipt must be of uniform wording and give such information as the banker needs.

It was conceded at the meeting, that if any warehouse concerns should take advantage of the act, it would force all of the others to come in because patrons of the warehouse would demand the most readily negotiable receipts.

STATE MASS MEETING OF FARMERS.

Dear Fellow Farmer: At a meeting of the directors of the Farm Owners' and Operators' National Association with a large number of grain growers, July 24th, the executive committee was directed to ascertain the sentiment of farmers on a proposal to hold a state-wide mass meeting in Stockton about September 1st, for the purpose of discussing the government wheat price guarantee and its results to the farmer.

Considerable sentiment against a continuation of the law, and against the regulations as they are now laid down, was apparent in the meeting. It was thought that if the farmers of the State could be brought together, the general average of sentiment could be arrived at; and the personal experiences and results to the grain growers would provide evidence on which to act.

1. Do you favor a State-wide mass meeting of farmers in Stockton about September 1st?

2. If the meeting is called will you attend and bring with you as many of your neighbors as possible?

3. Please bring this matter up at all your meetings.

4. Have you any suggestions on this or any other subject that will promote the welfare of the farmer? If so, let us have them.

5. Let us hear from you at once whether you can attend.—Farm Owners' and Operators' National Association, Albert Lindley, Chairman.

HYATT

ROLLER BEARINGS

For Bigger Crops

THERE is no reason for any letup in our big agricultural program. Conditions vouched for by the Department of Agriculture warrant a sustained production of crops for which good prices are assured.

The greatest single factor today in making possible increased crops at a lower cost of production is the farm tractor.

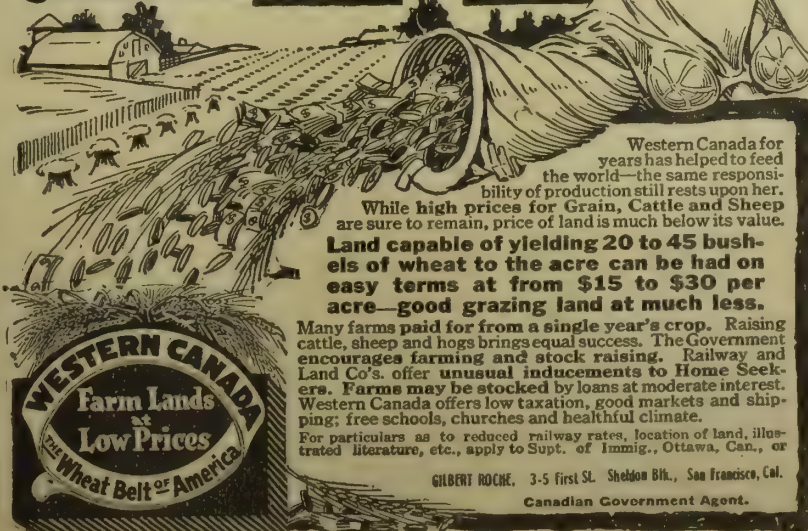
Hyatt Bearings in tractors and other farm machinery make it possible for a man to get greater results with less labor. In addition, Hyatt Bearings are used in such farm machinery as grain binders, threshers, plows, windmills, etc.

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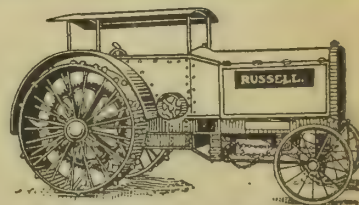
Western Canada for years has helped to feed the world—the same responsibility of production still rests upon her.

While high prices for Grain, Cattle and Sheep are sure to remain, price of land is much below its value.
Land capable of yielding 20 to 45 bushels of wheat to the acre can be had on easy terms at from \$15 to \$30 per acre—good grazing land at much less.

Many farms paid for from a single year's crop. Raising cattle, sheep and hogs brings equal success. The Government encourages farming and stock raising. Railway and Land Co's. offer unusual inducements to Home Seekers. Farms may be stocked by loans at moderate interest. Western Canada offers low taxation, good markets and shipping; free schools, churches and healthful climate.

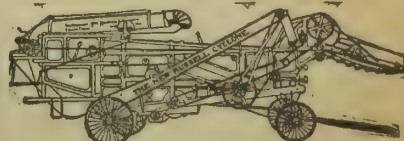
For particulars as to reduced railway rates, location of land, illustrated literature, etc., apply to Supt. of Immig., Ottawa, Can., or

GILBERT ROCHE, 3-5 First St. Sheldon Bldg., San Francisco, Cal.
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— CLOVER HULLERS —

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The A. H. AVERILL MACHINERY CO.

SAN JOSE, CALIF.

Suggestive Agricultural Pointers

(Written for Pacific Rural Press.)

State School Land Auction.

Two thousand acres of State school lands in tracts of 40 to 640 acres each, in Los Angeles county, are to be auctioned off by State Surveyor General W. S. Kingsbury on the Los Angeles Court House steps at 10 a. m. August 22. A second sale will be held in the northern part of the State later to dispose of lands in that region. Other sales will be held at various places and times. A list of lands to be auctioned may be obtained from the Surveyor-General at Sacramento. Terms: cash, or 10 per cent down on date of sale and six per cent interest on the balance until paid. Most of the lands are chiefly good for grazing, timber, or mining.

Wire-worms after Clover.

After you plow up that old worn-out alfalfa or clover patch, sow it thick to mustard and then turn the mustard under while it is lush and green. Then don't replant for a few weeks. It will reduce the number of wireworms considerably for they don't like mustard and they are always numerous after an old clover field. Certain parts of Humboldt and Siskiyou counties might try this out.

Gulf Shipment of Barley Embargoed.

On account of the extraordinary shipments of barley to Gulf ports for export to Europe, the Southern Export Committee of the U. S. Railroad Administration has placed an embargo on shipments from California to the Gulf after August 1. It is feared that congestion at the ports of Texas City, Galveston, Port Arthur, New Orleans, and Mobile will handicap movement of the crops, so nothing may be moved henceforth without a permit from the committee. Permits will probably be issued freely up to a certain amount.

Are You Burning Fertilizer?

A ten-sack yield of grain may roughly average a ton of straw per acre. If this straw is spread and plowed under, it restores to the soil the following constituents as determined by many analyses:

Kind of Matter	Pounds Fertilizer Elements Per ton.			
	Pounds Dry	Nitrogen	Phosphoric Acid	Potash
Straw 100 lbs.	85.5	11.2	3.6	24
Barley	88.5	11.6	4.2	30
Oat	92.5	12.4	1.8	30.8
Rice	91.6	10	1.6	14.8
Wheat	89.5	23.4	8.4	27.2
Bean	91.4	47.6	10.8	44.6
Alfalfa				

How much would the above fertilizers in a ton of straw cost at present prices in your town? Do you burn it and waste all the nitrogen as well as much of the other elements and the humus value? Do you expect the fields to continue bearing grain indefinitely without your restoring something to them? Are you robbing your children? There are straw spreaders on the market which will make it easy to plow the straw under. But plowing shallow on light soil will not turn the straw under far enough, and thus it might injure the next crop. The world moves and you may have to change your old-time methods. Plow the straw under deeply.

If It Should Rain on the Beans.

During the fall of 1916, when there were about three weeks of rainy weather after the beans were cut, H. E. Harris, of Santa Barbara county, saved practically all of his beans by keeping four or five men busy turning the vines every time a few hours of clear weather showed up. Some of the vines were turned nine times. One man could turn 20 acres per day. Mr. Harris has, with a partner, turned 40 acres in half a day.

Knotty-Rooted Cantaloupes.

Knotty roots on cantaloupes indicate infestation with nematode worms. Some damage was done this season on the lighter soils and the earlier locations in Imperial county. But the trouble has been known several years in older cantaloupe sections of Imperial county as reported by Horticultural

Commissioner F. W. Waite, who sees no reason for alarm. Most of the damage this season was on first-year cultivation after alfalfa.

EVERYTHING MADE IN CALIFORNIA.

"Made in California" is the passport to the Home Industry League, under whose auspices the California Industries and Land Show will be held in Exposition Auditorium, San Francisco, October 4 to 19.

The Show is to include nothing but goods manufactured in California and products grown in this State. Premiums are all in the form of medals.

In the livestock department only champion animals will be shown. That agriculture and agricultural implements will occupy a large share of attention is evident from the premium list. Special premiums are offered to the county having the first display completely installed and to the one which has "the most extensive, perfect, and varied display of horticultural, agricultural, viticultural, manufactured, and other industrial products."

The management, whose avowed object is to aid in creating a demand for goods grown or manufactured in California, thereby stimulating production, seems in one respect to have been off with Rip Van Winkle lately,

for they are offering premiums for the best displays of beer, champagne, fortified wines, and dry wines.

Other premiums are offered for best displays of alfalfa, barley, seeds, oats, potatoes, sweet potatoes, dried vegetables, walnuts, almonds, collections of nuts, citrus fruits of many varieties in many packages, deciduous fruits of many kinds, grapes, raisins, dairy products, oleomargarine, etc.

Agricultural machinery receives much attention. Premiums are offered for best display of agricultural machinery, best display of land leveling machinery, plows, road machinery, automobiles, trucks, tractors, dairy machinery and equipment, electrical appliances, gas engines, pumps, sprayers, transmission machinery, etc.

There will be an education here for producers or users of these products, covering a small space but representing all of California. The premium list is just out.

BUD VARIATION IN DAHLIAS.

(Written for Pacific Rural Press by Prof. J. W. Gregg, Univ. of California.)

Now that the season for dahlias is again with us, the growers will not only be concerned with the number and quality of blooms produced, but will, in addition, endeavor in many cases to bring forth new varieties. In this connection, it might be well to call to the attention of dahlia growers in general the fact that, in the past, not all of the new creations have originated from seedlings, even though a great many people seem to assume that this has been the case. In looking back carefully over the history of

the dahlia, it is very clearly brought out that bud variation has been responsible for the origin of many of the valuable varieties. In this connection, the method of propagation, together with variation in soil, climatic conditions, and culture, have probably been the most important factors concerned in bud variation. Of course, it is generally recognized that the most common method of propagating the dahlia is by the division of the tubers. Propagation by cuttings is now a most common method employed by the majority of the larger growers in all sections of the country, and it is by this method that certain bud variations whenever they occur can be perpetuated.

Numerous case might be cited to show that bud variation in the dahlia is no new or recent phenomenon and that while growers may continue to produce new and good seedlings they should, nevertheless, be on the lookout during the growing season for bud variations, which are sure to be found in any sizeable collection and which may prove, if selected and perpetuated, most desirable acquisitions.

The new strawberry container as adopted by the Central California Strawberry Growers' Association, which will be used generally next season, has made its appearance. The old style chest will be retained, but instead of the small six-basket drawers there are eight large drawers. The berries are not "faced"; in other words, as good a quality will be found at the bottom of the baskets as are on top, which for many years has been a bad feature of the old pack.



Ralph K. Mulford, Jr., in Daddy's Car day of Race



Same tires after the race.

BRAENDER TIRES WIN AGAIN

ON RALPH MULFORD'S FRONTENAC CAR at Sheepshead Speedway, Brooklyn, N. Y., June 14, 1919.

FIRST in Thirty-Mile Race. Time, 16 min., 20 3-5 sec. Beats old record by 11 1-5 sec.

FIRST in Ten-Mile Special. Time, 5 min., 24 1-5 sec.

SECOND in First Ten-Mile Race (1-5 sec. behind the winner.) Time, 5 min. 20 2-5 sec.

Beats old record by 3 2-5 sec.

Sheepshead Speedway Records Smashed

for 10 and 30-Mile events. Average speed 110 and 112 miles per hour.

On July 4th at Tacoma, Wash.,

Ralph Mulford broke another record on Braender Tires, winning First Race, and Second in second race, and leading in third (100 mile) race up to last six laps when forced out on account of engine trouble.

It will be remembered that Braender Tires established the World's Record for Tire Endurance at Indianapolis Speedway May 30, 1913.

YOU CAN BUY THE SAME QUALITY TIRES FROM ANY BRAENDER DEALER

MANUFACTURED BY

BRAENDER RUBBER & TIRE CO., Factory, RUTHERFORD, N. J.

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Ask your dealer for them. If he cannot supply you, write the nearest factory branch, or

R. W. KINNEY Co., San Francisco Calif.



Distributors in Practically all sections

who are the wholesale distributors and they will tell you where you may procure them. Dealers send for proposition.

WADE Improved Pea and Bean Thresher

The luxuriant growth and tough vines of Western grown peas and beans require a stronger draft than has been possible heretofore. Improved and stronger construction of the WADE Blower results in a more powerful current. The larger-than-ordinary cleaning surface assures greater output, and our sacking attachment completes the machine.

WADE Controlled Air Currents

The air currents are not allowed to blow broadcast through the machine. They are controlled by our improved damper and concentrated through our own construction to do the work better and more efficiently.

Learn All About the WADE.

The construction throughout will please you; it has that "stronger than necessary" appearance that means service. Post yourself on this wonderful machine; send at once for our booklet, fully illustrated, comparing the WADE features with the old style. Prices no higher than on ordinary machines. You be the judge. Write today.

R.M. WADE & CO.
SINCE 1865

349 Hawthorne Avenue, Portland, Oregon.

Oldest and Largest Independent Implement Dealers on the Pacific Coast.



Order Rice Binders Early

A DEERING or McCORMICK rice binder takes the worry out of rice harvest time. With these machines you can be reasonably sure of cutting a full harvest, no matter what condition the crop may be in, without undue strain on men, machines, or motive power. The clean stubble of thousands of acres of rice bears eloquent witness every year to the efficiency of Deering and McCormick rice binders.

To have enough of these good machines on hand to be sure of a complete harvest, you should place your order earlier than usual this year. We have arranged, so far as we could, to meet ordinary demands on our stocks and service, but conditions are uncertain and beyond our control. We earnestly advise early ordering on your part. It is the only way to be safe.

If convenient, see your local dealer and place your order with him. If you prefer, write to the nearest address given below, and we will see that your machines are delivered at the earliest possible date. But, one way or another, let us know as soon as you can.

International Harvester Company of America

(Incorporated)



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Los Angeles, Cal.

Portland, Ore.

Salt Lake City, Utah

San Francisco, Cal.

Spokane, Wash.



Pear Blight Conditions, 1919

(Written for Pacific Rural Press.)

Pear Blight has not been so virulent this year. D. F. Norton, Horticultural Commissioner of Nevada County tells us that Blight left the pear orchards alone this year. Last year it was bad for the first time in the history of the county, but was most vigorously fought. Trees on the Sacramento River are in splendid condition and have given very little trouble. Less blight than usual showed up in the San Joaquin Valley. Fred G. Stokes, Horticultural Commissioner of Lake County, said, "All of our growers have been 'Johnny-on-the-spot' with pear blight and the percentage of loss has been small. Some orchardists, new to the game, have lost an odd tree or two, but as they gain experience in blight control, they lose little."

"It is most essential to take vigorous action as soon as the blight makes its appearance and to keep it up continuously till one has the bulge on it. We do not anticipate any serious calamity from blight in Lake County from the fact that the grower shows a disposition to put up a strong fight."

"This year we have had many Spitzenberg apple trees dehorned or completely cut down (to be later dy-

namited out). Such trees, if blighted, are a distinct menace to the pear industry. Though they blossom later than the Bartlett, yet we trace cases of blight from them to the second crop pear blossoms. In fact many of us pick off the second crop blossoms of the pear to be on the safe side."

"Late in the season, when cases of blight are dried up, there is a crying demand for some tree paint to put on large limbs which would at least temporarily prevent any infection from them and possibly save them from being cut out and also save the pears. Some of our growers have experimented with various dopes, but not successfully enough to be positive of permanent results. It generally ends in having to cut out the blighted limbs."

"We have saved many trees which had blight in the trunks by lightly peeling, disinfecting and later, when dry and all traces of blight are gone, painting with a strong solution of lime-sulphur or with Bordeaux paste. There is a good even chance that such treatment will be O. K., provided the infection is noticed in time and is not too far down in the roots. Give us all the grape news you can in your paper."

New State Department of Agriculture

(Written for Pacific Rural Press.)

The new State Department of Agriculture came into being July 22, with George H. Hecke — formerly State Horticultural Commissioner — appointed as its Director. Dr. J. P. Iverson, formerly State Veterinary, remains as Chief of the Division of Animal Industry.

The two main branches of the new department will be the Division of Plant Industry and the Division of Animal Industry. Then there is the Division of Agricultural Chemistry and the Executive Staff.

The Division of Plant Industry includes in its ramifications the following offices: The Quarantine Division, the Division of Viticulture, the Division of Plant Pest Control and Rodent Control, and the Division of Standardization and Staffs. All the officers will be in close touch with distant

branches and field inspectors, and their organization has been outlined, posts and outposts set at the outset.

An agricultural survey of the entire state is being made to prevent the spread of pests to uninfested areas. Large districts have already been mapped to this end.

Included in the Division of Animal Industry are two important branches: the cattle protective board and the Dairy Division. The first is charged with the protection of breeders from theft, with the registration of cattle brands and the licensing of slaughterers, with the inspection of cattle and hides and the collection of all fees. The Dairy Division is charged with the enforcement of the dairy laws and with regulating the production and marketing of imitation milk and oleomargarine.

Almonds in the Larger Growing Sections

(Written for Pacific Rural Press.)

"The red spider showed up a good deal in some sections of Yolo County, but the majority of almond growers are spraying and have them pretty well in hand. The almond crop is all I estimated it earlier in the season — about 83 per cent," says William Gould, Horticultural Commissioner.

At Oakdale (Stanislaus Co.), A. L. Rutherford says, "The trees that have not been irrigated look badly and red spider is quite prevalent. Irrigated orchards look better with less spider, though there are some in all orchards."

In San Luis Obispo County the report is good. Tom Henry says, "The almonds are holding out very good. I have not seen any trees damaged by red spider and the damage done by grasshoppers has been over estimated. In the young orchards of the Associated, I found that many of the trees failed to grow, and the grasshoppers were blamed for it — a good excuse for a poor stand. The hop-

pers did not damage the older trees."

In Contra Costa County the crop will be 10% more than was expected, according to John Trembath, Secretary of the E. Contra Costa Co. Almond Growers' Exchange. Even at that the trees are none too flourishing and many orchards, especially around Antioch have suffered badly from red spider as well as drought and worms. These conditions are bound to affect next year's crop. The damage of tent caterpillars is still evident.

White grape juice may be successfully canned, but red juice loses its color in cans, as shown by experiments by the Viticultural Division of the University.

There are now 110 power dusting machines operating in the walnut orchards of the south. The trees are in extra fine shape this year and the crop will create a new record.

KEEP THE FIRST PICK SEPARATE.

(Written for Pacific Rural Press.)

The prune orchard looks as slick as a peeled onion since the roller or clod-masher has been passed over it in all the prune-growing sections. It makes all the difference to the pickers when the ground is smooth — to their comfort in getting around and the quickness of picking up the fruit. Also those big prunes are safer from injury when they fall on smooth ground instead of lighting on the corner of a clod. It pays to pick up that early drop clean all over the orchard before the real ripe ones begin to come. Because the first ones often lack enough sugar to cure well and show a little layer of decay under the skin that makes them look leaden colored. They take a long time to dry and ought to be dipped again; otherwise they are a menace to a good fruit if shot up with it, by starting a little mildew. Keep them by themselves till they are very thoroughly dried, anyway.

Miracle Trio On, Above, and Under Earth

(Written for Pacific Rural Press.)

A barren jackrabbit country with soil of magnificent fertility and indefinite depth is that known as the Huron plains of western Fresno County. In years of good rainfall, grain makes good crops; but last June, when the writer made a zig-zag line across it, a harvester would travel undue distances to pick out enough wheat kernels to fill a sack. There had not been enough rain, but there was a superabundance of sunshine.

Capitalized Fertility and Sunshine.

One outfit with much money and great courage saw here a chance to capitalize the unexcelled fertility and crop-growing climate of the Huron plains; and a monument to their sagacity was the luxurious oasis of golden brown grain which beautified over 8,000 acres last June. Many fields of wheat here gave reasonable promise of 20 sacks per acre. There are also four or five thousand acres of wheat on this ranch which were not harvested because they were like the rest of the country around this oasis.

Fruit Following Grain.

Astonishing also is the growth of fruit trees and grape vines two or three years old at headquarters. Its promise led the ranch operators to plant half a section last winter to figs with peach trees for fillers, a quarter section to Muscat and Thompson grapes, and a quarter section to miscellaneous deciduous fruits. More is to be planted as fast as its care can be arranged for.

Mirages and the Miracle Workers.

Why do grain and fruit spring forth from this dry, hot, barren plain with a vigor paralleling that in the best of older established regions?

As the traveler speeds over the roads of that country on a summer day he sees occasionally fantastic shapes chasing each other in thin air ahead. A train of boxcars reminds him of a string of aerial boyish spirits playing leap frog 200 feet off the earth, or a great serpent writhing in pieces among low clouds.

If the traveler knows how sticky the soil is when moistened, he becomes concerned at the sight of his road ahead dipping into water which covers the fields also. If he is dry, he may need that water; but presto! it is gone and the road stretches dry for miles ahead.

But mirages above and on the earth are not the miracle performers which have brought into being that expanse of tall, heavy, red-brown wheat which carpets the country as far as he can see in every direction. It is water from under the earth that has performed this miracle—water that has risen vertically over a third of a mile from the depths of earth to soak the surface of many acres two or three feet downward.

Thirty-five wells a half mile to a mile apart and 1700 to 2200 feet deep are filled with water which rises by its own pressure within 100 feet from the wheat roots.

Great electric motors and centrifugal pumps lift it to the surface, whence it is distributed through something like 100 miles of big underground pipes to irrigate a total of 15,000 acres whenever irrigation seems needed. Even after the past three dry seasons the water table has not gone down greatly.

The first group of these wells were put into operation in the fall of 1917. Much of the present season's grain is on land irrigated after the plowing, disked after irrigating, and drilled after diskings. With such treatment 45 pounds of seed per acre made almost too thick a stand.

Spring Irrigation Saved Crop.

Certain fields planted in the fall of 1917 without water were irrigated the following April, but for some reason the results were not worth the cost. Last fall other fields were planted without preliminary irrigation and the previous spring's experience led to neglect of irrigation last April.

This neglect cost the operators thousands of dollars, as was shown by at least one field not irrigated until April, 1919. That field made about ten sacks of wheat per acre, while the neglected fields scarce returned their seed if indeed they were harvested at all.

Motor-driven pumps have here made a crop worth \$60 per acre on land just like that nearby which did not pay for harvesting. The \$60 crop has cost not a great deal more to produce than the absolute failure, except for harvesting. Pump irrigation has multiplied the value of the land, but that is only the beginning. The grain development is only a preliminary crop to make the project pay until it shall have all been planted to fruit, which will again multiply the

value of the land. Who would quarrel with such use of capital? Who would not congratulate its owners on their vision of rural development and mayhap of the eventual building of many rural homes?

LIFE OF POWER HAY BALER.

The average life of a power hay press in an alfalfa hay district of the South, investigated by the U. S.



A common scene these days in California country towns consists of the heavy wagon trains hauled by tractors bringing new grain to warehouses. Two men haul easily sixteen tons per load.

"Send Up the Holts"

In the retreat from the Somme in 1918, the "Caterpillar" Tractors saved the British heavy artillery.

All along the line in the shelter of trees and ravines they were waiting the word "Send up the Holts"—to save the big guns that meant so much.

For 24 hours at a stretch the "Caterpillar" Tractors pulled 18-ton guns along almost impossible roads, seeking the new positions where the German hordes could be held.

And the "Caterpillar" Tractors stayed on the job. At a time when a breakdown or delay would have spelled disaster they kept going, with motors cool and efficient—with track-parts, gears and shafts unhurt by the terrific strain. Holt design, materials and workmanship had proved sound.

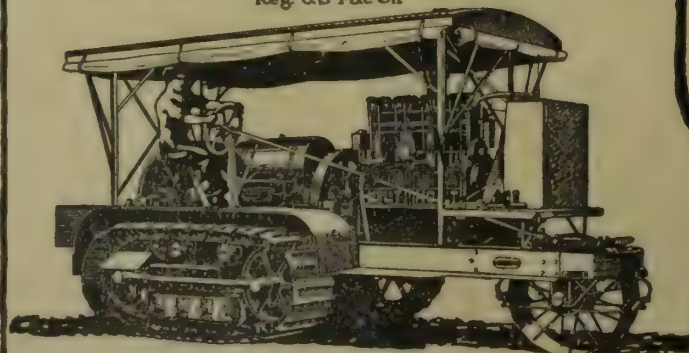
This performance was repeated times without number during the War. What the "Caterpillar" Tractors did is history. The "Caterpillar" Tractor built only by Holt, or under Holt contracts and patents, was the *only* tractor of track-type used by the Allies for their hardest war service—chosen after prolonged and severe tests.

This War record proves conclusively that no work on farm, road or forest is too severe for the "Caterpillar" Tractor to handle with ease, with downright economy of operation, and absolute dependability. Buy your "Caterpillar" Tractor now. Send for Catalog 404.



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California

Department of Agriculture, was 12½ years, in which it baled 7,500 tons of hay, working 41 days per year. Repairs, depreciation, and interest on investment amounted to 15 cents per ton. This was higher than necessary, due to inexperience and carelessness of the operators.

SINK TEST-WELL IN DOUBTFUL CASES.

Many a man has dropped a thousand dollars in a hole in the ground. The hole was intended for a well, but it never struck water. The advice of one such sufferer is to hire a test-well rig to put down a hole of minimum workable diameter at minimum expense. If a good flow is found, ream out the hole to the size desired for a well. Such a test-well costs about \$1.50 per foot for the first thousand feet.

POWER NOTES.

The San Francisco branch of the Mohawk Rubber Co. has found it necessary to practically double its facilities.

No reduction in prices of Rumely Oil Pull tractors will be made in the near future. At the beginning of the year Rumely prices were fixed on the basis of current wages and costs of material. Material costs are as high as ever and are likely to continue that way. Wages are higher and are likely to go up. Therefore the machinery prices cannot be marked down.

Improved pea and bean threshers having greater power and cleaning capacity have been put on the market by R. M. Wade & Co., after giving them a season of commercial use in various bean fields of the West.

John N. Willys, president of the Willys-Overland Co., The Moline Plow Works, and other interests, is to manufacture an electric lighting and power plant for farm use. The plant will operate household electric appliances and is said to run six hours on a gallon of kerosene. It is operated by a Knight sleeve-valve engine, such as is used on the automobiles in which Mr. Willys is interested.

It is quite a job to sew in new transparent sheeting for windows on automobile curtains. An easier way is to cut the inside row of stitches and then cut out the broken window so that about one-half-inch width of the old window is left all around. On this you can stick a new sheet with pyroxylin cement, which is made of the same materials as the window itself.

NAIL-HOOKS FOR TREE-WIRING.

To the Editor: I have read many useful articles in the Press that were of benefit to me, and I will send you a sample of a device that is proving useful in young orchards and light limbs of trees too small to prop or staple. I have wired up twenty-five acres of heavily loaded seven-year-old trees and it appears to be a success.

The sample shows that I use a 20-penny or 30-penny wire nail, turning the pointed end into a hook an inch and a half in diameter and using the head to attach the ends of a piece of No. 13 galvanized wire—making one turn of the wire just below the head. These wires run, of course, through the tree from one nail-hook to another, hooking around opposite branches which thus mutually support each other, as is common in wiring up branches.

Wire nail-hooks and wires are very easy to make at the rate of 150 to 200 per hour.

W. L. EDWARDS.

San Jose.

A Bad Error.

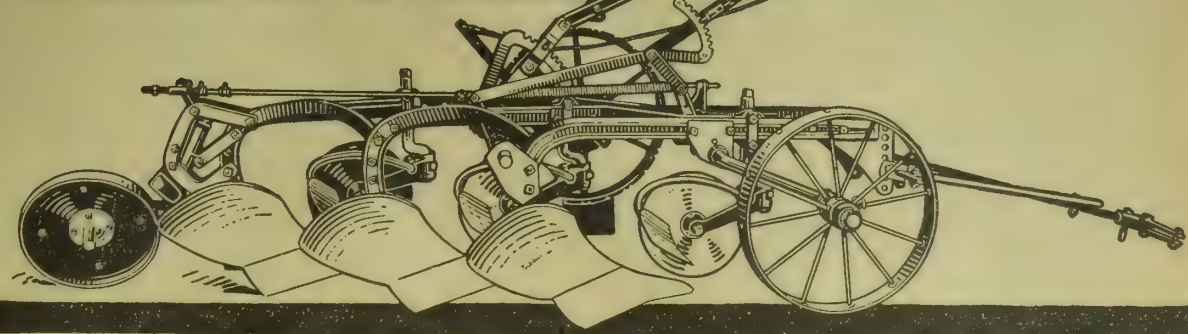
"We had to stop our little girl answering the front door calls."

"Why?"

"The other day when Ensign Jones came to call on our eldest daughter he was dressed in his white uniform, and when the little one opened the door and saw him she immediately called upstairs: 'Ma, how much bread do you want today?'"

"You shouldn't cry over spilt milk."
"My friend, that remark originated when milk wasn't ten cents a pint."

We Guarantee the Beams not to Bend or Break



-And There's no Time Limit to This Guarantee

WHEN you buy a John Deere Tractor Plow you get full protection against beams bending or breaking throughout the long life of the plow. You are protected by the material in the beams—extra strong, special John Deere steel. You are protected by the simple, binding guarantee of the maker of John Deere Plows. That is one of the many special reasons why you should choose a

JOHN DEERE TRACTOR PLOW

Remember—

Genuine John Deere Bottoms—the kind you get when you buy a John Deere Tractor Plow—have a world-wide reputation for good seed beds, good scouring and long wear.

John Deere Quick Detachable Shares—the kind you get when you buy a John Deere Tractor Plow—wear exceptionally well and are easy to keep close-fitting. Loosen one nut to remove the share; tighten the same nut and the share is on tight.

Sizes—

Two-Bottom
Three-Bottom
Four-Bottom

Remember, a tractor plow in operation is subject to hard strains. The tractor does not "give," as horses do. If a beam springs, the plow will no longer do good work. That means a costly delay while the beam is being repaired. If a beam breaks there is a costly delay and the expense of a new beam besides.

The extra strong, guaranteed John Deere beams protect you against delay and expense.

Be sure to consider that important feature when you choose your tractor plow. And keep in mind these other features:

The extra strong beam braces are long lapped and securely joined to the beams with heavy bolts and lock washers. The frame stays rigid. The bottoms keep their proper alignment.

The simple, strong, positive power lift is trouble proof. It doesn't gather trash. Its few parts move only when the bottoms are being raised. There is practically no wear.

In every way you will find that the John Deere Tractor Plow has the downright quality to enable it to keep on doing the best of work year after year with fewest repairs.

You can hitch this plow to any standard tractor. Your John Deere dealer can furnish it to you in two, three or four bottom sizes. You can get it equipped with the type of genuine John Deere bottoms especially adapted to meet your requirements. See your John Deere dealer the first time you are in your town. Write to us for a folder. Ask for folder TP-1 25

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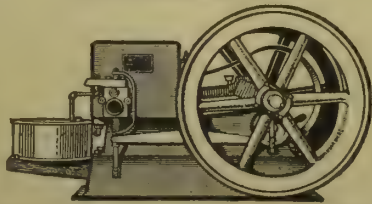
WITTE Engines

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Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

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129 FREEMONT ST.
SAN FRANCISCO, CAL.



In Dad's Department.

Johnny was swanking.

"My father and I know everything in the world," said he to his companion.

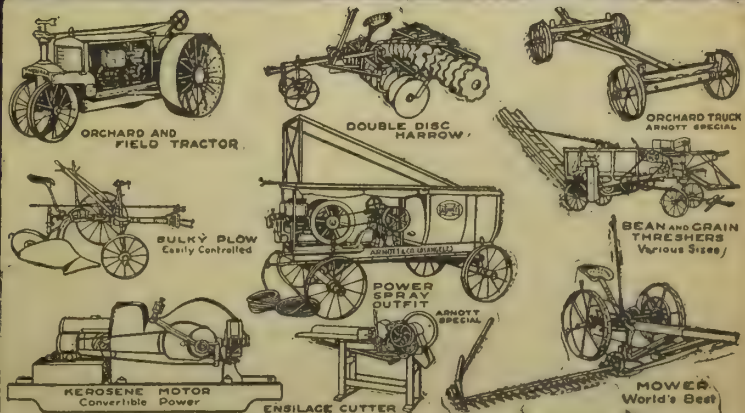
"All right," said the latter. "Where is Asia?"

It was a stiff question, but the little fellow answered coolly:

"That is one of the questions my father knows."

AGRICULTURAL IMPLEMENTS

Built Especially for California Conditions



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IMPLEMENT HEADQUARTERS
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IF IN DOUBT AS TO
CORRECT IMPLEMENTS
TO USE—WRITE OUR
FREE SERVICE BUREAU.

Expert Opinion.

Aviator—Here, take this chicken away—

Waiter—What's the matter with it, Aviator—It's all wings and machinery.

Official Records for Grade Cows.

(Written for Pacific Rural Press.)

At last we are to have a "Who's Who" for grade dairy cows. The cow testing associations are doing a world of good, but they don't go quite far enough. They enable a dairyman to know what his cows are producing, but they don't offer any special inducements for him to give his cows high records; neither do they give good records sufficient publicity when they are made. The lights are kept under a bushel. But now these lights will be taken to the top of the hill, and the bushel will be removed so that all dairymen may know about them.

Recently the University of California has been sending out monthly reports from the different cow testing associations, listing all cows making 50 pounds or more of fat during the month. These reports have created considerable interest, but in this way recognition is liable to be misplaced, for the cow that makes the 50-pound list once does not always make good at yearly production.

So the University has arranged to establish an aristocracy among grade dairy cows based upon yearly production—or rather for 10 months, as 2 months of the year are allowed for a cow to be dry. This will be done through a Record of Production. It is not an untried plan, as it has been in operation in Wisconsin since April, 1918. The results have been so satisfactory that California will now fall in line.

The Record of Production stimulates friendly rivalry and pride among the members of all the different cow testing associations by letting their neighbors and their fellow dairymen throughout the state know how their cows rank in yearly production. It advertises their stock, and when a buyer wants cows of proven worth he has reliable records to refer to. The greatest asset of each of the different breeds of registered cattle today is the great mass of official records on its books. These records not only furnish a basis for prices, but are of fundamental importance in selection for constructive breeding.

The new Record of Production will work out the same in connection with grade herds. Too long have grade cows sold according to looks. Too long have heifer calves for future dairy cows been selected on the same basis. Prices should be established according to performance; calves should be retained according to breeding. And the Record of Production will bring these changes about.

The rules and regulations just issued by Prof. Clarence V. Castle, of the University Farm, are as follows:

Rules and Regulations.

1. The work of collecting the records and issuing the certificates to be done by the University of California in co-operation with the various cow-testing associations, nothing herein saying that other methods may not be also approved.

2. The University of California to have absolute authority in questions as to eligibility of cows, authenticity of records, etc.

3. A fee of \$1 to be paid upon application for entry of any cow, to cover cost of supervision, forms and certificates.

4. On completion of a 10-month record period the University of California will issue a certificate of record of production for cows that have qualified for the record.

Keeping of Records.

1. The herd records as compiled by the various cow-testing associations are to be accepted as authentic and correct, but the University of California is to be the final judge in all questions arising.

2. Any certificate secured by fraud or misrepresentation to be cancelled if the evidence warrants.

3. The cow-tester or owner of cow to send in to University Farm, upon application, a detailed description of the cow, upon blanks supplied for

this purpose by the University of California.

4. At each monthly test the tester or owner of the cow shall mail to the University Farm a report of the milk production and fat test of the cow for the testing day, on a blank form furnished by the University of California.

5. At the end of a lactation period of 10 months a summary is to be sent to the University Farm on blanks provided for that purpose, of the production of the cow, which will be compared to the monthly reports already sent in.

Eligibility of Cows.

1. Until January 1, 1922, cows may be eligible that are of either grade or "scrub" breeding. After January 1, 1922, only cows that have been sired by a registered dairy bull will be accepted.

2. To qualify for a certificate, cows with first calf and under three years of age at time of freshening must produce in ten consecutive months a minimum of 300 lbs. of butterfat.

3. Cows with second calf or more must produce a minimum of 350 lbs. of butterfat in ten consecutive months.

4. In addition to the fat production, a cow to qualify for the certificate must carry a calf at least five months of the ten-month period.

5. Any cow that is known to have tuberculosis will not be allowed to

qualify for a certificate.

6. To be allowed to continue the test, any cow in normal condition must produce a minimum of 30 lbs. of fat for cows with first calves, and 40 lbs. of fat, for older cows, during the first month of the test.

7. The owner of cows to be entered shall agree not to use or dispose of their male offspring for breeding purposes.

ANOTHER BELKNAP SALE.

Those who remember the quality of stock offered at the Jersey Queen Farm sale a few months ago will know what to expect at the sale scheduled for Tuesday, August 19th, at the Garden City Sanitarium, San Jose. Dr. Belknap will offer 27 head of choice registered Durocs—bred and open gilts, bred sows and weaned pigs. All bred stuff in pig to the \$1,500 boar. Eight Shropshire sheep, eight lambs, and an imported Buttar ewe with lamb will also be offered. Col. Ord. L. Leachman will cry the sale. Better plan to attend.

CARRUTHERS OFFERS DIAMONDS IN THE ROUGH.

Go around the state where the best Berkshires are to be found, and ask where the foundation stock was secured. In most cases the answer will be "From Carruthers Farm." Ask about the outstanding individ-

uals in the herds, and a similar answer will be given.

The same kind of stock will be offered at Mr. Carruthers' sale at Live Oak, August 23, only nearly everything will be young and not fitted. But that's all the better. You can buy the animals cheap, and by growing them out yourself you will treble your money in a year. Some wonderful stuff will be offered. Don't miss this sale. Col. Ord L. Leachman will be the auctioneer.

The problem of soft pork is now one of the most important confronting hog growers, according to the Department of Agriculture. The matter is considered so serious that Congress has appropriated \$20,000 to be used for a study of the question. Agricultural experiment stations will co-operate.

A general campaign to increase the number of small flocks of sheep isn't very wise, according to Dr. J. R. Mohler, of the Bureau of Animal Industry, unless the field for such an effort is first prepared and capable shepherds are developed. He says that farmers in general are not versatile enough to add a profitable flock of sheep to their present livestock.

California Breeders have sold more than **\$350,000.00** worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales. **CALIFORNIA BREEDERS SALES AND PEDIGREE CO.** C. L. HUGHES, Sales Manager, Sacramento, Cal.

GUERNSEY DISPERSAL SALE

Greatest opportunity ever offered Coast breeders to secure foundation stock of this wonderful breed, noted for the most economical production of milk and butterfat, as well as the best flavored and highest natural colored products.

Heretofore most of the animals in our herd have been held above price, but now, because of the rapid increase of our business along other lines, we are compelled to disperse this entire Guernsey herd, which we believe cannot be surpassed anywhere in uniformity of type, health, breeding and production.

100 Head at Private Treaty

Everything goes; not an animal reserved. There are 83 females of great production and promise; 17 males that are real herd headers. Twenty-one of the cows have Advanced Registry—official yearly records of from 500 to 800 pounds butterfat, and several more are now on test.

If you want show quality as well as heavy production, you will find them here. The herd includes the grand champion cow and the junior champion bull at the last San Francisco Show, and many young animals fit to win in the hottest competition.



FEMALES OF GREAT PROMISE

While a good share of the mature females have been given records, they have not been forced, and there is not a cow in the herd that has shown her limit of production. Also many of the untested cows give promise of making even better records than the ones already tested.

BULLS FOR BREEDING UP

Guernsey bulls quickly build up grade herds. They are so prepotent that they stamp the breed characteristics upon their offspring to a marked degree, and soon you have profitable producers of quality products. We offer some royally bred young bulls that will quickly double the profits from your herd.

Your Opportunity—Act Quickly

The sales list is completed and we are ready to sell. Breeders know how difficult it has been to secure good Guernsey stock, and will jump at this chance. Don't put the matter off. If you want foundation stock for a registered herd, new blood for an established herd, exhibition stock for the fall shows, or a bull to breed up a grade herd, come at once and make your selection. If you can't call, write your wants fully. But don't delay.

Write for Price List. DO IT TODAY.

Palo Alto Stock Farm

Directors:
HERBERT FLEISHACKER, M. H. TICHENOR,
VICTOR KLINKER, C. F. HUNT,
J. C. MCKINSTRY

M. H. TICHENOR, Pres.
PALO ALTO, CALIF.

Beware of Fraudulent Cattle Buyers

The California Cattle Protection Board has received several communications from cattlemen in different parts of the state with reference to the operations of irresponsible buyers. These men make their headquarters in Oakland and seem to co-operate with each other in defrauding cattle owners.

A report from Butte county states that one of these buyers purchased cattle, and when remitting deducted the amount due on one of the animals, claiming that it had been rejected by the Meat Inspector of Alameda County. Investigation showed that no such animal had been condemned.

In Humboldt County, this same buyer purchased \$5,036 worth of cattle, giving a sight draft for the amount. The draft was returned, there being no money in the bank to the credit of the buyer. The parties selling the cattle are endeavoring to get payment, as the cattle have been slaughtered and disposed of. This buyer claims to represent a responsible firm.

The cattlemen verified the financial standing of the slaughtering firm, but did not verify the statement made by the buyer that he represented the firm, who repudiated having given the buyer any authority to use their name when purchasing cattle.

A case was reported from Contra Costa County and another from Monterey County. Many reports are received with reference to the refusal of these men to pay for all the cattle purchased, claiming that one or more have been condemned by the meat inspectors. These claims are in many cases fraudulent.

Jas. B. Newsom, executive officer of the Cattle Protection Board, suggests that cattlemen insist upon payment of cattle in full at time of delivery, when selling to a buyer not properly vouched for, and that they insist that the original certificate of condemnation, properly vised, be forwarded them when claims are made for deduction for cattle sold and afterward condemned by meat inspectors.

Butte City Ranch Sale a Success

An all-day sale sometimes becomes a tiresome affair, but a good variety of good stock kept up interest to the finish of the Butte City Ranch sale, held August 2 at Butte City, and satisfactory prices were obtained.

The Berkshire offering was really a pig sale, as it consisted of young stuff of from January to May farrow. Forty pigs averaged a trifle under \$40 per head. The older pigs were grown out nicely and brought correspondingly good prices.

The Shorthorn sale was a brisk one, with Chas. F. Silva of Sacramento, the heaviest buyer, and the Jackson County Livestock Association of Medford, Ore., a close second. The latter bought the top of the sale—the cow Clover Leaflet with heifer calf at foot, the price being \$800. Four cows with calves at foot averaged \$565; 21 aged

cows averaged \$343; 11 heifer calves averaged \$265, and 10 bull calves averaged \$214. The cattle throughout were in nice breeding condition.

The registered Shropshire sheep sold exceptionally well. They were put up in small lots and 99 head averaged \$50.70. They will furnish foundations for several new flocks.

The Shetland ponies proved a drawing card for children and 9 head, including several unbroken colts, sold for an average of \$94.

Altogether, this rather unique sale was a success from the viewpoints of both buyers and sellers. The attendance was large, and among the prominent men at the ringside were Frank Brown, the Shorthorn field man of Carleton, Ore., Senator Frank W. Leavitt of the Packer Bend Ranch, and Prof. J. I. Thompson of the University Farm.

Does Sorghum Dry Up Cows?

Many dairymen have the idea that sorghum will dry up cows. It is the belief of some that the heads and grain cause the decline in milk flow; others lay it to the stalks. At the Kentucky Experiment Station tests were made to settle this question. One lot of cows was fed heads; another lot was fed stalks, and another lot was fed on corn stover, instead of sorghum. Of course, all of the cows declined somewhat in production as the test continued, but it was found that those fed the sorghum heads and sorghum stalks did not decline any more rapidly than those fed stover.

The explanation of the belief that sorghum dries up cows is that it is usually fed in the fall when succulent grass is substituted for green feed that has been available. Often the cows are expected to subsist on sorghum alone at a time when the weather is getting cold and wet. The feeder expects that the seed of the

sorghum heads will furnish a great deal of nutriment, but as a matter of fact, these little seeds are largely indigestible and pass out freely with the solid manure. Also sorghum carries less seed than is commonly supposed, for it was found that 20 pounds of sorghum stalks carried only 5 pounds of heads, which shelled out only 3 pounds of grain—a mighty small amount for a cow per day when a large part of the seed escapes digestion.

The result of this test shows that the belief that sorghum dries up cows is without foundation, and that dairymen will be safe in feeding this cheap roughage freely.

More drainage and less irrigation is proposed by Manager Ernest Behr of the Spalding Ranch Co., in opposing organization of the Glenn-Colusa Irrigation District to buy the West Side Canal for \$1,000,000.

Large Production and Fine Type



are combined in the get of
**PRINCE RIVERSIDE
WALKER**

Aaggie Acme of Riverside 2nd and Miss Valley Mead De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

King Korndyke Pontiac 20th, our young \$6,500 sire, whose great individuality, fine type, and backing of an unbroken line of great

producing dams are hard to beat. Come and see the result of this breeding, or write us for further particulars.

Our Entire Herd is Tuberculin Tested.

TULARE HOLSTEIN FARM

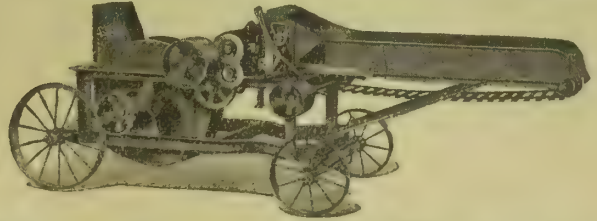
W. J. HIGDON, Owner

TULARE, CAL.

H. L. REDD, Herdsman

IF YOU HAVE A SILO TO FILL

Investigate the advantages of owning and using
this light-running, steel frame, cylinder machine



The ACME Cutter

The Combined Silo Filler, Hay Chopper,
and Alfalfa Meal Machine

Act on this Suggestion:

(Use the coupon)

De Laval Dairy Supply Co.,
San Francisco.

Send me a copy of your Acme Cutter catalog, prices
and terms:

Height of Silo.....ft.

Horsepower of Engine.....

Tons Hay Fed per year.....

Name

Address

DE LAVAL DAIRY SUPPLY CO.

61 Beale St., San Francisco.

Holsteins for Production

Our herd appears thirty-three (33) times in the list of PRIZE WINNERS of the OFFICIAL RECORDS given by the HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA for the year 1918-19, which is a greater number than any other herd on the Pacific Coast and tenth highest in the United States.

Some of our Leading Winners

Place	Division	Class
1st	30 day butter	Full age
2nd	30 day butter	Sr. four
3rd	30 day butter	Jr. two
5th	7 day butter	Full age
6th	7 day butter	Sr. four
4th	7 day butter	Jr. four
1st	30 day milk	Full age
3rd	30 day milk	Sr. four
4th	30 day milk	Sr. two
2nd	30 day milk	Jr. two
1st	7 day milk	Full age

Number of Cows Competing.

Full age class	2607
Sr. four class	578
Jr. four class	749
Sr. three class	812
Jr. three class	1055
Sr. two class	1040
Jr. two class	1778

We Have for Sale Some Great Young Bulls

from Prize-winning dams and sired by our twice Grand Champion Bull, King Segis Alcartra Prilly, or our Senior Sire, King Segis Alcartra Abbecker, whose three only daughters to freshen average on official test over 21 lbs. butter in 7 days at an average age of 22 months.

BRIDGFORD COMPANY, Knightsen, Calif.

HAVE SOME NICE YOUNG BULLS

Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.

Imperial Valley raises and feeds about 175,000 sheep annually, according to E. E. Allen, manager of the

British-American Mercantile Company of Holtville. He says that when irrigation plans mature the valley will produce twice that number.

How to Ship a Hog with Safety

(Written for Pacific Rural Press.)

It requires experience to determine the proper way to crate a hog to carry him through in good shape. You often hear of an animal reaching his destination in bad condition—generally from lameness.

Make the crate to fit the hog. Do not have it too long with extra space at the ends, especially when shipping a male pig, as in loading and unloading he is liable to be injured as a breeder by slipping back and forth.

Have the crate wide enough so that a pig can lie down on his side. While it is well to consider ways to save expressage, yet the crate should be strong enough to protect the animal so as not to cause a loss by accident and injury. There should be four boards on each side and they should be close enough at the bottom to prevent a leg from slipping out and becoming injured when the pig is lying down. A three-board crate may hold a pig, but it is liable to get its front leg over a board and hurt its shoulder.

Have two boards for the back end of the crate, upright with its corners taken off, and leave them about 4 or 5 inches apart so that a male will

not be hurt in pushing back against them. For the bottom use boards 1 inch thick, leaving them one-fourth inch apart so as to allow drainage.

For shipping any distance always pad the bottom of the crate. Slipping on the crate floor is responsible for most of the injuries in shipment, and a good foothold should be provided. Nail some kind of strong sack or burlap to the floor of the crate with a little straw underneath. Coarse straw is better than fine chaff, as it will not absorb the water so much.

If the hog is going a long distance a self-feeder should be put in one end and feed in a sack should be tied on the outside of the crate. It is well to send a small tin pan along tied to a wire, so that the express man will have something with which to water the hog that will go between the slats of the crate.

The veteran breeders and shippers understand all these matters, but young breeders who have no practical experience are starting in every year, and if they will carry out these instructions many losses will be averted.

Serum Treatment for Pig Scours

(Written for Pacific Rural Press.)

In a recent issue of an eastern swine magazine, a breeder told of his success in using for white scours in suckling pigs the serum which is put out for white scours in calves. He was visiting a neighbor and saw this neighbor with a hypodermic syringe in his hand coming away from a cow that had just dropped a calf. He asked what was being done and was told that white scours had been prevalent on the farm and that all calves were being vaccinated at birth. The thought came to him that if scours in calves could be prevented by the use of a serum, why could he not vaccinate his pigs? He had been having trouble with white scours in his pigs, and the disease had seemed to go right through his herd. So he tried the serum treatment, using a 5 c. c. dose, injecting it in the loose skin back of the foreleg. He found that the serum was both a cure and a pre-

ventative, and now he vaccinates all pigs right after they are farrowed. He says that the cost is about 15 cents per pig.

Having received inquiries from several California swine breeders who were having trouble with white scours this spring, we took the matter up with Dr. F. W. Wood, veterinary director of the Cutter Laboratories at Berkeley, and he states that their serum will prove quite effective, both for preventing and for treating white scours in pigs. He says that 5 c. c. would be sufficient as a preventative for suckling pigs, but he recommends from 15 to 20 c. c. when used as a cure. Serum given as a preventative has protected the pigs from two to three weeks, which is about all that is necessary, as it is generally during the first ten days or two weeks after birth that intestinal infections are most serious.

Bleakmore's Novel Selling Plan

(Written for Pacific Rural Press.)

"Have you a good reputation for square and honest dealing? If so, come and get a fine bred Chester white gilt without planking down a blooming cent."

That's the way Lee Bleakmore, owner of Oak Knoll Farm at Lakeport, talks to the farmers of Lake County. Mr. Bleakmore has the largest herd of Chester Whites on the Pacific Coast, headed by the \$1,000 grand champion boar Highlander. He believes that the Chester White is the best farmer's hog on earth; he wants to see Chester Whites on every farm in Lake County; and he is willing to place an animal on each farm and leave it there without pay until it has proved its real worth.

His plan is this: Any responsible farmer can go to the ranch and pick out a bred gilt from the several hundred on hand. A price is set on her at the time, but nothing is paid down. The farmer takes the gilt home, and

when she farrows he notifies Mr. Bleakmore's superintendent, who goes there and checks up the pigs. Then when the pigs are sixty days old the farmer decides whether or not he wants to keep the gilt. He can determine by this time what kind of a mother she is and what kind of pigs she has. If he decides to keep her he pays the price agreed upon, plus one-half the litter. If he does not want her he simply returns her with one-half the litter, and is allowed to keep the other half for his trouble. If the sow dies on his hands, he is relieved from all obligations.

We have heard of many different hog promotion plans, but none more fair to the buyer. This offer certainly proves Mr. Bleakmore's faith in his stock, and also shows his confidence in the ability of his gilts to make good on the average farm. We shall expect to soon see Lake County become famous for both the quantity and quality of its Chester Whites.

GREENWOOD DUROCS

Mail orders for good Durocs may be safely trusted to our care. Our business is picking good ones, and we will select a good one for you. If not satisfactory, your purchase may be returned. Some choice spring boars for immediate delivery.

H. C. WITHEROW, Mgr.

Live Oak, Cal., R. F. D. 1.

DUROC GILTS

Orion, Long Wonder and Volunteer Breeding.

Also young pigs by a son of Johnson's Defender. For prices and particulars write GUY H. MILLER, Modesto, Calif.

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM, Lancaster, Cal.



use calco troughs -

If hogs could respect anything, they would respect Calco Hog Troughs, as their owners do.

These Troughs are built for the practical farmer—to help him raise healthy hogs. They are constructed of Armeo Guaranteed Galvanized Iron and Cast Iron—strong, durable and serviceable.

A feature of the Calco Trough is its sanitation. No cracks or seams to catch disease germs; it may be readily cleaned or drained—its smooth metal interior may be quickly washed.

Write for the Calco Hog Trough Price list, showing lengths from 24 to 120 inches. Put your hogs on this trough—it will pay you.

California Corrugated Culvert Company

417 Leroy Street.
LOS ANGELES,

406 Parker Street.
BERKELEY,

301-6

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

Lendorris Ranch Poland - Chinas



PUT PROFIT IN FARMING

Our herd is the result of careful selecting and constructive breeding, and combines size, bone, easy-feeding qualities, prolificacy—everything you want for a profit-making hog.

GREAT BATTERY OF BOARS
YOUNG JUMBO (see picture), the great son of Jumbo Bob, who is all that his name and breeding imply; also the sensational young boar, **LENDORRIS LIBERTY BOND**, a son of Liberty Bond, for whom \$10,000 was refused. He promises to become one of the Coast's greatest sires. This is the blood you need to insure your success.

W. L. HAAG & SON, Hanford, Calif.

Every Hog on the Gardiner Ranch is Cholera Immune.

Has the frame to build on and the legs and feet to carry it. The best bear we have ever seen.

TOMMY TUCKER

GARDINER'S KING'S CO.

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH
ROUTE 4, BOX 735. SACRAMENTO, CAL.

Along the California Livestock Trail

(Written for Pacific Rural Press by Thos. F. McConnell.)

Ireland Durocs.

One naturally associates green color with the word Ireland, and certainly beautiful green fields are found at the Ireland Ranch in the San Fernando Valley near Owensmouth. The Duroc-Jersey hogs are just as beautiful as the fields, even to the mammoth boar, Cherry Volunteer 2nd, standing 40 inches high and as good as he is tall. He is by Cherry Chief 2nd and out of Volunteer's Defender Lady.

The junior herd sire is Ireland's Joe Orion, sired by Joe's Orion Cherry King 4th. He is the boar that Fred Devore tried to take back East and for which he offered Ireland Ranch \$2,000. He would be a candidate for high honors at any show in the world. The females in this herd are a wonderful lot—just as good as the males.

Shorthorns at San Julian.

Here I found a wonderful place and some wonderful Shorthorns. I arrived just as the matrons were brought in from pasture and the sight was worth going miles to see.

Hallwood Flash, the senior herd sire, is a great individual, very hard to fault in any way. He is a most excellent sire, as can be seen in the number of show calves in the barn. Such youngsters as Baron Lancaster, Lucy Lee 5th, Theresa Orange Blossom and many others speak louder than words as to this bull's value as a sire. The white senior yearling bull, Bashan Augusta, is a wonderful youngster any way you look at him, and will be near the top wherever shown, if he keeps coming.

The females of the herd are in the same class with the males. Theresa, a large roan cow, has a great calf in Theresa Orange Blossom sired by Hallwood Flash. The calf has excellent lines, very long and close to the ground. Imp. Eliza 15th, the cow that dodged the submarines, has a beautiful calf by Edgemoor Broadhooks that will be heard from in the show ring. There are several heifers sired by Scotch Cumberland that certainly give a lover of Shorthorns an "eye-full." Meadow View Village Girl is a roan that is well covered and withal a very sweet one.

Mr. Ernest Reynolds, the herdsman, has the stock in fine shape, and will have them "on edge" by fair time.

Edgemoor Quality Guernseys.

Just at the edge of the moor, beyond the village of Santee in San Diego County, is found the greatest establishment for the breeding of Guernsey cattle and the production of certified milk to be found on the Pacific Coast, if not in the entire world. Six years ago it was just an ordinary ranch, but now there is building after building and barn after barn, until one becomes almost dizzy thinking of what has been done in such a short time.

The buildings are artistically designed, yet with a view to economy. They are of concrete construction, equipped with the latest devices, and when we take into consideration that

the highest bacterial count of a sample of the milk in a year was 8,000 per cubic centimeter 48 hours after milking, and that the general count is only 200 to 300 in comparison to 25,000 to 75,000 for grade A milk, then we begin to realize that such buildings and equipment are necessary and pay.

Last year Mr. Dupee sold 4 bull calves to 4 farmers in Waukesha County, Wisconsin. They clubbed together and entered the calves in the "Get of Sire" class at the State Fair and won first in the great show of Guernsey cattle. These calves were sired by Itchen May King, one of the greatest sires of the breed. He is a wonderful animal and has an excellent disposition. Of the other herd sires Royal Rose King and Pecoyd's Golden May Secret are second only to the senior herd sire.

Renwick's Rooters.

Just west of Santa Barbara is found one of the blue ribbon herds of Poland-Chinas in California. There are many large herds, but no better ones. Mrs. Viola L. Renwick, the owner, started in the swine raising business with just hogs, and, according to her own story, they were hogs to eat, not to grow, so she got out of that kind as quickly as she could. The head of her herd is El Profito, a two-year-old boar that is a great hog any way you look at him. He is very active and straight on his feet, and one of the very few boars that is large without being coarse. Some wonderful stories are told by the Italians that come to buy pigs sired by El Profito, about the gains they make. Just a sight of this boar will sell all the pigs that Mrs. Renwick can spare.

Defender's Long Maid is one of the profitable females of the herd, as she has farrowed four litters of 11, 12, 12, and 8 in number respectively, and of the kind that sell easily. In fact all of Mrs. Renwick's are of this kind and there are no boarders in the herd.

Pigs in Cloverdale.

Most of the former Whitten Ranch herd of big type Poland-Chinas is to be found at the beautiful Cloverdale Ranch among the hills of Escondido. Here the hogs are kept under different conditions from those prevailing on most ranches. The ranch consists of 1,100 acres, of which half is tilable land, situated in the upper end of a little valley. After the barley and wheat are harvested the hogs range and pick up all the waste grain that otherwise would be lost. Therefore, hogs at Cloverdale have plenty of exercise and feed. Consequently, they are not pampered, but are kept in excellent health and prove prolific breeders.

Jumbo Model, the \$1,000 senior herd sire, is a great hog. He is an active fellow with good bone, right up on his feet, has a stylish head with back and hams that are hard to beat. He weighed 811 pounds when two years old.

Always keep a mixture of charcoal, wood ashes, lime, sulphur, salt and coppers before the hogs. It is an insurance that pays well.

GET IN THE GAME

This is the time to get started with registered hogs, or to increase your herd if you are already raising them. Never before have the opportunities been so great or the prospects so bright.

BUY BERKSHIRES

Get the right breed. This means the Berkshire—the pork-maker's ideal. He produces the greatest amount of the highest quality of meat, at the earliest age and the lowest cost.

65 Head at Auction

This is your opportunity to get young stock from the herd that holds the coast record for the two top sales of Berkshires. All of our young stock will be offered. Nothing reserved. Many prospective prize-winners among them.

The females will include 12 under-one-year sows, and a junior yearling and a senior yearling good enough to win anywhere. Also 20 young sows 4 to 7 months old.

The boars will include 10 topky youngsters, 4 to 7 months old, that will make great herd headers for registered herds. Also 20 good young stock boars for grade herds.

SPECIAL ATTRACTIONS: Live Oak Champion, reserve grand champion of 1918, being defeated only by his sire. He is a two-year-old, out of one of the greatest daughters of Rival's Champion's Best. Also will sell the two-year-old Mayfield Superbus, by Superbus and out of one of Corsa's best sows.

Saturday, August 23rd

Sale will be held at the farm, three miles west of Live Oak, Sutter County, starting at 1 o'clock. Be sure to attend. You can't afford to miss this farmer's sale where high-class stock will go for moderate prices. Send for catalog.

Carruthers Farms

COL. ORD L. LEACHMAN,
Auctioneer.

W. M. CARRUTHERS,
Live Oak, Cal.

Duroc Jersey Hogs

250 - Spring Pigs - 250

That have been mated with extreme care and properly raised and fed. The big, tall, rangey, high-backed, big-framed kind that can carry an awful load of pork and walk off with it. We have on our Orland ranch, the sires and dams of the \$1100 sow and \$1000 boar recently sold at San Jose sale.

WHEN YOU NEED GOOD DUROCS—WRITE US

F. D. Burr Company

235 Montgomery Street,

San Francisco



UNEEDA QUEEN MODEL,
Grand Champion State Fair, 1918.

UNEEDA GLENN COUNTY HERD OF Duroc-Jersey Hogs

KEY HERD OF PACIFIC COAST

Won at Sacramento:
Grand Champion Sow, Senior Champion Sow, Junior Champion Boar, seven Firsts, 23 other prizes.

CLASSY STOCK FOR SALE.

40 sows and gilts, many bred to our great eastern boar, Experimental Defender, by old Defender. Also a few choice service boars, and some topky pigs of King's Col. and Defender breeding. Just the kind you need.

H. P. SLOCUM & SON
WILLOWS, CAL.

Imperial Stock Farm Berkshires

are the kind you are looking for. We have to offer at the present time some exceptionally good young boars. They have the best of breeding, lots of size for age, and long deep bodies, with high backs.

Write us for price and further particulars.

R. J. MERRILL & SON,

MORGAN HILL, CAL.



RUSSEL ORION BOY

No. 265993

This boar runs in the blood of such pigs as Brown's Orion, No. 126677, Chief Col., No. 22875, and the Lucy Wonder family on his sire's side; Colonel S. E. 126361, Gladys X. L., No. 263328, on his dam's. Watch his get at State Fair this year.

JACK BORGE, Owner. Dos Palos, Cal.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

Livestock and Dairy Notes

Livestock breeders all over the state are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

Beef Cattle.

Several carloads of beef cattle have been shipped from San Ramon Valley to Chicago within the past few days.

The Pacific Coast Hereford Breeders' Association, will hold a meeting at Sacramento during the State Fair week to complete plans for the big sale to be held at the San Francisco Livestock Show.

Thousands of cattle are said to be starving or dying of thirst in the Black Butte district of northeastern Los Angeles County. It is said all of the streams and springs in that section have dried up due to lack of late rains, and the condition is serious. Similar trouble is reported from sections of Kern County.

Lady Ruberta, the prize-winning white Shorthorn heifer, reported sold at the Carruthers' sale to an Idaho firm, has been purchased by Senator Benj. F. Rush of Suisun, who has picked up quite a number of the good ones at recent sales. The Idaho parties failed to make satisfactory settlement.

The Dairy.

Toyon Farms, Los Altos, purchased a carload of Holsteins at the Pomeroy Son sale at Scappoose, Oregon, last week.

State dairy inspectors are waging a campaign against unsanitary dairies in Tulare County, and a number of prosecutions have resulted.

F. H. Van Derpool, Riverside, has a Jersey that has produced 2100 pounds of butterfat in three years on alfalfa, corn silage and beet pulp and only milked twice a day.

An offer of \$3,000 for the calf of Raphaella Johanna Aaggie has been refused by the Napa State Farm. It is expected that the calf will be exhibited at the State Fair.

Jas. J. Jeffries of Burbank reports that Canary Pietertje Segis has made a record of 27.15 pounds butter in 7 days, and Gerben Canary Belle Segis a 4-year-old, record of 26.14 pounds.

Fred Hartsook of Lankershim is proud of a record made by the senior 2-year-old heifer, Miss Gelsche Walker of 31.80 pounds butter in 7 days. That puts her among the top ones.

It is reported by wire that the 12-year-old Jersey bull Gamboge sold for \$65,000 at an auction held at the farm of Edmund Butler, Mount Kisco, New York, last Monday. The purchaser was L. K. Walkley of Southington, Conn.

Dean H. E. Van Norman of the University Farm says that as a result of the different drives for better stock poor cows will be weeded out faster than good ones can replace them. Production will not keep pace with consumption and the prospects are bright for the dairyman who has a carefully selected herd.

Madrigal Mookie 2nd, owned by W. J. Higdon of Tulare, has just completed a 60-day record of 213.65 pounds butter from 5,000.22 pounds milk, with a 7-day record of 32.66 pounds butter. Last year this cow broke the state milk production record for two-year-olds, and her record this year shows 34 pounds more butter and 900 pounds more milk in 60 days.

Ed. H. Webster of El Centro says that milking machines did not give entire satisfaction down in the Imperial Valley, as considerable garget resulted. Several outfits were thrown out, but the milking machine seems the only solution of the help problem, and dairymen are beginning to use them again. The dairymen find that the trouble is generally with the operator and not with the machine itself.

Swine and Swinemen.

H. C. Shinn of Tulare has sold a young Poland-China boar pig by Boulder Buster, out of Bob's Giantess, to I. G. McCune of Stratford.

H. Braly of Conejo Ranch, Newberry Park, has left for the middle west to purchase more Hampshire and Duroc hogs. Conejo Ranch will exhibit at all fall shows.

A. J. Elliott of Tulare has sold a boar pigs from his \$325 sow, Big Ann, to a prominent Poland-China breeder in Glasgow, Kentucky. Sure, they have to come to California.

W. A. Young of Lodi has sold to Norman F. Eastman of New York City 10 Poland-China sows and gilts for \$2,500. They will go to Eastman's ranch at San Fernando.

W. J. Stewart, Tulare, has sold a fine young Duroc-Jersey gilt to W. H. Bittner of Bakersfield. This gilt was the prize winner at the last contest of the Visalia Boys' Pig Club.

California Berkshire business is booming, according to the records of the American Berkshire Association, which show that for the month of July California stood second in the number of transfers recorded.

The Popular Farm Bureau Center has a pig club of 16 members. Each member has purchased a pure-bred gilt, and a litter contest will be conducted.

ducted. H. C. Carr, of the First National Bank of Porterville, is the pig club leader.

W. F. Sandercock of Natomario Ranch, Sacramento, is rejoicing over the arrival of 8 Berkshire pigs, sired by Riveon's Rival and out of Riverby Princess 3rd by Baron Duke. They are very uniform and of the big type—leggy and heavy boned. Everyone who sees them says they are killers.

The Western Berkshire Congress will hold a donation sale at the State Fair to raise funds to provide special premiums and carry on their promotion work. All breeders are asked to contribute and to report their action to Secretary Frank B. Anderson, Sacramento, before August 16.

Donald H. Graham of Rancho Del Sur, Lancaster, reports the following recent sales of Durocs: Fall boar to Sickles Ranch, Porterville; weanling boar to H. S. Harmon, Paso Robles; October boar to A. B. Tish, Bakersfield. All of this stock was sired by the great boar, Orion King Gano.

The highest price ever paid for hogs at any public auction sale west of the Rockies was received by the California Farm Bureau Marketing Association at its Hanford sale, August 2. The top lot, averaging 229 pounds, brought \$21.30. Eighty-six hogs, averaging 197 pounds, were sold for \$21.25.

The Tulare County Poland-China Breeders' Association will hold their

first annual summer sale October 21, at the sales pavilion, Tulare. The consignment will consist of 42 bred sows and gilts, 4 open gilts and 4 boars—all outstanding animals selected from 12 of the leading herds of the county.

Jack Borge, the Duroc breeder of Dos Palos, has recently sold the boar, Borge's Top Notcher, to H. Iverson, Gustine; a sow to H. Doyle, Dos Palos; a boar to R. E. Peckham, Los Banos; 2 sow pigs to Elmer Phillips, Los Banos; 2 sow pigs to Marshall Co., Los Banos; 1 bred sow and 5 pigs to Jack Donovan, San Leandro; boar to L. Mello, Dos Palos; boar to Miller & Lux, Dos Palos; 2 sows to J. T. Wallace, Dos Palos, and a board to S. H. Rigg, Chowchilla.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM
W. O. Pearson, Prop. Woodland, Cal.

Calf Profits
Are you getting them? Calf profits mean more to you now than ever before.
Blatchford's Calf Meal
has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scours—promotes early maturity. Sold by dealers or direct from the makers.
See actual figures showing you how to increase your calf profits.
Write for New Data
COULSON CO. - - - Petaluma, Cal.

The Sensational Sale

We breed Poland-Chinas big and good in Fresno County, and to prove this we are going to offer at our first sale the greatest line-up of sows and gilts ever driven into a sales ring. They will be the big, smooth kind with great stretch, strong backs, heavy bone, well-sprung ribs and easy-feeding qualities.

POLAND CHINAS for PROFIT



The Poland-China is the money-making hog, producing the greatest gains in the shortest time, with the least feed, and at the greatest profit. He is a valuable breeder and a profitable feeder—the hog that puts the profit in farming.

50! Wonderful Sows and Gilts

There will be 30 bred sows, 17 bred gilts, and 8 open gilts, all outstanding individuals, and combining in their pedigrees the richest blood of the breed. They are sired by such noted boars as President, Jumbo's Equal, King's Big Bone Leader, Young Jumbo and Model Fellow. Among the eastern bred boars to which they will be bred are Vaughn Jones, a descendant of Gerstdale Jones; Hather's Big Bob, grandson of the world's champion; California Jumbo, a grandson of champion Giant Buster; and Blue Valley King, a son of King Big Bone. You need this blood in your herd to put you to the front.

Noted Breeders will Consign

The consignors are established breeders who have state-wide reputations, and their names are a sufficient guarantee of the quality of their offerings.

BUCKLAND & SON, Fresno.

W. C. FICKLIN, Fresno.

D. H. FORNEY, Fresno.

BARKENA & SON, Fresno.

C. W. MCCOLLISTER, Fresno.

H. ASKOV, Fresno.

H. ASKOV, Fresno.

CAESAR & SON, Reedley, G. W. FOST, Laton.

J. W. JONES, Caruthers.

E. R. EICHNER, Selma.

VERN FULLERTON, Selma.

A. J. VAN CLEEF, Riverdale.

W. L. CHOISSE, Riverdale.

E. MYERS & SON, Riverdale.

WM. BURCHARD, Kerman.

I. L. MASON, Fowler.

J. W. JONES, Caruthers.

Wednesday, August 20th Fair Grounds, Fresno

Come early and look over the stock. Free lunch at 11:30. Sale starts at 12:30. If you cannot attend, send mail bids to Thos. F. McConnell, Pacific Rural Press field man, in care of the secretary. Field men will only bid on animals whose owners will ship on approval, thus assuring absolute satisfaction to the purchasers.

Fresno County Poland China Breeders' Association

ALFRED BUCKLAND, President.

COL. GEO. W. BELL, Auctioneer.

For catalog address

W. C. FICKLIN, Secretary,

Box 946, Fresno, Cal.

The Popular Farm Bureau Center of Tulare County will unite with the local Grange and hold a community fair about the middle of October.

G. D. Edmonds, a wealthy easterner, has bought the Dr. Cuttle Ranch near Colton and plans to have one of the most modern dairies in Southern California. He will start with 48 registered Holstein cows, 40 registered Duroc hogs and 100 Shropshire sheep.

The stock show committee of the Tulare Board of Trade is at work on prize lists for the fall stock show to be held October 6-11 at Tulare, and \$2,500 will be offered in the hog and cattle classes alone. Breeders from all over the state are making inquiries about the show.

LIVESTOCK DIRECTORY

Rate in this directory 3c per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

GRAND NATIONAL CHAMPION

Baron Duke 201st, 200001

Do you realize this is the only opportunity you have ever had on this Coast to secure the pigs of a Grand National Champion. Duke is breeding them long and thick. He is getting old and may die any time. You are started right if you get his pigs. A very good April boar pig sired by Duke and from a half-sister of Rincos Rival 2nd, cholera immune. \$35.00. Sandercock Land Co. In charge of Natomus Sales, 23 Montgomery Street, San Francisco, California.

GRAPEWILD FARM BERKSHIRE-GUERNSEY—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. R. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH—Weanling Berkshires. Breeding unsurpassed. Grow them into money yourself. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

RIVER GARDEN FARM BERKSHIRES—They are sure to please. E. H. Whiting, Ukiah, Calif.

SOME CLASS!—Registered Berkshire weanlings. L. Pearson, 2128 Alum Rock Ave., San Jose.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

CAREUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

REGISTERED BERKSHIRES—Write R. D. Hume, Dos Palos, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

POLAND-CHINA RANCH—Five and six months old boars and gilts by Greenfield's Special and Big Orange breeding. Special price on this stock now. It won't last long. Satisfaction sure. H. B. Peake, manager, 358 Eleventh St., San Bernardino.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

POLAND-CHINA GILTS FOR SALE—10 and of 160 to 200 lbs., 8 mos. old gilts for sale. Some of these from Big Bone Bob, nice, smooth pigs, half large, half medium type. Will sell these open for \$60.00 each, or bred to Barton's Big Kerver for \$75.00. Recorded our name, F. O. B. Lodi. This is a nice lot; after act quick. W. A. Young, Lodi, Cal.

HARTSOOK BIG TYPE POLANDS—A fine 4 of young boars. Both bred and open gilts for sale. Tegenburg goats and Holstein bulls for service. Fred Hartsook, Lankershim, California.

EL PROFITO—Our great herd boar, will put profit-making qualities into your herd. His offspring have size, stretch, bone, good backs and feet, and easy feeding qualities. To make the right start with big-type Poland Chinas, get one of his boar pigs. Prices right. Correspondence cheerfully answered. Viola L. Renwick, Santa Barbara, California.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, E. F. D. 1, Escondido, Cal.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas. D. H. Forney, Route G, Fresno, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

SOWS FOR SEPTEMBER FARROW—Nebraska boar of prize-winning blood lines. March gilts. Prices right. R. W. Jickling, Elmira.

POLAND-CHINA BOAR—Orange Blossom breeding. Ten months old. A crackerjack. Satisfaction guaranteed. L. Leest, Van Nuys, Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Et. 1, Box 39, Watsonville, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hanc, Alton, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for sale. Giant Buster and President Stock. Prices right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

ELDERSLEY FARM—Big-type Poland-China hogs and Aberdeen Angus cattle. J. H. Ware, Live Oak, Calif.

MCCARTY AND STARKWEATHER **FALL BOARS**—Big type, smooth and classy. Cholera immune. Box 2250, San Francisco, or Paradise Road, Modesto.

FOR SALE—Poland-China boar, age 14 months. Priced right for quick sale. Box 332, Healdsburg, Cal.

BIG-TYPE POLANDS—Spring pigs from prize-winners. J. H. Hanebrough, R. A., Box 22, Modesto, Cal.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old—"A Wonder" bred boar.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

POLAND-CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Nothing this month. Eight spring boar and 5 spring sow pigs to offer during August. All young stock is now immune. At the State Fair this year will show a full exhibit of good ones. Drop in and see them and get some real big typey ones. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

DURHAM STOCK BREEDERS' ASSOCIATION.

DUROC JERSEYS—Thirty-five registered boar pigs have been selected by the committee from fifteen herds on the Durham State Land Settlement, ranging in age from 3 to 5 months old. Each animal is an excellent individual with blood line of careful selection.

Our first offering for immediate acceptance from \$25 up to \$50. Inspection or correspondence invited. Geo. C. Kreutzer, Supt. State Land Settlement Board, Durham, Calif.

HORINE'S REGISTERED DUROC JERSEYS—I sell weanlings and buy gilts. Don't fool with scrubs and don't buy elsewhere until you know my plan. Write today for full particulars of a guaranteed profit-making weaned pig. Geo. L. Horine, Winton, Cal.

DUROC JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

REGISTERED DUROC JERSEYS—Open and bred gilts, August and November boars. Great herd headers. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Dos Palos, Cal.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

PATHFINDER AND KING'S COL. stock—immune. Weanlings, \$25 each. Bred gilts and service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento, Calif.

WE WON MORE MONEY in Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Ethanac, Calif.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

PURE-BRED WEANLING BOARS, \$20—L. R. Adams, Island Mountain, Calif., on Northwest Pacific.

DUROC-JERSEY SWINE AND SHEEP SALE—See add on page 176. Jersey Queen Farm, San Jose.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Hampshires.

FOR SALE—My great Hampshire herd boar, weight about 700, 3 years old; also one fine yearling boar. Am keeping their gilts. These boars are both registered Hampshires, bred in the purple and are double treated against cholera. Priced to sell quick. Address Wm. Hoskin, Alameda, Calif. Ranch, address Maxwell, Calif.

HAMPSHIRES—Fine quality. Weaned pigs, dandy young boars. Uneda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

Miscellaneous.

"SAPPHIRE" SWINE (BLUE HOGS)—Actually blue in color. The Blue Hogs are no longer an experiment. We have bred them successfully for twelve years before offering any for sale. They mature quickly, grow very large and the females are the most prolific breeders on earth. Write for information. Mention this paper. The Blue Hog Breeding Co., Wilmington, Mass.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

DAIRY CATTLE.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckles Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

AYRSHIRES—Quality bulls at farmers' prices. Redwoods Ayrshire Farm, La Honda.

Guernseys.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from higher record dams. J. W. Gemmer, Ripon, Cal., R. 2.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Jerseys.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2½ years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

A PRICE ON EVERY ANIMAL.

Herd free from tuberculosis. All sales subject to sixty days' retest. Sons of Funderne Soldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

Toyon Farms Association. 679 Mills Building San Francisco.

FOR SALE—7 head of registered Holstein cattle, 3 cows milking, 2 fresh, 2 heifers and 1 bull calf by Prince Hiske Walker, a full brother to Lady Hiske Walker, one heifer by a grandson of Prince Gelsche Walker. B. A. Overland, Hanford, Route 1, Cal.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. M. Freeman, Route B, Modesto, California.

CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Et. A, Box 437, San Jose, California.

HOLSTEIN BULL CALVES—Two, 5 months old for sale. Tilly Alcartra Blood, A. Swensen, Box 192, Livingston, Cal.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spiers, Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif. Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS and Duroc Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibbles, Santa Barbara or Lompoc, Calif., John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minutun, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Casier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

REGISTERED SHORTHORNS—Julien Ranch, Grenada, Siskiyou Co., California.

SHORTHORNS—Caruthers Farms. Live Oak, California.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, California.

HORSES AND MULES.

A WELL-MATCHED TEAM of black mares; also extra mare; three two-year-olds, and four yearling colts; all of Percheron stock. J. Bernard, Calistoga, Cal.

FOR SALE—A-1 Breeding Jack. Bargain. Have quit raising mules. W. P. Harkey, Gridley.

PERCHERONS—Registered Stallions, Mares and Fillies; three, four, and five years old. Cora S. Secrest, Escalon, Cal.

SHEEP AND GOATS.

PURE-BRED RAMBOUILLET RAMS, large smooth frames, extremely heavy shearers, from the very best strains of this country and France. Immediate delivery from ranch at Ord Bend, Glenn county. P. O. address, Windell Orchards, Glenn, Calif.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

HAVE FOR SALE fifty head of fine yearling Shropshire rams. Also 25 head of high-grade Rambouillet rams. These are big fine woolled rams. E. D. Dudley, Dixon, Calif.

J. R. BLOOM, DIXON, CAL.—Breeder of Shropshire rams out of pure blood ewes and imported registered rams. Single and car load lots.

SHROPSHIRE—43 yearling, purebred, registered Shropshire rams for sale. Harry L. Huston, Winters, Calif.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale. Shorthorns; Shropshires; Berkshires; Ponies. Next sale April 17, 1920. All breeds.

Livestock Queries and Replies

Lump on Cow's Jaw.

To the Editor: A lump has developed beneath the skin of the neck of my cow, just behind the angle of the left jaw. It is hard, oval and about as large as a hen's egg. Apparently it is not attached to the jaw. What is this and what should I do?—F. W. H., Guerneville.

(Answered by Dr. E. J. Creely, San Francisco.)

First of all have your cow examined for tuberculosis, provided this has not already been done. If she does not react then split the enlargement wide open and pack it with gauze which has been dipped in Lugol's solution. This will allow it to drain and heal properly, and if there is no trace of tuberculosis you will not find it difficult to effect a cure.

Buttermilk vs. Skimmilk for Hogs.

To the Editor: Please publish the feeding value of buttermilk as compared with skimmilk for hogs.—L. E. R., Santa Rosa.

(Answered by the Live Stock Editor.)

Several tests have been conducted at experiment stations to determine the relative value of buttermilk and skimmilk, all of which have resulted about the same. A 125-day trial at one station showed that with 17 pounds of buttermilk and 4 pounds of corn per head fed to one lot, and 17 pounds of skimmilk and 4 pounds of corn fed to another lot of the same weight, the daily gain was exactly the same, being 1.67 pounds, and consequently it took the same amount of buttermilk to produce 100 pounds of gain as skimmilk. Often water is added to buttermilk and when this is done it reduces the feeding value, but where no water has been added but-

termilk may be considered fully equal to skimmilk.

Warts on Mare's Nose.

To the Editor: I have a mare that lately has a sprinkling of pinkish warts coming on her nose, ranging in size from a grain of wheat to a grain of corn. What can I do to remove them.—N. B. W., Thalheim.

(Answered by Dr. E. J. Creely, San Francisco.)

Snip off the ends with a pair of scissors and apply tincture of iodine (Churchill's). Next day apply stick silver caustic to each one and every other day thereafter for one week. Fowler's solution arsenic $\frac{1}{2}$ ounce daily for one week in the feed, and 1 ounce daily the second week, would assist in the cure and prevent other warts from forming.

Old and New Process Oil Meal.

To the Editor: What is the difference between old and new process oil meal, and which is the better for feeding purposes?—G. C. H., Chico.

(Answered by the Live Stock Editor.)

These terms refer to the manner in which the linseed oil is removed. In the old process the oil is removed by pressure, while in the new it is extracted by using naphtha. The oil is more thoroughly removed by the new process and consequently the feed contains considerably less fat than the old process oil meal, but more crude protein. According to experiments it is only 84% digestible. However, on account of the high amount of protein it is considered a better feed than the old process. Some authorities recommend the old process for feeding beef cattle and the new for feeding dairy cows.

Are Sheep Perishables?

(Written for Pacific Rural Press.)

The humble sheep, so long a symbol of meekness, has another characteristic and one that has worried the railroads. He is so apt to be frightened to death by the least little unexpected noise that the carriers consider him as "perishable" and place a high freight rate on him accordingly.

This is the novel statement made recently to the Interstate Commerce Commission by an official of the Southern Pacific Railroad, which is resisting an appeal made by Miller & Lux and other sheep men for a reduction in the rate on sheep in double-deck stock cars to an equality with the rate on market cattle. They maintain that the present disparity is unfair, as sheep weigh less than

cattle and the transportation problems involved are not greater than those with cattle.

The S. P. official claims that sheep are frequently scared to death, or huddle together because of fright and trample each other to death. He says the rasping of brakes or the noise of the exhaust gets on their nerves and they either drop dead or start a rough house. He claims that the transportation of sheep increases operating expenses, but the testimony of the official of another railroad shows that its sheep movement forms one of its biggest sources of revenue.

Let's hope that sheep will be removed from the list of "perishables" so that we can keep the home flocks growing.

Girls Herd Their Own Sheep

(Written for Pacific Rural Press.)

"After paying all expenses, I cleared \$1,240 from my sheep last year," reports Hazel Jeffrey, a member of a western sheep club. Several years ago she bought the first of a flock and has handled her sheep so successfully that last winter they numbered 103 ewes. In 1918 her flock produced 79 lambs, 76 of which she raised. These, with 7 orphan lambs abandoned by sheep herders, constituted the year's increase. All the care the sheep require is given them by their girl owner. This year she plans to buy 25 pure-bred ewes with part of her profits and use them to start a pure-bred flock.

Another girl in 1918 cleared \$923 with a flock of 48 ewes. During the

coming season these two girls plan to throw their sheep together and to herd them themselves. Orphan lambs discarded by other camps are also to be collected and cared for by the youthful herders. Members of the boys' and girls' sheep clubs in some of the Western States find the salvaging of "bum" or stray lambs an economical way of obtaining a start in the sheep-club work.

When the udder of a cow is milked out it should collapse like a dishrag. Meaty udders are undesirable. They are filled up with fatty and connective tissues—the wrong kind to produce milk. The texture should be soft and pliable.

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We have for sale this season 350 HEAD OF PUREBRED SHROPSHIRE RAMS, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age, and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouillets are all from prize-winning rams at the P. P. I. E. Strong, hardy, range-raised stock. We have a fine lot of yearling American Merinos of our own breed.

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Shorthorn Sales Guarantee Endorsed

(Written for Pacific Rural Press.)

At the June meeting of the directors of the American Shorthorn Breeders' Association a uniform guarantee for both private and public sales was endorsed. This seems to be a long stride in the right direction, and we give the complete guarantee hoping that local breeders and associations may be benefited by it and will back up their sales with similar guarantees.

1. Proper care shall be given to protect breeding qualities and health of animals.

2. All bulls guaranteed breeders. A bull should not be allowed to serve when under 14 months of age.

3. Cows with calves by side under 4 months old are proven breeders. All other cows and heifers over 16 months old guaranteed breeders, but if over three months gone in calf, according to service date, and not proving to be in calf and not reported in three months from purchase, the seller in such case shall not be held liable. Heifers under 16 months not guaranteed. Heifers should not be served for first calf by heavy or old bulls.

4. All classes of animals failing to prove up under the foregoing guarantee must be reported to seller within six months from purchase except otherwise mentioned. Seller shall have option of having animals returned at his expense for further trial of four months.

5. Any animal failing to prove a breeder except as heretofore provided shall be replaced with another of equal value at the time of purchase to the satisfaction of purchase, or purchase price refunded, with no allowance for additional expense. Salvage to go to seller.

Animals sold tested for tuberculosis with government serum not more than 60 days prior to date of sale and passed as sound by a Federal or State Veterinarian or Veterinarian deputised by State Veterinarian, and copy of special authority from State Veterinarian placed on file in the office of American Shorthorn Breeders' Association, shall be considered free from tuberculosis and no further guarantee given, but when sold sub-

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All are heavy boned, and of Scotch and Scotch-topped breeding. Suited for either the range grower or breeder.

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A few yearling heifers of same breeding.

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ject to 60-day retest from date of sale the purchaser shall keep said animals segregated and have test made as heretofore provided. Where animals are catalogued for public sale, it is recommended that name of tester and temperature chart be printed below the pedigree.

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It has long since been proved that the silo is the one economical and profitable way to feed dairy cattle. The same amount of feed will go farther when turned into ensilage than if fed in the ordinary manner. Then, too, it is more appetizing and nutritious. All stock like it. It means healthy cows, more milk and greater profits for you.

Right now is the time when an Ideal Green Feed Silo, filled with rich, juicy, milk-producing silage,

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is made from clear California Redwood, which long experience has shown to be the wood best adapted for silo construction.

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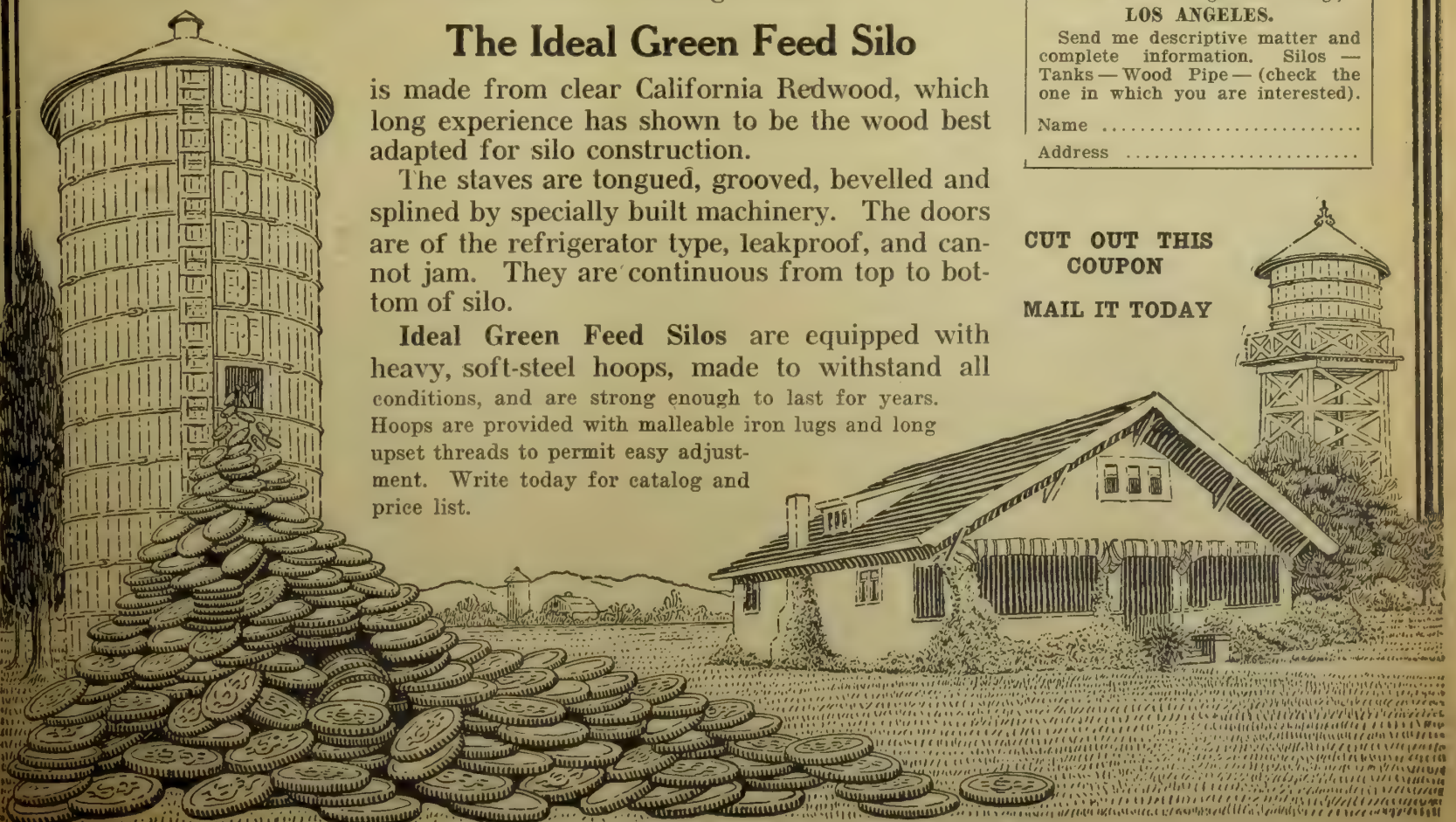
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Nation-Wide Drive for Better Livestock

Looking forward to the future food needs of this country's increasing population, the Department of Agriculture, in co-operation with the state agricultural colleges, breed associations, and other agencies interested in livestock improvement, announces a national better-livestock crusade, to get actively in motion October 1 under the slogan of "Better Sires—Better Stock."

The plan is to hasten the replacement of the multitude of scrub animals in the United States with purebred or high-grade stock and also to improve the quality of purebreds themselves. It has been evolved through long and careful observation of the livestock industry and after extensive consultation with specialists and breeders.

For many years this country has contained thousands of the finest specimens of livestock in the world, yet the quality and productive capacity of the average farm herd and flock is still low. For instance, the average dairy cow in the United States yields about 4,000 pounds of milk per year, a figure scarcely two-thirds of the average production in some European countries, such as Denmark.

Among all classes of livestock a similar condition exists. Proper breeding of beef animals results in better and more uniform stock, having a greater percentage of desirable cuts of meat and a smaller quantity of bone, offal and inedible parts. Likewise in swine, sheep, goat and poultry production, the kind of parent stock largely determines the quality and market value of the products.

The means of accomplishing most of the improvement—which affects about 200,000,000 head of livestock, besides poultry—will be through wider distribution and increased use of pure-bred sires and dams. Once the use of pure-bred sires becomes general throughout the country, the process of grading up will be rapid. Within three generations most of the individuals in a scrub herd headed by a pure-bred male resemble pure-bred animals in appearance. In a few more generations, under skilful breeding, the former scrub stock is graded up to such an extent that for production of meat and other animal products, they are practically as useful as purebreds.

The Department of Agriculture through its co-operative state agencies, is preparing to supply livestock raisers with printed information that tells in popular language the best animal breeding methods and the advantage to be derived from their use. In addition, the Department is to furnish an official emblem, suitably for display, to every farmer agreeing to use only pure-bred sires and in other ways to co-operate in the better-livestock effort. To obtain the emblem he will be asked to fill out a simple blank showing the number and kind of livestock he possesses and also to declare that all his male breeding animals are purebreds.

Organization of Campaign.

The betterment of the nation's livestock is by no means a new idea. The topic has been discussed at length from public platforms and in the agricultural press for many years. A general co-ordination of the work now seems desirable, with a minimum of red tape and a maximum of red blood. The Bureau of Animal Industry will be responsible for livestock policies, especially the breeding work and scientific problems. The States Relation Service will work in co-operation with the colleges of agriculture for carrying the plan of action through the extension divisions to every livestock owner who can be reached. County agents and other field workers of the Department and the colleges will be local sources of information and assistance.

In spite of the conspicuous merits of the task, there are also a number of obstacles. Sentiment in favor of purebred sires, while strong, is by no means unanimous, and to win the

support of those who, through lack of interest or opposition, fail to take their part in the crusade against scrub livestock is one of the problems to be met.

The cost of desirable pure-bred sires is another important factor which has long been an obstacle to livestock improvement. Co-operative ownership divides the expense considerably, and the increased value of the young stock raised also helps to overcome that objection.

The question of controlling the spread of livestock diseases, when animals are transferred from one herd to another or are used in community circuits, is still another problem.

There are other problems more or less knotty, but not presenting difficulties of an insurmountable character. In connection with the drive on scrub sires there will also be waged a campaign against "scrub purebred," as it is called, in the endeavor to eliminate, as breeding animals, purebreds of inferior quality. The plan in no way interferes with any work in livestock improvement now being conducted, but instead it is expected to make all the work more definite and effective by providing official recognition for progressive breeders, including members of boys' and girls' clubs. Friendly competition is expected to spring up among communities and entire states, each of which will seek to excel in the rate of livestock progress.

CALIFORNIA BRAND BOOK NOW READY.

The California Cattle Protection Board has compiled a catalog containing all recorded cattle brands in use in this state to date with an in-

dex of all brands recorded, also a list of all licensed slaughterers.

The book contains a copy of the act of May 28th, 1917, known as the Hide and Brand law, together with other laws, rules and regulations of interest to all cattlemen and slaughterers. It is made up in a convenient size, attractively bound, and no doubt will be of great benefit to cattlemen of California. A copy will be mailed to anyone upon receipt of \$2. Address James B. Newsom, Executive officer, Cattle Protection Board, 612 Underwood Bldg., San Francisco.

NEW FEATURE AT FRESNO POLAND-CHINA SALE.

The Fresno Poland-China breeders do not intend to be outdone by their corn-belt brothers. Back there a large number of the hogs offered at public sales are bought by field men for clients who cannot attend. The Fresno breeders not only will inaugurate this method at their sale, to be held at the Fresno Fair Grounds, August 20th, but will allow field men to bid only on animals whose owners will ship on approval, thus assuring absent buyers of absolute satisfaction. If that isn't sufficient proof that the offering will be a high-class one, then we don't know the Golden Rule.

So if you can't attend, don't let this stop you from securing some of the corking good sows and gilts that will be offered. Send for a catalog, pick out the animals you want to bid on, and instruct our field man, Mr. Thos. F. McConnell, how high to bid. Or if you can't decide from a reading of the catalog, tell him the kind of an animal you want and he will give you the benefit of his years of experience in making the selection for you. Address him in care of Walter C. Fichlin, Secretary, Route A, Box 189, Fresno.

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Backed by a guarantee which assures the poultryman, high and uniform quality.

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Food elements plainly marked on every sack.

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Write for our booklet,
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Poultry and Rabbits for Profit

Conducted by R. H. Whitten.

MINERALS FOR MOLTING HENS.

August is the month when our poultry commence in earnest to "take off the old and put on the new." Molting is a natural condition, and the workings of Nature should not be interfered with to any great extent. Instead, old Mother Nature should be aided in her work.

A few years ago we had a "forced molt" craze. The idea was that if hens were starved for a few days they would drop their feathers in a bunch, and then by heavy feeding the new feathers could be brought in quickly, thus shortening the molting period and getting the hens back to laying in jig time. It sounded great, and in some cases the method did secure a few more eggs. But it did so at the expense of vitality, and in the long run the results were not satisfactory. The fad could not make good because it was against Nature.

The natural molt of fowls is slow and almost imperceptible. The birds drop a few feathers at a time and the new ones come in as the old ones are dropped. Many hens still molt this way, but the ones that have been forced for heavy laying generally show a ragged, nearly naked condition. Probably this is due to exhaustion from heavy laying, as male birds very rarely lose their plumage in this way.

A molting hen needs rest most of all. The mash is the part of her feed that forces her for heavy egg production, so cut down on the forcing mash and feed more whole grain and plenty of green stuff. If hens can be allowed to range in an orchard or over alfalfa fields, so much the better, but don't cut off their feed entirely and make them live on what they can pick up on the range. Don't get the idea that just because they are shelling out very few eggs you can't afford to feed them liberally. They need feed rich in feather-forming materials, and if they don't get it they will be obliged to draw on their own systems for what is needed. And this means that later on they will take a long rest to restore themselves.

While the feathers are dropping, a little oily food helps the process. Oats, sunflower seed and flaxseed are examples of such foods. Heavy oats are good, but it is difficult to get them, and the ordinary oats are only good enough for sprouting. Sunflower seed is excellent, but it is heavy in fiber and must be fed in moderation. Soy bean meal is one of the most desirable of all concentrated foods, but it should be fed with plenty of green feed. Coconut meal and cottonseed meal are used; also tallow is sometimes melted and mixed in the mash water when a wet mash is fed.

Feathers are composed mostly of mineral matter, so during the latter part of the molt the feed should be narrowed down to ingredients high in mineral content, both vegetable and animal, and still without other things that demand energy to digest them.

Alfalfa excels all other green feeds in mineral matter, and hens should be induced to eat liberally of it. To increase its consumption it can be added to the mash, cut in short lengths, provided a dry mash is fed. Moistened with sour skimmilk and you will have an ideal feed. If alfalfa is not available, feed clover, kale, cabbage, rape—some green feed in abundance.

Animal mineral must also be provided, and this may be supplied by beef, bone or fish meal. Dried blood meal is very rich in protein and mineral, but must be fed in small quantities, as it is inclined to be constive. Feed lightly of starchy feeds. They have little use in a molting hen's ration.

Be sure to provide plenty of fresh, cool water. When the system is being drawn upon for a new coat of feathers there is considerable feverishness, and this condition calls for water. The fresher and cooler it is the better it will serve to keep the

hens in good, healthy condition during the molt.

RABBIT BREEDERS ORGANIZE FOR MARKETING.

A conference of rabbit breeders was recently held in the office of Harris Weinstock, State Market Director, to consider the advisability of organizing. It was the opinion of those present that it would be necessary for breeders to organize in order to stabilize the industry and enable producers to get the largest possible share of the consumer's dollar. It was explained that such an organization could also increase the production of rabbits and do collective buying of feed and supplies. The matter was considered of as much interest to fancy breeders as to the breeders of utility stock, because unless the industry can be made permanently profitable many of the breeders of utility stock will drop out, thus minimizing the possibilities of the fancy breeder. Circular letters have been sent out to ascertain how many producers are interested and will join such an organization. Another meeting will be held at an early date at which time an association probably will be formed.

There is a similar movement among the rabbit breeders of the bay counties, and several meetings have already been held at Oakland. The objects of this association are to do collective buying of feed and supplies; to devise means of selling market rabbits direct from producer to consumer; to advertise the value of rabbit meat and increase consumption; to carry on improvements in standardizing feeds. The promoters of this association point out that the producer receives about 12c per pound net live weight, while the consumer pays about 22c per pound live weight, so that there is a profit of 10c for selling. It is believed that by co-operative selling from 5 to 7 cents can be saved the producer.

LET THE SUNSHINE IN.

The above is the slogan of the Experiment Station at Davis when it comes to poultry house construction. The advice is to build so as to keep out high winds, drafts and rats and to let in the maximum amount of sunshine. Sunshine is the best of germicides and keeps the layers healthy and cheerful.

The model laying house is recommended by the station as 16x20 feet, 8 feet high in front and 4 at the rear, with open front facing south and a shed roof. Tongue and groove lumber should be used in the construction, with shingle roof, if the expense is not too great. The floor should be of cement, which is more sanitary than dirt or wood and can be made rat-proof. Such a building will house 100 Leghorns in 2 pens, or 125 in one pen.

The house should be comfortable, for the laying hen is a high-strung, temperamental creature, incapable of doing her best in an unfriendly environment. It must furnish ventilation without drafts, coolness in summer and adequate protection in winter, and must be absolutely sanitary.

In the house recommended by the experiment station a hood is built over the roosts, allowing a current of air to pass into the house and over the heads of the hens without causing a draft upon them.

DUCKOLOGY.

For a pound of feathers it requires the plucking of ten ducks.

The best quality of market ducks are white-skinned. Yellow-skinned carcasses do not sell so well.

It is cruelty to pick live ducks. Ducks should be handled by the neck, never by the legs or wings.

Fattening ducks should never be allowed bathing water.

Exposure to hot sun is fatal to young ducks.

Approaching a pen of ducks at night with a lantern is sure to create a panic.

After ten weeks of age the weight of a duck is more apt to decline than increase.

Confectioners claim that duck eggs are superior to hen eggs for their line of goods, as they put glaze to their icing which the latter do not.

Vines planted along chicken yard fences will provide lots of welcome shade. Grapevines will supply shade and also prove profitable in the fruit produced.

Keep the dishes that the little chicks eat and drink out of neat and clean. Little chicks love milk as well as the older ones, and how it makes them grow! Every try it?

Poultry Breeders' Directory

MOST FALL CHICKS ALREADY BOOKED. yet hundreds open most weeks, reduced, in each of seven popular breeds. Clearing customers, \$5,000 yearly. 200-290 egg strain. Large, vigorous winter layers. Half chicks go to former customers. Doubling our 70,000 hatching capacity. Returned thousands of dollars for chicks we couldn't supply. FEW HUNDRED BREEDING HENS, MALES, laying younger pullets, going rapidly—50c to \$2.00 under price. Valuable circular with proof free. J. Beeson, Pasadena, Calif.

WHITE LEGHORNS are the most profitable breed of poultry; if you are in the business for profit, you will eventually have them; early broilers, early layers, early profits; we sell only White Leghorn baby chicks from heavy laying Hoganized hens; safe delivery of full count live chicks guaranteed; price per 100. May and June delivery, \$12.50; July \$14. THE PIONEER HATCHERY, 408 Sixth St., Petaluma, Calif.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hoganized and Trapped stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties very week. Only good, strong youngsters shipped. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto.

ANDERSON'S PEEPERLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels, \$5 and up. 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

DON'T DELAY GETTING NEW BLOOD—Greatest profit next year and all found in strains laying 200-290 eggs score of generations back. Hens reduced. Males half price. Study our big advertisement elsewhere. J. Beeson, Pasadena.

CAPON SPECIALIST—Make capons of your useless cockerels. Learn how at the State Fair and add profit, fine meat and infertile eggs to the poultry industry. Mrs. H. Ament, 423 Kerkhoff Bldg., Los Angeles, Cal.

EGG BRED—Buff Brown, White Leghorns, Golden Campines, Dark Cornish. Winners wherever shown. Send for circular. Percy Ward, 3142 Ward St., Fruitvale, California.

FALL BABY CHICKS—Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. Santa Clara Valley Hatchery, San Jose, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Cal.

BABY CHICKS—We have the large heavy-laying S. C. White Leghorns, severely culled last year. Send for prices. Tupman Poultry Farm, Ceres, California.

EASTMAN'S BRED TO LAY—Hoganized and trapped Barred Poultry Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

V. C. HOWE, E. 14th St., near Knox Ave., San Leandro, Cal., breeder of Flemish Giants, American Blues, New Zealand Reds, Fancy and utility.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GEESSE, GUINEAS, Pea Fowl, Pigeons, Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

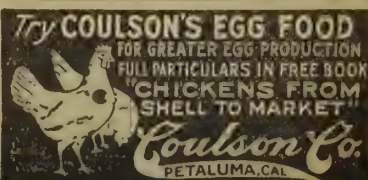
BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

Rabbits.

RAISE RABBITS—Most profitable and popular small animal in America. Big demand. Clean, fascinating work. Send 10c for copy of leading rabbit magazine and our Rabbit Books, P. N. 5. Gilmore's Rabbit Farm, Santa Barbara, Calif.

NEW ZEALAND REDS—First class utility does bred, \$5.00 each. Young does, \$2.50 each. F. R. Caldwell, Broadmoor, San Leandro.



THE HOME CIRCLE

IN OLDEN DAYS.

In olden days the Lord our God,
Revealed to the children of men,
The stepping-stones, in their future
life.

What they should do and who they
should wife,
And the end of all their battles and
strife.

But now-a-days there are some who
say,
There is no need of this,
But somehow down deep in our
hearts,
We ask, (as on life's journey we
start),
Why should we from the old way de-
part.

For in ancient times by fasting and
prayer,
And by faith that was right with God,
They always found their leading star,
And it's the same today wherever you
are,
Our God would still be our guiding
star.

For in wisdom were all things made,
we say,
And the task was severe and hard,
Then why should we labor and work
and pray,
And strive for the things that pass
away,
But expect God's Everlasting Truths
to come on a silver tray.

Then we pray for the spirit of fasting
and prayer,
The same as they had of old,
And pray that thou will help us live,
A life that is true and bold,
For Jesus has redemption won,
By full surrender, Oh, God, to Thee,
And in His name we have begun,
A life that is full and free.

Then we praise Thee, Oh, God,
With all our might,
For Thy wonderful wisdom and love,
And to serve Thee every hour and mo-
ment,
Of the day and night,
Is a message from Thee above.

—O. D. Holmes, Houston, Texas.

PETER VAN AND THE TRAIL OF HOPE.

(Written for the Pacific Rural Press by Lucy
M. Thompson.)
(Concluded.)

Peter didn't like the idea of that
two acres lying idle, so he planted
the whole plot to potatoes, although
it was the last of June and he knew
that they might not mature before
frost, and that, as he had no way of
irrigating them they would not make
a crop unless fate decreed that it
should rain at least twice during the
next two months. Peter took the
chance and it rained not twice, but
four times that summer. The potatoes
brought him a little over a hundred
dollars.

That fall the homesteader's mother
offered the place to Peter for \$450.

More Light Than 20 Oil Lanterns

AT LAST—the light of light! A lantern
that lights with common matches just
like the old style oil lantern, but makes
and burns its own gas from common kero-
sine, giving a brilliant, steady, white light
of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electric bulb.
More light than 20 oil lanterns. Cheapest
and best light made. Costs
less than one-third of a cent
per hour. Safer than the
safest oil lantern. The



Coleman Quick-Lite

No wicks to trim — No
globes to wash. No dirt or
grease, no glare or flicker.
Absolutely safe. Fuel can't
spill — no danger if tipped
over. Will last a lifetime.
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COLE LITE & SALES CO.,
120 S. Los Angeles St.,
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Dealers
in
FAPER

BLAKE, MOFFITT & TOWNE
37-45 First St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

with stock and implements, just as
it stood. Of course the stock was
worth almost that much, and Peter
felt that he was getting the land for
nothing. It really wasn't worth much
just then, however, being 60 miles
from market, 18 miles from a rail-
road and 8 miles from a post
office, with roads none too good,
and no rural delivery. Then, too,
at least half the place was so rough
and uneven that it could never
be cleared for field crops. Clearing
was a slow, laborious task, for the
place was rather heavily wooded.

But Peter wanted it; it was a job
that he could handle without special
training and in spite of bad eyes. He
felt that his few hundred dollars would
make him independent in no other
way. So he bought it, installed a
pump at the spring where a well was
drilled and the next spring seeded five
acres to alfalfa. He cleared six acres
that first winter and planted four of
it to corn in the spring. Six acres
went to oats and four to potatoes,
leaving two acres for garden and
Egyptian corn for chicken feed.

The chickens kept them in groceries
that winter and in the spring Mrs.
Van picked out 15 Plymouth Rocks
that showed good blood and bought a
thoroughbred rooster. From this pen
she got her setting eggs. Plymouth
Rocks are great setters, and those in
Mrs. Van's breeding pen were no ex-
ception so she went to a neighbor
down the valley and bought a few
settings of Plymouth Rock eggs from
good stock. She didn't want to hatch
out scrubs and did not object to the
high price asked.

She had two enemies to fight, the
hawks and the coyotes. Laddie, the
collie, kept an eye out for the coyotes
and they did not bother much, but the
hawks got away with about three
dozen of her young chickens. There
was some loss from various other
causes, but despite all this she sold
45 fryers and had several dozen pul-
lets for winter egg-production, be-
sides plenty of friers and roasters for
home use. She sold the hens of
mixed breed when they stopped lay-
ing and began to molt, and so had all
chickens of good blood to start the
next year's work with.

They had no summer rains that
year and the corn, being too far from
the water supply to irrigate, was
hardly corn at all. When Peter saw
that it was drying up he cut it, a
wagon load each day and fed it to the
cows and as a result the milk supply
increased until Peter had to buy half
a dozen pigs to use up the milk. They
were too far from the railroad
to send the milk in to the creameries,
and the little country store eight
miles away was so swamped with
ranch butter that the price offered for
it was so low Mrs. Van decided it
would not be worth while to make
any more butter than they could use
at home.

Peter didn't think he wanted to raise
hogs until he saw those six porkers
putting on weight as a result of the
abundance of milk and alfalfa that
was fed them, but he soon took to
leaning over the fence in spare time,
"watching them grow," he said.

The oats made nine tons of hay and
the four acres of alfalfa made five
tons, besides furnishing grazing for
the hogs through the summer. Late
in the fall another cutting was made.
The hay was baled. A neighboring
homesteader, who owned and operated
a baler through that section, said that
Peter's alfalfa was the first alfalfa
hay he had ever worked with. He
was so impressed by Peter's success
with alfalfa that he seeded some the
next year on his own account.

Peter's hogs were marketed in
November at a fancy price, and Peter,
who began to see that hogs, with milk
and alfalfa to back them, were money-
makers, took the proceeds from the
hog sale and bought a thoroughbred
Guernsey cow and a Duroc-Jersey
sow of good blood for breeding pur-
poses.

Twenty tons of hay was more than
Peter could make use of, for the hills
furnished good grazing practically the

whole year, so ten tons of it was sold
to a grading camp that was working
on the State highway in the moun-
tains beyond.

Mrs. Van's pullets settled down to
work just before Christmas and
turned out eggs so fast that Peter had
to make two trips a week to the city
60 miles away with the eggs. He used

so much gasoline that he little more
than came out even, and Mrs. Van had
about decided to give up her egg-pro-
ducing venture when a young man
with a four-ton truck drove in one
morning and offered to market their
produce at a reasonable rate. This
solved that problem. After that a
package of eggs and a can of whole



Woodshed Memories

Remember the old Woodshed.—It was the family gymnasium
and father's favorite "warming" room to fix Willie's jacket. If
said Willie, or father himself, "forgot" to cut the wood, then poor
mother had to see to it herself—ask mother, she knows.

Now all is changed. There is no need of a woodshed and
Willie's jacket doesn't need fixing because there is no wood to cut. No
more slavery for mother; she cooks and heats with real gas—by the
scratch of a match she has a fire that is far quicker in results and with-
out any muss or dirt and loss of fuel. The same good old stove is there
—no changes have been made in that; we simply make use of our old
friend Kerosene, which scientific methods and a Dreadnaught Burner have
made possible.

It's the ever repeated case of "We didn't know what we were missing—
how did we ever get along with mussy, wasteful wood and coal?"

Have a little surprise party of your own—install a Dreadnaught before
cold, rainy weather sets in—eliminate the drudgery and have more comfort
for less money. We would like to send you our circular—your name and
address is all we need.

BURNER AND HEAVY VALVE—

COMBINATION NEEDLE VALVE AND DRAIN,

Mailed Anywhere—guaranteed.....\$6.50

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STANDARD MAKES

These tires are all new, fresh
goods and NOT retreaded or so-
called rebuilt tires.

Plain Tread Seconds Guaranteed	First Non-Skid Standard Guaranteed	Tubes Guaranteed Gray
28x3		\$2.05
30x3	\$9.20	10.95 2.05
30x3½	11.50	13.50 2.50
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32x4	16.60	21.15 3.25
33x4	17.30	22.00 3.35
34x4	17.80	22.50 3.45
36x4		26.60
34x4½	24.00	30.35 4.20
35x4½	25.00	31.65 4.30
36x4½	25.45	32.20 4.45
37x4½		35.75 5.10
35x5	28.70	36.15 5.25
37x5	30.25	38.30 5.40

SPECIAL

6000 Miles Guaranteed	
30x3½	\$17.85
32x3½	19.95
32x4	27.95
33x4	29.00
34x4	29.85
35x4½	39.65
37x5	49.75

All other sizes in proportion.

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Goods Shipped C. O. D., Express or Parcel
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WRITE US for sample and prices—or ask your dealer.

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dollar for dollar of cost. Come
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offer you in **HERCULES**
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and Traveling Bags sent free on request.

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Preparatory Courses. School is accredited
to the Universities and Colleges of Cal-
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milk was sent in on the truck every Tuesday, Thursday and Saturday.

When the litter of pigs arrived Peter decided to buy a cream separator so that his pigs could have all the milk they wanted. He invested in a new machine that made it possible to receive a monthly check from the creamery and still feed milk to the pigs. He bought 14 pigs more and another cow, giving his note for the amount, which was payable in six months.

In February Peter built another room to the two-room log house and made several changes for the better around the house in anticipation of an expected visitor. In March Billy Van arrived for an indefinite stay. He was tiny and red and wrinkled, and weighed just eight pounds, but he was "some boy" to his delighted parents, who had about become reconciled to their childless state. Billy arrived just in time to upset his mother's plans for raising a record lot of young chickens to sell as friers and but few hens were set that year.

Peter had cleared several acres that winter, renting a stump puller from a neighbor to hasten the work, and spring found him with four more acres, making 30 acres in all.

The two yearling steers that they found on the place had been fattened and sold the fall before; but there were three calves that had been dropped since Peter took the place that he meant to fatten that fall along with his twenty-five pigs.

The corn suckered so heavily that he drove to the field every day for two months and brought back a wagon load of fresh green suckers for the four cows, and the cream checks almost doubled in amount, while the pigs had their milk ration increased.

Owing to two rains during the summer the corn made 34 bushels to the acre, and the potatoes yielded 75 sacks to the acre.

The first plantings of alfalfa gave four cuttings besides being grazed by the hogs, and the new stand gave two cuttings. The year's output of baled alfalfa hay was 32 tons, of which part was sold to the grading out-

fit on the State highway, which had progressed to near the forest ranger's camp by this time.

The 25 pigs were sold at a good price, the United States having entered the war that year, and Peter bought two more thoroughbred Guernseys and a bull of the same breed besides a couple of thoroughbred sows and a boar.

A railroad completed a branch line into the back country and located a station four miles from Peter's ranch. A rural mail route is established and the Van's have their mail delivered at the gate.

Peter threw his colored glasses away the day little Billy was a year old. His eyes are not tired any more; he says that is because his ranch has become a "sight for some eyes," as indeed it has.

The figures on his monthly cream check look like a millionaire's son's monthly allowance. Half a dozen fine Guernsey cows, three or four promising heifers, several steers that show their good blood and a bull that brings in a tidy sum in service fees speak for Peter's prosperous estate, as do the thoroughbred Duroc-Jersey hogs and the handsome flock of money-making chickens.

There are 15 acres in alfalfa now, and a new silo that takes care of several acres of corn and sorghum cane each year. The cultivated area of the ranch is increased by several acres each year as Peter finds time to clear the ground.

"The fates sure smiled on us when we started out on the trail of hope four years ago," said Peter to his wife one night this last spring as they sat on their front porch and watched the sun sink in a cloud of glorious color while Billy endeavored to make Laddie believe he was a dashing charger and Billy a knight astride him.

"We have found our place in the world," said Peter Van, "and if other square pegs in round holes should ask me for advice I'd say, pack up and hit the trail of hope, old man, and ten to one it'll lead you to a square hole that'll fit you to a T."

(The End.)

GIRLS.

There are girls that make us happy,
There are girls that make us blue,
There are girls that need a lot of coaxing

When you want to steal a kiss or two.
There are girls that come from sunny Dixie,

There are girls that smile and girls that frown,

But the girl that a fellow wants to tie to

Is the girl from his own home town.

—Santa Rosa Republican.

NEW RECIPES.

Baked Steak.—Order a thick round steak. Salt and pepper both sides well and put into a roasting pan. Chop one small onion fine, sprinkle over the top of the steak; next a layer of chopped parsley; some green pepper improves the flavor wonderfully. Place slices of lemon cut in half over the top and sprinkle all with paprika; about 3 tablespoons of tomato catsup sprinkled about and lastly lumps of butter; put into a hot oven and bake 20 minutes; do not baste, in fact, do not open the oven door at all. Remove to hot platter garnished with parsley and serve at once.

Mock Duck.—Take a nice round steak about one inch thick, five thick slices of stale bread, six medium-size cold boiled potatoes, one-half cup chopped celery, one large onion, two eggs, one tablespoon butter and one teaspoon finely chopped parsley. First soak bread in cold water; meanwhile chop and fry the onion nice and brown in the butter; squeeze the water out of the bread and add the fried onion; add the eggs and potatoes (which should be diced), celery and parsley; mix well, season to taste and if found too dry add a little milk. Spread the stuffing over steak, roll and tie, brown in a frying pan, then put in a roaster, add a little water, salt and pepper and put in the oven. Baste often and cook until tender, then serve with gravy and parsley sprinkled over it.

Beef a la Newport.—Butter, the size of large egg, two-third cup dried smoked beef ground in food chopper (or picked fine), ½ cup grated cheese, or cut fine, ½ cup canned tomatoes, 4 eggs slightly beaten. Melt butter, add beef and cheese, stir till cheese melts, add tomatoes and stir. When thoroughly hot, not boiling, add the eggs. Stir continually till all come to boiling point. Add paprika, no salt. Serve very hot with toast or hot rolls.

Preserved Pears.—Use acid pears for preserving. If the fruit is small preserve it whole, if large, cut in halves. Peel the pears with a silver knife and drop them into cold water as fast as they are peeled to prevent discoloration. When the fruit is all prepared allow a pound of sugar to each pound of pears. Put the fruit over the fire with just enough water to cover it, and boil it gently until it is tender enough to yield to a slight pressure of the fingers; meantime put the sugar into the preserving kettle, adding to each pound a pint of cold water, and to every five pounds of the sugar add the thinly pared yellow rind and juice of two lemons, and two ounces of green ginger root scaled and scraped; boil the syrup and remove all scum as it rises; when the pears are boiled, as directed above, put them into the syrup, and boil them until they look clear; when the pears are thoroughly penetrated with the syrup, remove the preserving kettle from the fire, allow the preserves to cool, and put them in glasses or jars as usual for preserves and jams.

Sweet Potatoes in Marshmallow Lid.—Here is the formula for a delectable dish that speaks for itself: Boil sweet potatoes with jackets on. When done remove skin and mash same as white potatoes, with salt, butter and milk or cream. When beaten till light and fluffy, put in baking dish, cover top with marshmallow, put in slow oven and bake until nice and brown.

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into modern bathrooms to which you can conduct your guests with a feeling of pride.

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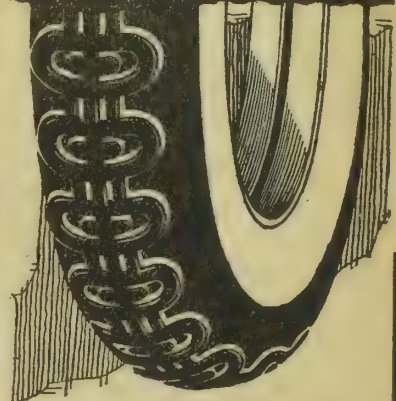
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Give Norwalks a trial,
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DRI-BRITE AUTO POLISH

In two containers:

No. 1-A Cleaner

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The PREMIER BURNER

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And remember that there are no movable parts to adjust—consequently a person operation a PREMIER for the first time gets the same good results as those who have been using the PREMIER for years.

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Money's worth



Red Crown gasoline is high quality, full-powered—every drop. Look for the Red Crown sign before you fill.

STANDARD OIL COMPANY
(California)



The Gasoline of Quality

Market Comment

Profitable Poultry District.

Poultry in the Haywards district is bringing in \$7,000,000 a year. This section ranks second in importance in the poultry business of the State.

Rice on the Upgrade.

Rice bids for the 1919 crop have gone up to 5 1-2 and 5 3-4 cents per pound, and John G. Beekler, a director of the Pacific Rice Growers' Association, advises growers against contracting too early.

Orient Seeks Modesto Butter.

Modesto butter is now sought by Japan, China, Russia and South Sea countries according to orders that are now being booked for export to the Orient by the Modesto plant of the Milk Producers' Association.

Hanford Hogs High-Priced.

Hogs brought the highest price ever paid west of the Rockies, \$21.30 per hundred weight, at Hanford last week when the California Farm Bureau marketing association sold 35 hogs averaging 229 pounds, for that price.

Sonoma's Hops Eagerly Sought.

All old hops at Santa Rosa have been cleaned up at the good price of 55 cents a pound. Many thousand pounds of last year's crop are being shipped now. There remain only a few hops in the county that have not been contracted for.

Country Sales of Barley.

Barley is selling in the country at from \$3.10 to \$3.75 per cental with the market on an upward trend. A greater percentage of the crop will be sold this year by the growers than ever before. Since the advent of the new crop, practically no supplies of the shipping grade have arrived on the San Francisco market.

Offers of Fictitious Prices Denounced.

Fruit Associations composed of growers have accused packers of offering false prices, stating that fabulous prices are offered to independent growers to withdraw them from their merger with Associations. Wylie M. Giffen, president of the Raisin Association, has just made a public statement denouncing the practice on raisin growers.

Pay for Almond Pickers.

Almond pickers in the Esparto district will be paid 50 cents an hour, or an alternative of \$3 a day and board during the harvest season according to the decision reached by the Capay Almond Growers' Association. The working day is to be nine hours. The Association has 116 members and operates a warehouse steam bleaching plant.

The Alfalfa Markets.

Alfalfa sales during the past week through the Alfalfa Growers of California, Inc., show prices obtaining for the grower of \$18.50 to \$21 according to grade and shipping point. In the lower San Joaquin districts growers are holding for \$21.00 to \$22.00. Grinding mills are offering \$17.00 to \$17.50 in stack. In the Sacramento districts buyers have been active and have made bargain purchases as low as \$19.00.

Apple Harvesting at Sebastopol.

It looks now as though apple men there will net \$2 to \$2.25 a box for the season after paying for packing and marketing. Early apples are now bringing \$2.75 and \$3 a box f. o. b. Take 55 cents from this for packing and handling and it looks like a good start. Two firms are reported buying packing apples (including 4 1-2 tier) in lugs at \$90 a ton delivered at any shipping point. It is now expected that there will be 750 cars of Gravensteins of 766 boxes to the car from this section. This variety is a full crop. Late apples show 60 per cent to 70 per cent, though Wagner's look full. Gravensteins have been picked pretty freely to forestall drop and develop the balance. They have to be kept in the light to color and ripen. Earlier pickings were pretty green but they were used for cooking and the market takes them up. Up to \$5 a day is being paid for real good pickers, but help is scarce.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, August 6, 1919.

WHEAT

There is little feature to the local wheat market, its strength being based principally upon the firmness of the eastern markets.

Per bushel—	
No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
Early Baart	Nominal
California, per ctl.	\$3.65@3.70

BARLEY

Barley was not so strong this week on a weakening in demand. Spot prices were shaded for both feed and shipping. Futures were decidedly off last week's quotations. December barley selling from \$2.85 to \$2.99 and May from \$2.90 to \$3.

Feed	\$3.15@3.20
Shipping	\$3.20@3.30

OATS

Oats have not yet responded to the weakness in barley and quotations remain the same.

Red feed, per ctl.	\$3.00@3.25
Red for seed	Nominal
Black for seed	Nominal
Recleaned Red or Black for seed	Nominal

CORN

Despite the drop in corn prices on the Chicago exchange, corn sold at a higher price here this week than the previous week. This was because of a good demand with an apparently real shortage of supply.

California	\$3.50@3.70
Egyptian, choice	Nominal
Milo	Nominal

HAY

Receipts of hay this week were 2,655 tons. This is not materially different from the previous week's receipts of 2,770 tons. As in the case of the previous week the most of this hay came in by water from the Bay and River districts. There seems to be a shortage of cars, and it is difficult to get them for several days after orders have been placed, and even then only in a small way. With a shortage of cars appearing so early in the season, it is feared that it will become worse than usual as other crops are moved. The demand has been good here and most of the receipts were moved without difficulty. Alfalfa continues in demand and is the leader at present.

No. 1 Wheat, per ton	\$15.00@17.00
No. 2 Wheat, per ton	12.00@14.00
Choice Tame Oat, per ton	15.00@17.00
Wild Oat, per ton	10.00@13.00
Barley Hay, per ton	12.00@15.00
Alfalfa, per ton	17.00@21.00
do, new, 1st cutting	
Stock Hay, per ton	9.00@11.00
Barley Straw, per bale	.50@ .80

FEEDSTUFFS

There appears to be a real shortage of most feedstuffs, and while the demand cannot be said to be very active there is not sufficient supply on hand to satisfy it promptly.

Several advances in quotations were made, the most noteworthy being in alfalfa products, which were advanced to \$36 and \$37. Bran oatsNot being marketed
ShortsNot being marketed
Cracked corn\$79.00@81.00
Rolled barley\$66.00@67.00
Rolled oats\$64.00@65.00
Alfalfa meal\$36.00@37.00
Cocoanut meal\$48.00
Oil cake meal\$72.00@73.00
Millmix\$59.00@61.00
Millrun47.00@48.00

POTATOES, ONIONS, ETC.

There was no particular activity in the vegetable market this week. Potatoes and onions are dull and unchanged. Peas and beans continue to come in in large quantities and some very fair stock has been sold at prices considerably below current quotations. Tomatoes met with a falling off in demand and the increased receipts made the prices lower in many cases than the quotations given. These lower figures were in most cases where the dealers were over-supplied, and they cannot be taken as market indications. Summer squash is coming in from Alameda county exclusively now, and the flood of arrivals pushed the price to about the low point of the season.

String beans	3@4c
Peas	5@7c
Carrots, per sack	\$1.50@1.75
Rhubarb, Strawberry, box	\$1.50@2.00
Cucumbers, hothouse	.50@70c
Eggplant, box	.50@65c
Lettuce, per crate	.75c@1.25
Celery, crate	.75c@1.25
Tomatoes, River, per large box	\$1.00@1.50
Sprouts	Nominal
Summer squash, lugs, Alameda	.40@60c
Green Corn, Alameda, sack	\$2.00@3.50
Potatoes—Oregon	\$2.25@2.50
do, Idaho	\$2.00@2.35
do, Garnets, new on street	\$2.40@2.75
do, other new on street	\$2.25@2.60
do, Sweets, new, lb.	.8@7c
Onions, Warehouse Stock—Australian	
Browns	Nominal
do, new red	Nominal
do, Browns	\$2.00@2.50
do, Yellow	\$2.00@2.50
do, Green, Alameda	\$1.00@1.50
Garlic	15@18c

BEANS

The demand for beans continues strong and the market is active. It now looks as if the holders of beans are going to clean up at prices that will pay them a comfortable profit. With the exception of Tepary and Garbanzo beans, prices were advanced all along the line. While Limas are quoted at \$12.25, some sales are reported at \$12.50, and as they are scarce a continued demand will force the nominal quotation of this variety much higher. In most cases the advance in price was from 25 to 50 cents per ctl.

Bayos, per ctl.	\$6.25@6.50
Blackeyes	\$5.50@5.75
Cranberry beans	\$6.50@6.75
Limas (south, recleaned)	\$12.25
Pinks	\$6.90@7.10
Mexican Reds	\$5.75@6.50
Tepary beans	\$2.50@2.75
Garbanzos	\$11.75@12.00
Large whites	\$7.50@7.75
Small whites	\$8.00@8.15

POULTRY

The poultry market has been steady during the week. Receipts have been large, but the

demand is excellent and the market keeps fairly well cleaned up at the close of each day. It is the kind of market in which both the producer and commission man should be making money. Leghorn hens and smooth young roosters sold at lower prices, but with this exception and that of Jack rabbits, which are apt to fluctuate violently from day to day with the receipts, no changes are noted in the ranges quoted last week.

Turkeys, dressed, young spring, lb.	.45@.50c
Broilers, 1 1/2 lbs. and under	.38c
do, 1 1/2 to 2 lbs.	.33c
Fries, 2 to 3 lbs.	.33@.34c
Hens, extra, per lb., colored	.38@.39c
do, Leghorn	.38@.39c
Smooth young roosters, per lb.	(3)
lbs. and over	.38@.40c
Old roosters, colored, per lb.	.22@.23c
Geese, young, per lb.	.22@.23c
do, old, per lb.	.22@.23c
Squabs, per lb.	.48@.50c
Ducks, young	.25@.28c
do, old, per lb.	.25c
Belgian hares	15@16c
Jack rabbits	\$1.50@3.00

BUTTER

Butter developed a decided weakness on Tuesday and Wednesday of this week, despite the fact that receipts have been somewhat light. One of the main reasons for the recessions in prices has been the fear of a general railroad strike, which may tie up shipments, and a perishable product like butter would suffer heavily if left without refrigeration on the road. Under present receipts butter would be expected to advance in price, and it will doubtless do so if the menace of interrupted transportation is removed. There are over 2,000,000 pounds of butter in storage in this market, which is about fifty per cent better than the records of last year at this time. As a consequence little more is expected to go into storage in this city. The movement out of storage was greater this week than was that into storage. Chicago has over 30,000,000 pounds and New York over 25,000,000 in storage, which represents an amount fully three-quarters greater than those two cities held a year ago.

	Th.	Fri.	Sat.	M.	Tu.	Wed.
Extras	54 1/2	55 1/2	56	56	54	53 1/2
Prime firsts	54	54 1/2	54 1/2	55	53 1/2	53
Firsts	52	52	52	52	52	52

EGGS

Eggs advanced in prices steadily during the week, reaching a figure 2 1/2 cents higher than last week's close for Extras and 4 cents higher for extra pullets. These prices are respectively 6 cents and 8 1/2 cents above the low of last week. No shipments East are being made at this point, but some are known to have occurred from points of production and others are rumored. Egg producers do not seem to have the same fear of a railroad tie-up as the butter men.

	Th.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	54 1/2	54 1/2	55	55	54 1/2	54 1/2
Firsts	52	52	52	52	52	52
Ex. pullets	49	49	49	51	52	52 1/2

CHEESE

The cheese market was firm this week and advances were noted for the California description, ranging from 2 1/2 cents for fancy California flats to 1 1/2 cents for California Y. A. The Oregon product was also strong. Fancy California, flats, per lb.34c
do, Firsts31c
Oregon Y. A.34c
Oregon Triplets33c
Oregon Y. A.32 1/2c
Monterey cheese24@25c

FRESH FRUITS

The market was flooded with cantaloupes this week and prices went to pieces. Flats containing 15 choice cantaloupes sold as low as 50 cents and other packings in proportion. The berry market did not show a great deal of change. Strawberries sold a dollar higher and the others a dollar lower. Grapes are coming in in ever-increasing quantities and the price has been lower in consequence. Figs were higher, but most of the other varieties of fruit sold at about the same prices as last week.

Apples, New Red Astrakhan, boxes	\$1.25@2.00
do, Gravensteins	\$2.00@3.00
do, Alexanders	\$1.25@2.00
Peaches	.75c@1.50
Apricots, bulk, lb.	.50@.60c
Figs	\$1.00@1.25
Plums	.60@6c
Grapes, Seedless	\$1.00
Strawberries, chest	\$11.00@15.00
Loganberries	\$11@13.00
Raspberries	\$13.00@15.00
Blackberries	\$8.00@9.00
Cantaloupes, Standards	\$1.00@1.25
do, Ponies	.75c@1.00
do, flats	.50@75c
do, Honey Dew, lb.	1 1/4@1 1/2c
Watermelon, lb.	1 1/4@1 1/2c

CITRUS FRUIT

There was not much activity in citrus fruits this week. Lemons remained unchanged and oranges and grapefruit were somewhat higher.

Oranges, Valencia	\$4.25@5.50
Lemons, fancy	\$7.00@8.00
do, choice	\$6.00@7.00
do, standard	\$5.00@6.00
Lemonettes	\$4.00@5.00
Grapefruit	\$4.00@4.50
...c...mw mwmwm mwmwmw	

DRIED FRUITS

The dried fruit market continues strong, and several fruits were bid up to considerably higher points than those reported last week. Apricots still seem to be the leaders in the demand, and as high as 33 cents was bid in some cases for selected stocks. The bids for apples and peaches were also advanced to higher standards. Figs remain unchanged.

Apples	\$23@25 1/2c
Pears	\$20@21 1/2c
Peaches	19@20c
Apricots	20@33c
Prunes	13@15c
Figs, Adriatic	14@20c
do, Calmyrna	16@23c

RICE

While there is a temporary lull in trading in all grades of foreign rice at the present time the business was very active throughout the month of July. During the month the

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., August 5, 1919.

The demand for all varieties of fruits, even under heavier offerings of Bartlett's, was in keeping with the supply, an upward tendency being particularly noticeable on peaches and plums. In fact, the demand for California peaches in Atlantic Seaboard markets, is strengthened on account of the fact that Eastern stocks are arriving showing considerable mold.

The light supply of plums resulted in a sharp advance of all varieties.

The Bartlett pear market is holding firm though the peak of the load has at present arrived in eastern terminals. We do not look for any noticeable decline, but anticipate a strong demand, subject somewhat to fluctuations by offerings of Bartlett's from the northwest which are now rolling.

Thompson Seedless and a few early shipments of Malagas from the Fresno district that have arrived east, have met with a very ready demand and at prices considerably higher than corresponding dates of shipments last season.

Shipments of Elbertas, both from the San Joaquin Valley and Placer county, are now moving under heavy supply, but practically the entire crop can be disposed of on a delivered basis at prices in excess of those offered by the driers and canners.

Shipments from the State of deciduous fruit this week will be very heavy, provided transportation difficulties will not affect the move-

ment.

The Bartlett pear shipments from the Sacramento River are about completed, but shipments from Suisun, though not as heavy as last year, will continue, as will the movement from Placer county, for two weeks. Colfax and El Dorado county Bartlett's will begin to move the latter part of the week. Averages for the week:

NEW YORK: Bartlett Pears, \$4.01; Malaga Grapes, \$3.74; Muscats, lugs, \$3.70; Thompson Seedless, \$3.39; Tuscan Peaches, \$1.82; Crawford, \$1.38; St. John's, \$1.05; Hales, \$1.05; Elbertas, \$1.45; Tragedy Plums, \$2.04; Burbank, \$2.08; Wickson, \$2.82; Diamond, \$2.50; Calif. Blue, \$2.22; American Blue, \$2.18; Splendor, \$2.32; Calif. Red, \$2.35; Shiro, \$2.05; Kelsey, \$4.00; Gaviota, \$2.85; Duane, \$1.87; Bradshaw, \$1.85; Einioti, \$2.07.

BOSTON: Burbank Plums, \$1.84; Wickson, \$3.20; Gaviota, \$3.00; Tragedy, \$2.27; Calif. Red, \$2.22; Duane, \$2.07; Diamond, \$2.28; Kelsey, \$2.67; Bartlett Pears, \$3.75; Malaga Grapes, \$3.56; Thompson Seedless, \$2.38; Hales, \$1.57; St. John's, \$1.47; Tuscan, \$1.82; Decker, \$1.87.

CHICAGO: Malaga Grapes, \$4.00; Thompson Seedless, \$3.00; Bartlett Pears, \$3.68; St. John Peaches, \$1.50; Crawford, \$1.63; Tuscan, \$1.74; Elbertas, \$1.81; Diamond Plums, \$2.21; Tragedy, \$2.10; Kelsey, \$2.45; Bradshaw, \$1.66; Duane, \$1.80; Wickson, \$2.74; Dukes, \$2.25.

mate can be made.

There has been a large demand for sound stock California lemons, while low grade fruit is a drug on the market and is selling at very low prices. The outlook is for a generally higher market on lemons during the remaining five weeks of the summer season. The total shipment of cars of oranges for the season commencing November 1 were 28,285 and 8,117 cars of lemons.

Special Citrus Market Report

Los Angeles, Aug. 4, 1919.

Regarding the market on California Valencias, recent reports show the movement out of stores very active. Small markets that formerly placed orders for twenty to fifty boxes are now taking carloads. Nothing new has transpired regarding the coming crop of Navels, and it will be the latter part of August before an approximately correct esti-

price was advanced locally \$1, while in the Orient it advanced \$5. In view of this fact it is expected that prices will make another advance here. New crop California Japan fancy sold at \$11 for delivery November and December, but at present dealing in futures is not active.

HONEY.

Owing to the reported probable scarcity of honey on account of the hot weather in the valley, local dealers have advanced their bids over their last week's offers, but no sales of any amount at these figures are reported. Water-white orange blossom18@20c White to water-white sage (subject to production)18@20c Light Amber Mountain (Sage-Buck-wheat)14@16c Light Amber Alfalfa12@14c

WOOL.

The price trend of wool is upward. Much of the new clip is out of growers' hands.

Humboldt Nominal
Mendocino Nominal
Sacramento 40@50c
San Joaquin, spring clip 45@50c

HIDES.

The Sawyer Tanning Company at Napa, California, has issued a new price list, showing a sharp increase in values. Wet steer and cow hides have increased 36 and 38 cents. Wet salt hides are 10c higher, at 50c. California hides, however, show the greatest increase in value. Dry calf hides have jumped to the record price of 83c, and wet calf trimmed hides to 79c. Large wet salt hides sell for \$10 to \$13 each. The supply of hides is now very scarce.

LOS ANGELES.

Los Angeles, Aug. 5, 1919.

BUTTER.

This market shows an advance in price per pound of 2c since reported last week. Quoted at 57c on July 28th, and going to 58c July 30th, advancing again on August 1st to 59c. The market is firm with good demand and good sales reported. Receipts for the week, 343,800 lbs.

California extra creamery59c
do, prime first57c
do, first56c

EGGS.

Under lighter receipts, this market shows steady advance since last report. However, the demand holds up well. Receipts for the week, 837 cases.

Fresh ranch, extra56c
do, case count54c
do, pullets52c

POULTRY.

Broilers and friers coming in freely and demand is only fair. Light hens in over supply, dull and weak. Heavy hens scarce and wanted. Ducks and geese dull. Nothing doing in turkeys.

Broilers, 1 to 1 1/4 lbs.27c
Broilers, 1 1/4 to 1 1/2 lbs.27c
Friers, 2 to 3 lbs.29c
Roosters (soft bone), 3 lbs. and up32c
Stags and old roosters, per lb.16c
Turkeys34@40c
Hens22@33c
Ducks27@34c
Geese25c

VEGETABLES.

Potatoes in fair demand and higher, with light receipts. Onions selling fair and steady. Beans reported dull; limas slow sale and lower. Cantaloupes moving slow—market gutted. Watermelons in good demand and higher, offerings are good.

Potatoes, local, per cwt.\$2.00@2.50
do, Northern Burbank\$3.00
Onions, New Red, per cwt.\$2.50@2.60
do, Stockton yellows, per cwt.\$2.50@2.60
White globe, cwt.\$2.75@3.00
Cabbage, per 100 lbs.\$1.00
Rhubarb, per 30-lb. box75c@1.25
Summer squash, lug20@30c
Peas, per lb.7@8c
Kentucky Wonders3@4c
String Beans, wax3@4c
do, Green2@3c
Tomatoes, lug box40@60c
Cucumbers, local, lug box15@25c

Lima Beans, local, lb.2 1/2@4c
Cantaloupes, shipped in, Stand. & Pony75@1.00
do (home-grown, pony crate)50c@1.00
Watermelons, 100 lbs.\$1.25@1.50
Lettuce, crate\$1.00@1.10
Corn, lug box40@50c
Peppers, Bell, lb.5@6c
do, Chile, lb.5@6c
Casabas, lb.2@2 1/2c

DRIED CHILE PEPPERS.

No change in prices reported. The market continues very dull.
California12@14c
do, Mexican20@22c

FRUITS.

Crabapples now on the market and selling at 5c and 6c. Apricots out for the season. All good fresh stuffs in demand. State stuffs hard to dispose of.

We quote from growers:

Peaches4@5c
Strawberries—
30 basket crates, fancy\$4.25@4.50
Poor to choice\$3.75@4.00
Blackberries, case 30 boxes\$4.00@4.50
Raspberries, case 30 boxes\$3.50@4.00
Loganberries, case 30 boxes\$4.00@4.50
Plums, Santa Rosa6@7c
do, Tragedy6@7c
do, Satsuma, lb.1@6c
do, Burbank, lb.4@5c
do, Sugar, lb.5@6c
do, Nectarines, lb.7@10c
Apples, White and Red Astrakhan, lb. 4@5c
Grapes, Thompson Seedless, lb.5@8c
do, Malaga, lb.7@8c
Crabapples5@6c

BEANS.

All prices the same as quoted last week. The market is steady and still reported dull.

Limas, per cwt.\$9.00
Large white, per cwt.\$6.25
Pink, per cwt.\$6.50
Small white, per cwt.\$6.25
Blackeyes, per cwt.\$3.75@4.00
Tepary, per cwt.\$2.00@2.50

HAY.

Choice alfalfa in good demand and quoted higher. Grain hay is dull at quotations.

Barley hay, per ton\$18.50@21.50
Oat hay, per ton\$22.00@25.00
Alfalfa, Northern, per ton\$21.00@23.00
Alfalfa, local, per ton\$23.00@25.00
Straw, per ton9.00@10.00

ALFALFA MARKET.

The Alfalfa Growers of California, Incorporated, 525 Central Building, Los Angeles, furnish the following quotations on Alfalfa Hay, which are selling prices to purchasers of carload lots f. o. b. Los Angeles.

The grower, to arrive at his selling prices, f. o. b. his station, should deduct the carload rate of freight from below quotations.

ALFALFA HAY.

No. 1 Dairy\$27.00@28.00
Standard Dairy\$24.00@26.00
Standard Alfalfa\$21.00@23.00
Stock Alfalfa\$17.00@19.00

WEEKLY BUTTER AVERAGES.

Week	San Francisco	Los Angeles
Ending	1918	1919
Jan.	2....55.40	66.19
"	9....51.08	61.00
"	16....52.33	61.70
"	23....52.50	55.83
"	30....53.00	44.91
Feb.	6....50.80	43.58
"	13....52.00	46.80
"	20....51.41	51.58
"	27....51.30	53.90
March	6....50.66	56.16
"	13....51.16	55.58
"	20....47.83	54.41
"	27....46.30	56.41
April	3....43.16	54.23
"	10....39.25	57.16
"	17....40.50	52.41
"	24....40.50	52.41
May	1....40.83	52.41
"	8....40.66	52.91
"	15....40.46	55.16
"	22....40.33	57.91
"	29....42.30	57.91

Portland, Ore., August 5, 1919.

CATTLE—Steady; receipts, 32. Steers, best \$10@11.50; good to choice, \$9@9.50; medium to good \$8.50@9; fair to good, \$7.75@8.25; common to fair, \$7@7.50; good to choice cows and heifers, \$8@8.50; fair to medium, \$4.50@5.50; canners, \$3@4; bulls, \$5@7.50; calves, \$9@15.

HOGS—Lower; receipts, 132. Prime mixed, \$21.50@22; medium, \$21@21.25; rough heavies, \$20.25@21; pigs, \$19@20.

SHEEP—Steady; receipts, 200. Prime lambs, \$11.25@12; fair to medium, \$9@10; yearlings, \$8@8.50; wethers, \$7@7.50; ewes, \$6@7.50.

Los Angeles, Aug. 5, 1919.

CATTLE—All prices remain as quoted a week ago. They are steady and demand light. Little doing in this market.

Per cwt. f. o. b. Los Angeles:
Beef, steers, 1000@1100 lbs. \$9.00@10.50
Prime cows and heifers\$7.50@8.50
Good cows and heifers7.00@7.50
Canners5.00@5.50

HOGS—No change in prices to report in this market since last week. Demand is fair and market firm.

Per cwt. f. o. b. Los Angeles:
Heavy average's 275@350 lbs. \$18.00@17.00
Heavy average's 225@275 lbs. 18.00@18.50
Light19.50@20.50

Rough docked 20 lbs. piggy sows 40 per cent.

SHEEP—Lambs and ewes in fair demand. Wethers reported slow sale. Prices remain the same as quoted a week ago.

Prime wethers\$8.50@9.50
Prime ewes8.00@8.50
Yearlings8.50@9.50
Lambs12.50@13.50

June	5....43.90	54.12	41.58	57.00
"	14....44.92	53.58	40.58	57.00
"	21....46.50	53.16	41.75	57.00
"	28....47.42	52.83	53.00	55.00
July	5....48.08	52.37	46.00	55.00
"	12....48.90	52.12	47.50	54.00
"	19....50.83	52.71	48.66	56.00
"	24....52.66	54.24	45.16	57.00
"	31....52.16	55.08	51.00	57.00
August	7....52.16	55.50	50.83	59.00
"	14....51.66	55.00	49.00	59.00
"	21....52.25	54.58	49.58	59.00
"	28....53.00	54.00	50.00	59.00
Sept.	4....53.00	54.00	50.00	59.00
"	11....54.90	53.00	50.33	59.00
"	18....57.80	51.67	51.67	59.00
"	25....61.32	56.17	56.17	59.00
Oct.	2....64.75	58.00	58.00	59.00
"	9....64.50	58.33	58.33	59.00
"	16....62.50	60.00	60.00	59.00
"	23....61.75	60.00	60.00	59.00
"	30....62.50	60.00	60.00	59.00
Nov.	6....59.60	58.83	58.83	59.00
"	13....60.00	57.00	57.00	59.00
"	20....61.00	57.25	57.25	59.00
"	27....61.60	58.75	58.75	59.00
Dec.	4....62.60	60.00	60.00	59.00
"	11....63.50	60.10	60.10	59.00
"	18....63.50	61.01	61.01	59.00
"	26....64.60	62.16	62.16	59.00

WEEKLY EGG AVERAGES.

Cents per dozen for Extras.

Week	San Francisco	Los Angeles
Ending	1918	1919
Jan.	2....52.80	75.60
"	9....60.91	69.91
"	16....65.66	58.70
"	23....65.66	52.58
"	30....61.25	48.75
Feb.	6....58.50	42.00
"	13....44.40	40.90
"	20....44.75	36.41
"	27....42.40	37.40
March	6....36.83	37.58
"	13....37.91	37.16
"	20....40.66	38.16
"	27....39.50	40.41
April	3....38.19	42.41
"	10....37.58	42.91
"	17....39.16	45.10
"	24....40.80	45.00
May	1....41.66	45.00
"	8....40.08	46.50
"	15....39.16	47.91
"	22....40.50	49.16
"	29....38.66	47.58
June	5....40.80	45.50
"	12....48.30	47.60
"	19....41.00	45.91
"	26....44.32	49.66
July	5....44.91	43.97
"	12....48.30	47.60
"	19....47.66	47.66
"	26....47.91	49.33
"	31....48.83	53.16
August	7....49.50	55.50
"	14....52.08	48.00
"	21....56.32	50.17
"	28....59.20	53.00
Sept.	4....62.40	56.33
"	11....63.70	58.67
"	18....61.30	59.00
"	25....60.17	55.67
Oct.	2....65.42	59.75
"	9....65.08	60.00
"	16....71.30	62.66
"	23....78.88	70.33
"	30....86.41	79.33
Nov.	6....87.90	78.00
"	13....86.00	78.00
"	20....77.25	72.00
"	27....79.80	72.33
Dec.	4....82.00	73.00
"	11....82.00	74.33
"	18....79.65	72.33
"	26....82.00	71.66

Post-war trading in wheat has been resumed in Canada, but trading in wheat futures was ordered discontinued. The net advance from the government's fixed war price has been 21 cents.

Practically all wool in Mendocino, Sonoma and Sacramento counties has been sold. This year's clip brought around 60 1-2 cents, and eight months' clip, 55 cents.

Rural Press Takes Place of Farm Advisor.

Enclosed find check to renew our subscription for three years. I am comparatively new at the farming game and cannot succeed without the Rural Press. It is very helpful. We have no farm advisor in our county at present, but your paper takes the place of one.—H. G. Merrill, Paso Robles.

Over half the sheep losses come from predatory animals, such as the coyote or wolf; one-quarter from poisonous plants, and the other quarter from contagious diseases, lambing disorders and digestive disturbances.

Classified Advertisements

Rate in this directory, 3c. per word each issue

MISCELLANEOUS.

WANTED—ESTATE SUPERINTENDENT—Capable of managing residential estate should have knowledge of floriculture, horticulture, etc. Experience in care of chickens, cows, etc. Must have experience employing and managing men and practical experience in all estate matters. Apply by letter only. State experience, nationality, salary wanted and address. Box 1620, Pacific Rural Press.

REMANUFACTURED PIPE. All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weisbaum Pipe Works, 160 Eleventh street, San Francisco.

CORN HARVESTER—One-man, one-horse, one-row, self-gathering. Equal to a corn binder. Sold to farmers for twenty-three years. Only \$25, with fodder binder. Free catalogue showing pictures of harvester. Process Corn Harvester Co., Salina, Kan.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

JACKSON ROTARY PUMP, No. 12—New; never used. Price, \$80. Will sell for \$50. C. D. Clark, Route 2, Box 85, Vacaville.

AGENTS WANTED—SELL AUTOMOBILE Tires and Tubes on liberal commission. Address Arnott & Co., Dept. 11, Los Angeles.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

PATENT ATTORNEYS. WEBSTER, WEBSTER & BLEWITT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

HELP WANTED—Experienced man and wife for ranch work—man for chores and garden, wife to cook for 6 or 8. Wages, \$90 and found. Address Coastways Ranch, Pescadero.

NEW FOUR-WHEEL TRACTOR, forty h.p. Pope engine, Timken bearings, best steel castings throughout. Bosch magneto. \$1200. C. A. Romadka, Columbia Hotel, S. F.

ELEPHANT GRASS (Napier Fodder). Orders being listed now for canes for fall planting. Write H. L. Wagner, Descanso, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

BEEES WANTED—In patent hives or boxes, also equipment. Address E. C. Rothchild, Rutherford, Calif.

COUNTRY LANDS. FOR SALE—My Equity of \$3700 in 40 acres alfalfa land, 5 miles from Manteca. Address Wm. Robertson, 869 Fulton St., San Francisco.

Special Livestock Market Report

San Francisco, Aug. 6, 1919.

CATTLE—Cattle are a little stronger, though no advance in prices is noted, packers claiming they have operated at a heavy loss during the past few months. Prime cattle are in very strong demand, as are also calves. Grass Steers, No. 1, weighing 1000

@1200 lbs.10@10 1/2c
Grass Steers, No. 1, weighing 1200
@1400 lbs.9 1/2@10c
Grass Steers, thin6@7c
Grass Cows & Heifers, No. 18@8 1/2c
Grass Cows & Heifers, 2nd qual.6 1/2@7 1/2c
Grass Cows & Heifers, thin4@5 1/2c
Bulls and Stags, good4 1/2@5 1/2c
do, fair4@4 1/2c
do, thin3@3 1/2c
Calves, light weight12 1/2@13c
do, heavy10@11c

SHEEP—There is a very active demand for mutton sheep. The high price of wool makes sheep growers reluctant to part with their stock, and so prices have slightly advanced on this market.

Lambs, yearling10@10 1/2c
do, milk13@13 1/2c
Sheep, wethers10@10 1/2c
do, ewes8@8 1/2c

HOGS—Hogs are hard to get. The very sensational drop in corn prices will tend to establish a lower market in the East, and sympathetically in Western meat-buying centers. Quotations on hogs are unchanged locally as we go to press, but a material decline in prices is anticipated by the end of this week.

Hard, grain-fed, 100-150 lbs.20c
do, 150-250 lbs.20 1/2@24c
do, 250-300 lbs.20c
do, 300-400 lbs.19 1/2@20c

Cletrac

TANK-TYPE TRACTOR

(Formerly known as the "Cleveland" Tractor)

ROLLIN H. WHITE, the well-known automotive engineer, designed the Cletrac Tank-Type Tractor to do most of the work formerly done by horses and mules—to do it *better, quicker, cheaper—* and to do it *twelve months in the year.*

A million American farmers can profitably use such a tractor.

It does far *more* than merely plow. That is *only the beginning of its usefulness.* It goes right through with the *entire preparation of the seed bed*—from plowing to seeding. And in addition it reaps, binds, threshes, hauls, cuts ensilage, fills silos, saws wood, digs potatoes and does many of the numerous other chores always necessary about the farm.

The Cletrac stands on two long "feet" each 50 inches long by 6 inches wide. And because of this immense "foot" surface it is kept on top of the soil by the same principle that enables a man to walk on snow shoes. This distinctive construction enables the Cletrac to work *efficiently* on wet or sandy soil. It permits it to go over the seed bed without sinking in—and without leaving two tracks of packed down soil behind it. The same principle that made the "tanks" so successful in the mud of Flanders gives the Cletrac the ability to work practically *anywhere.*

The Cletrac is only 96 inches long, 52 inches high and 50 inches wide—enabling it to work up close to trees and fences and making it ideal for orchard use.

But in spite of its small size and compact construction the Cletrac is extremely powerful and will do the

work of six horses or mules—and has a speed of from forty to fifty per cent *greater* than the average tractor. And it will work on side hills and grades where most tractors fail.

The Cletrac operates on gasoline, distillate or kerosene, but is specially designed to use kerosene or distillate.

Service is a vital thing to consider in the purchase of a tractor. If small replacements or repairs are needed you usually need them in a hurry—and you'll find *every Cletrac dealer well equipped to give you prompt, efficient service.* Back of the dealer stands The Cleveland Tractor Company—big, substantial, and permanent—assuring you that your interests will always be taken care of no matter in what part of the country you are located.

In spite of steadily increasing production facilities we are having difficulty in keeping pace with orders. Early ordering is therefore important. Such tremendous possibilities are open to Cletrac owners for making greater profits because of *larger and better crops—* because of the ability to *work the soil at any time desired,* in spite of horse-killing heat—because of the *year round utility* of the Cletrac, that you are losing money every day you are without a Cletrac.

We have an interesting and instructive thirty-two page book entitled "Selecting Your Tractor" that will be sent free upon request. It goes into *your problems—and solves them.* Send for it today.

The Cleveland Tractor Co.

19079 Euclid Ave.

Cleveland, Ohio

The largest producers of Tank-Type Tractors in the world



More Kinds of Work
More Days in the Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO

AUGUST 16, 1919

LOS ANGELES

Everything--Mutton Broth to Cigarettes.

Yolo County soil and climate allied with Greek enterprise and thrift result in a variety of products.

(Written for Pacific Rural Press by W. H. Schrader.)

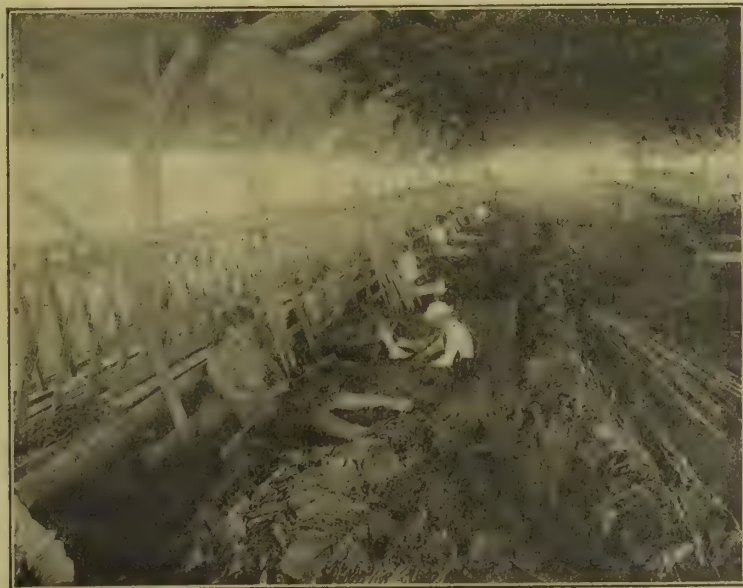
THE BIG PORK packers who utilize all of the hog except the squeal haven't anything on Chiflakos Brothers of Esparto, large sheep raisers, cheese manufacturers and growers of Turkish tobacco. They embarked when they first came to Yolo county in the sheep business, and while they were successful they were not long satisfied with simply turning off mutton and wool. Some years ago they started milking the ewes, and manufacturing the milk into cheese. They started on a very small scale, but gradually increased their output, both in quantity and quality. They now have a market as far East as Chicago for their delicious table cheese, which they call Feta. This season they have produced 75,000 pounds. The methods followed by the Chiflakos Bros. in handling their sheep are about as follows:

The ewes are bred for early lambing to start in November. All lambing is done under sheds, the ewes being fed on hay. After lambs are forty days old they have green feed and are marketed about March 1st, at which time milking of the ewes is begun, and extends from March to about the middle of June, by which time most of the ewes dry up. In the height of the season over 3000 ewes were milked. For milking the ewes pass through chutes, which lead from small pens, which hold 100 head. They soon get accustomed to it and take their turn like trained soldiers. Still the milking of so many thousand sheep is some job. Fourteen milkers and twelve helpers were required. A good chance for milking machines.

Getting the most out of the valuable sheep manure was their next problem. Selling it to neighboring orchardists for a few dollars per ton was not at all satisfactory. Included in their Esparto ranch was a level tract of several hundred acres of light, loose loam soil, very similar to that on which in their native land is grown the famous Turkish tobacco, which is blended with the ordinary tobacco to make cigarettes. The fact that the climate also is similar, decided them to give the tobacco a trial. Seed was imported from Greece at a cost of \$7.50 a pound. It was planted in hot beds in the month of December and the plants set out in April. Thirty-two acres were planted. Rows were made 18 inches apart with plants 16 inches apart in the row. All cultivation was done by hand, and the plants irrigated three times. The sheep manure was applied by dumping it in liberal quantities into the irrigating water, which spread it all



Gathering Tobacco Leaves



Stringing the Leaves.



Drying the Tobacco.

over the land. Growth was very rapid, and the plants reached maturity in the early fall, as shown in the top photo, attaining a height of from 5 to 7 feet.

Mr. Chiflakos thinks more irrigation would probably have resulted in larger plants, but might have made inferior quality. It is the quality and flavor of the leaf that brings the high prices. All damaged or inferior leaves were sorted out and fed to the sheep. In order that the leaves might be picked at just the proper stage it was necessary to go over the plants four or five times.

After picking, the leaves are strung on long sticks, as shown in the second photo, and hung out to dry in the air, as shown in number three. After the various processes of drying and curing, they are made into bales and shipped across the continent to New York. Bye and bye some of them will come back again in the form of Turkish cigarettes.

The thirty-two acres produced last year over 27,000 pounds, or 850 per acre, and it sold for \$1 per pound f. o. b. Esparto. The total cost of producing the crop is estimated by Mr. Chiflakos at \$225 per acre, leaving a very handsome profit.

Encouraged by their success Chiflakos Bros. have this year planted over 200 acres, while their neighbors, wishing to emulate their success, have 450 acres more. A minimum price of \$1.25 per pound has been promised for this year's crop. This means, if the yield is equal to last year's, a total value of considerably over a half-million dollars. Not bad for a local industry in its second year.

Successfully launching two brand new agricultural industries within a few years is a pretty good record for these enterprising adopted Californians, but they are not through yet. We quote from a letter which we recently received from them:

"We are now preparing to put a new food on the market which will be of exceptionally fine taste and quality. It will be made of sheep's milk, of course. We experimented with it last year with satisfactory results. We are figuring on inviting all our friends in the near future to a dinner which will consist entirely of products of our ranch, even to cigarettes made from tobacco raised on our place last year. We will extend an invitation to you to attend, and hope you will be present."

Everything from the soup to the after-dinner smokes from one ranch. We certainly will try to attend that dinner. Sorry we can't extend the invitation to all our readers.

PACIFIC RURAL PRESS

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JNO. J. FOX - - - - Horticulture
R. H. WHITTEN - - - - Livestock

EDITORIAL.

A GREAT FIGHT ON.

THERE is a fight on this week over the high cost of living which has knocked the breath out of the contention over our national endeavor to fit ourselves to a ready-made world-peace handed down from Versailles. Of course, it does not matter whether or not a suit fits a man or a nation, if there is a question whether he or it can get enough to put in the exact center of the suit to expand it properly. We are therefore not surprised that President Wilson has decided that he will not ride the war-fleet through the Golden Gate, nor will he exhort the people on the league of nations until Congress does something to keep the people from quarreling over grub. And so the House of Representatives has been called back from its midsummer excursion after political suckers—which it seemed free to make while the Senate was giving all its time to politics over the league of nations. It is, of course, rather sad that Congress has to be kept all through the dog-days gnawing over economic bones, while it could so well be wallowing in the nice, cool, clean mudhole of partisan oratory—but there seems no help for it. Some one seems to have discovered that some more fruits and flowers are needed to ornament the tables for the next campaign for national offices, and the current administration, on the one hand, and the aspirants for succession to it on the other, have gone out after decorative munitions. Both will bring back plenty and thus demonstrate once more the resources of this great country for self-government. It is, in fact, just this sort of thing which makes this country safe for democracy. We quite admired the insight of President Wilson when he said the other day, in answer to an alarmist who claimed that we are sitting on a volcano, that there is no danger of an eruption because the American people knew how hot it could get without boiling over and spoiling its clothes. Of course, the President did not use those irreverent words, but, as we remember, such was the sense of it. And this we take it, will be the beneficent outcome of the midsummer madness which is now on us. Some very serious people protest that all this contention is a great waste of time and energy, and that we should be giving attention to less frivolous and more constructive affairs—but you cannot expect to get all the people to be thus coldly calculating. Most of us need to get warm through denunciation to become effective in annunciation—therefore, we say, let the people go to it in the good old American way. It is the way to develop our constitutional patriotism. We had some building to do once with a plumber who could not wipe a joint without cursing his helper clean through the studding of a bathroom. It seemed a fierce waste of time and energy, and yet he was so good a plumber that, with such a stimulus, we believe he could have soldered a stick of macaroni to a rubber hose, if the specifications had called for it. That is the game we are now playing in national affairs. Don't worry about loss of time and energy. From the point of view of national welfare we are conserving both as fast as we can.

WHO IS PROFITEERING?

It is essential to know that, and so the United States Attorney-General is sending his representatives into all the states to push State and national laws against profiteering to their most perfect work. These government agents are now arresting all sorts of people from trustful packers to cashful corner grocerymen. It is a good thing; we hope they can catch many with the goods on them fit for conviction. Their punishment will be wholesome correction for their transgression and the publicity of it will scare others toward fair-dealing. In all the dispatches we have read during the last few days we have seen only one mention of farmers caught at profiteering, and that was a bunch of Hoosier farmers who were squiggling on short-weights of produce they were peddling in the city streets! It seemed strange to balance off this rural sport (though thoroughly reprehensible, of course) against the crimes of multi-millionaire metropolitan food-hoarders and outrageous price-fixers, but when the net is drawn all is fish which comes with it and bull-pouts and sharks must bleach upon the beach together. This nation-wide hunt for profiteers is only beginning as we write on Monday, and possibly this week may disclose some significant captures. This arraignment and the information connected therewith may largely settle the question. In his address to Congress on August 8, President Wilson said:

The purchaser can often take care of himself if he knows the facts and influences he is dealing with, and purchasers are not disinclined to do anything, either singly or collectively, that may be necessary for their self-protection.

The Department of Commerce, the Department of Agriculture, the Department of Labor and the Federal Trade Commission can do a great deal toward supplying the public, systematically and at short intervals, with information regarding the actual supply of particular commodities that is in existence and available, with regard to supplies which are in existence but not available because of hoarding, and with regard to the methods of price-fixing which are being used by dealers in certain foodstuffs and other necessities.

There can be little doubt that retailers are in part—sometimes in large part—responsible for exorbitant prices, and it is quite practicable for the government, through the agencies I have mentioned, to supply the public with full information as to the prices at which retailers buy and as to the costs of transportation they pay in order that it may be known just what margin of profit they are demanding. Public opinion and concerted action on the part of purchasers can probably do the rest.

It is to secure concrete data upon which public prosecution of profiteers can proceed and information which will help the public to protect itself, that the fight against the high cost of living is beginning in Washington this week. Incidentally, of course, the whole question of whether the government shall govern less, or whether it shall govern more, even to the ownership and operation of everything, is involved and, of course, all parties are striving to make their ideas and actions as useful politically as they can.

THE WHEAT MUDDLE.

One of the most baffling affairs at the moment is the fixation of the price of wheat. City reformers point to it as the cause of all food-price troubles, because "other foods have to keep up to it." Rural reformers are protesting against price-fixing as unfair in itself and causative of other losses to them. It is, of course, arbitrary and unreasonable, and therefore might be reasonably charged with all sorts of ill-effects. Some protest against it for its inherent influence; others charge most serious offenses in its administration in the way of more advantage to urban handlers than to rural producers. Mr. Hodges has in several past issues stated the California aspects of its operation, and the Farm Owners' and Operators' Association announced in our last issue that it would go after both the fact and the administration of it, with hammer and tongs, at a mass meeting in Stockton next month, if the growers desire it.

In the Mississippi Valley and eastward there has been strong and continuous agricultural opposition to the fixed price for wheat. On August 8 there was a hearing before the agricultural committee of the Senate at which several Republican senators hit the wheat price as they might perhaps be expected politically to do. In addition to such pos-

sibly actuated utterances, however, there was a declaration from T. C. Atkeson, Washington representative of the National Grange, to these effects:

The \$2.26 guarantee was intended by Congress to be the minimum price with a higher price possible under the law of supply and demand. Instead, the United States Grain Corporation had made the minimum guarantee the maximum price for the farmer.

The farmer will receive an average of only \$1.50 per bushel for wheat this year. Had the Government not fixed the price farmers would receive much more than the guarantee because of the prospective wheat shortage and world demand. The Grain Corporation had made large profits from wheat sales that the farmer should have received.

Other representatives of farmers' organizations told the senate committee that the guarantee is not an aid, but a detriment to the farmer, and argued for its repeal, but the committee deferred action.

AN ANGLO-AMERICAN QUESTION.

We hold that fighting among ourselves is a normal American indulgence, and it makes us healthy sociologically and otherwise, but other nations do not always seem to like our way. It seems that an association of four hundred film exhibitors in Great Britain has decided unanimously to fight the project of a wealthy American film-producing corporation which intends to install picture-houses in Great Britain. This fact is not important, for it is to be expected that one bunch of show men will fight another, but it seems that a great international moral question is involved. The British allege that there is much danger of the tight little island being shot up unless American gun-work is banished from the screens. It is alleged that a great number of boys and youths have been brought before the magistrates for re-enacting in real life the modes of assaults and burglary which they claimed to have seen "at the movies." They propose as a relief from American pernicious suggestions that truly British films should prevail and that fisticuffs and the "manly art" be substituted for the shooting way of deciding differences, American fashion. We have to admit that there may be a good deal in it from the point of view of instilling nobility of action and the value of life-saving throughout the community, but reformers should remember, of course, that it musses up the actors dreadfully to put a realistic piece of fist-fighting on the screen. It is possible that American kids are immune to the shooting fever and possible also that it might be troublesome to fathers and school teachers if they should be shown too much about fist-fighting! Probably each nation should choose its own recreations and not try to make a league covenant about it.

SALT FIT TO BE CAST OUT!

It is about the right time of the year to get some visionary meteorology from Oregon, and we judge from the comments of a contemporary, who has a keen appetite for that sort of thing, that it is arriving. The report is that a local scientist has submitted to the Governor of Oregon a proposition to "induce rains to fall and extinguish forest fires by sprinkling salt through the atmosphere from airplanes. The theory of the proposer is that the salt, because of its well-known attraction for dampness, will condense to rain the moisture in the air." It appears to us that no matter how theoretically reasonable the proposition may be, and our contemporary is disposed to consider it very much so, there are two facts which stands more or less in the way of it. First, at the time of the year when it is proposed to apply the salt, there is too little moisture in the air, even in Oregon, to cause a rain—granting that the salt could grab all of it. Second, if there were plenty of moisture in the air, and you could shoot salt enough to condense the moisture, the salt would come down with the rain and kill every green thing on the face of the earth—including the originator of the theory, unless he is a mackerel. Common salt is one of the most active killers of land plants we now of. It is even worse than alkali, and what we call "alkali" is most deadly because of the common salt which is associated with the other sodium compounds. The beneficent thing about rain water is that though most of it comes from the ocean, the sun is not able to pull out the salt with the water, and beyond that lies the other fact that the ocean is salt be-

cause the sun is not able to pull out even the infinitesimal quantity which runs in with so-called "fresh water," and therefore it has accumulated there ever since the flat went forth that the waters be "gathered into one place." Now, if it were possible to gather the waters out of the atmosphere with a bait of common salt, it would put the land back again where it was before the rains had washed out salt enough to enable Adam to start his garden. Even though the Oregon idea be reasonable, or even its reduction to practice feasible, we do not care for it.

QUERIES AND REPLIES

By the Editor.
Inquirer Must Give Full Name and Address.

Growing Cross-Bonds in Fruit Trees.

To the Editor: One of our local papers contains an account of a way a Hollander workman is obviating the use of props or cross-wiring on the Shaner orchard in this vicinity. The method consists in twisting together shoots growing on limbs on opposite sides of a tree, or from a central limb, so that any two limbs can be tied together, or every limb be secured to another to make a practicably unbreakable tree. More than this, on some of Mr. Shaner's trees a large part of the crop was on the short, twisted branches, and they were the ones best fitted to carry the load. The twisting binds the bark and causes the fruit to develop there instead of the ends of the branches. On all the twisted branches the fruit was remarkable both for quantity and size. What do you think of the proposition?—Reader, San Jose.

The way of supporting branches by inter-weaving of laterals, which you describe, is an old European practice and has been commended by horticultural writers in this country for half a century and more. It is perfectly feasible and reasonable, and has been practiced by a good many people having a few trees—a few samples having been visible here and there in California ever since Americans began to grow fruit. It is, however, appalling to think of the amount of labor and personal attention which would be required to fix up trees that way by the acre and that is probably the reason why a rational thing which so many fruit growers know about has never entered into prevailing practice.

Covering for Bark Beetles.

To the Editor: What is the most permanent preparation and the most effective for painting my four-year-old prune trees? The trouble seems to be bark beetles. The bark peels off and has a brown, dusty substance behind the bark. Should all loose bark be cut off before preparation is applied, and could white lead be used with crude carbolic acid, or would this be too expensive? Lime, blue-stone preparation is washed off very soon by rains.—N. A. R., Banning.

If the bark is loose and underlaid by the litter of the insect, the word underneath is also dead, and we know of no harm that can be done by covering such dead parts with white paint. Insecticide quality could be had by incorporation of carbolic acid—which could be most easily done by carbolating the oil with which the paint is thinned. We should prefer, however, to use a carbolated wash all over the old bark of the tree as well as the dead part—using a pint of crude carbolic acid to ten gallons of whitewash—for this would be preventive of invasion of bark not yet occupied by the pest. To be strong and effective, fresh application should be made two or three times a year—for instance, now, next October and next spring. One must not hope for permanent protection against pests; he must keep everlastingly at them.

Second-Growth Millet?

To the Editor: I send some seed-shoots of millet. The seed was put in with a grain drill about six weeks ago. The ground was well watered when seeded and all of the seed came up finely, but as it got dry on the surface it started to fall over

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Write us about your qualifications and experience, and let us tell you about this opportunity for ambitious, energetic men. It will interest you.

and dry up. We put water on at once and now it is sending out roots from the stump again. Was this caused by something in the soil or is that the way that millet grows?—J. R., Chowchilla.

There are seedling shoots coming apparently from the root crown of the old plant—though our correspondent sent us only the shoots and not also the part of the old plant whence they are growing, which we would have liked to see. The fact seems to be that the first growth suffered from surface drying and was blown over as the straw was too brittle to stand up. The root, however, retained moisture enough to keep alive and the new water started growth in the root, which had to make new shoots because the natural top could no longer take sap. It seems to us just like the second growth from hay stubble, when cut the root is active and plenty of moisture to go on with.

Who Has Non-Fruiting Mulberry?

To the Editor: I have a Mulberry tree some 30 years old, with a 2½-foot trunk. The shade from August 15 on is grand, but the berries for 2 to 3 months previous are a nuisance beyond description. What variety of shade tree may be successfully grafted to this top, which will give a clean tree and nice shade?—W. M. S., Biggs.

We know of nothing you can graft upon a mulberry but another mulberry. It is a fact that some varieties are very scant bearers, but we cannot advise you which. So much effort has been put forth to get varieties prolific of fruit that the opposite habit has been obscured. Some of our readers may have such trees and can perhaps offer scions which you can use. Unless such are available our advice is to keep such fine trees as they are to feed the birds. If it is convenient you can keep your walks clean by having a few fowls and giving them a short run every day during the fruiting season to clean up the berries of which they are very fond.

Old or New Wood on Roses.

To the Editor: How about new rose shoots from below. Should they be cut out if there are enough stems already? Or shall I cut out old branches and let the new shoots grow up from the roots? A well-formed bush sends up several new shoots, and I do not know whether they are better than old canes or not.—R. E., Butte City.

If the bushes are just being formed and the wood rather new and of good strength, remove the suckers as soon as you see them coming. If the old wood has seen considerable service and rather too weak to send out vigorous shoots on cutting back—select the strongest and best-placed suckers and make a new bush out of them. This is only good advice for bushes on their own roots—that is, grown from cuttings. If they are budded roses be sure, of course, to extirpate all shoots that start from the root and train the shoots which you are sure come from above the bud-point.

Walnuts Failing.

To the Editor: I have three French walnut trees about ten years of age bearing. This summer the top limbs are dying, bark falling off, leaves drying up and falling, nuts falling off. What is the trouble? Is it blight? And is there anything I can do for them?—Subscriber, Los Molinos.

It is not bacterial blight—that is the common blight of the walnut. The nuts on the first to show the effect of that. The die-back usually indicates trouble below ground though as you speak of "bark falling off" there may be some sunburn involved in it—which attacks nuts, leaves and bark also. Ask some fruit grower whose wisdom you respect to look at the trees for you or call in your farm adviser, E. W. Curtis, whose office is in Red Bluff.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ended August 12, 1919.

Stations—	Rainfall			Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest	Lowest
Eureka .....	.00	.02	.12	62	48
Red Bluff .....	.00	.00	.00	94	54
Sacramento .....	.00	.00	.00	90	52
San Francisco .....	.00	.01	.01	69	51
San Jose .....	.00	.00	.01	78	44
Fresno .....	.00	.00	.00	94	55
San Luis Obispo ..	.00	.00	.03	90	50
Los Angeles .....	.00	.00	.00	88	58
San Diego .....	.00	.00	.00	76	62
Winnemucca .....	.00	.00	.23	92	46
Reno .....	.00	.00	.21	92	46
Tonopah .....	.00	.34	.40	86	58



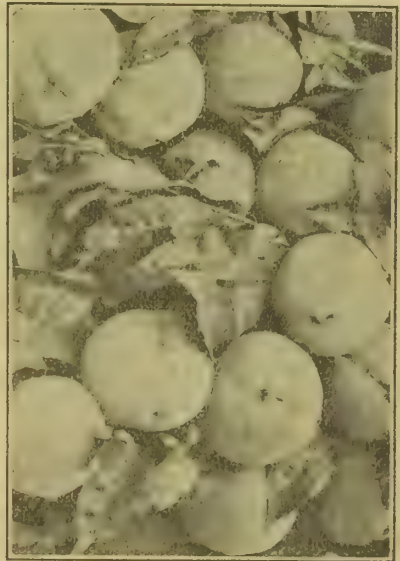
EIGHTH EDITION

“California Fruits

and

How to Grow Them”

By E. J. Wickson, A. M.



Every fruit-grower, as well as those intending to plant, will be interested in this new edition of the standard book in Horticulture. Prof. Wickson has been busy for several months in revising the eighth edition that is now in press and which will be ready for distribution by October 1st.

The book will be cloth bound, handsomely printed and illustrated, on good paper. Will contain over 500 pages besides illustrations. The price will remain the same as previous editions—\$3 per copy postpaid.

ADVANCE ORDERS SOLICITED.

Pacific Rural Press, Publisher

525 Market St., San Francisco.



How Much Does Your Tractor Deliver?

Written for Pacific Rural Press by R. E. Hodges.

"WHAT IS THE RATED HORSEPOWER of your tractor," asks the interested farmer when a salesman puts his foot on the old horse-plow.

"How many plows will it pull?" asks another farmer.

"How many inches of plows will it pull this deep?" asks another.

"How many pounds will it pull on the drawbar?" asks another.

"How many pounds will your tractor pull on the drawbar at plowing speed, and what do you call plowing speed?" asks the man who really knows what he wants to know.

How Much Does a Horse Deliver?

Every farmer knows about how much work his horses can do when the weather is right, and generally he can tell whether the work is taking flesh off from them if he watches closely for a long enough time. But if he asks a tractor salesman, how the tractor will compare with his horses, the salesman, or the head engineer of his establishment, could not tell with precision and should only guess at it. The horses' days' work varies with the weather, with the weight of the horse, his health and condition, on the temperament of the driver, and on the rush of the work. It is no fair standard of comparison because so much variation exists in the standard.

Mechanical Power Is Definite.

But the mechanical horsepower is a fixed amount of power which a Chinese engineer would figure the same as an American. It depends on two factors, the pounds pull and the speed with which the pounds are pulled. It is the equivalent of lifting 33,000 pounds a foot in a minute. When applied to tractors, endwise pull is figured as equivalent to "lift."

When you know how many pounds a tractor pulls at a given speed you can quickly figure how much mechanical horsepower it is exerting. If you should tell a man in Australia ten years hence, he would know exactly how much the tractor had pulled and could reproduce the same power in another machine. This makes an exact basis for comparing the power of tractors when the tractor men will

give you certified figures.

Pounds Pull of Tractors Is Known.

Such figures have been determined by actual test on most tractors under observation and supervision of State Experiment Stations or officials of the American Society of Agricultural Engineers. Of course, such tests are made under favorable conditions, the machines being "on their metal," and the traction surface being solid.

It is always necessary to notice the speed at which the tractor was moving when it made the test, for the tests themselves have not yet become

tage in the future, but the plowing speed of most tractors is designed to be about equivalent to that of horses. The up-to-date tractor buyer will ask what the tractor will pull at the speed he wants it to run.

If a tractor plows faster than two miles an hour, it does more work and exerts more horsepower on the drawbar even though the depth and width of plowing remain the same.

Tractor Ratings Not Comparable.

The writer has taken the trouble to figure out the actual horsepower exerted on the drawbar at plowing

most invariably overloads his tractor often without knowing it. The conservative rating makes the first sale harder to make, because this tractor is not claimed to deliver as much power as a cheaper one.

But the second sale of such a manufacturer is always easier to make to an observing tractor user because the upkeep expense is so much less on a machine that does not have to be continually strained to deliver its rated horsepower.

Not Only Power, but Traction Also.

Another feature in this connection is of great importance. A tractor may give the desired pounds pull at the desired speed in a test where it has good traction, but if its track or lug equipment are not suitable for the mud or sand or rocks or adobe on the farms where it is to be used, bona fide power will be wasted. The writer has watched tractors closely at all of the major California demonstrations and has found that probably 90 per cent of them have power enough to the engine and strong enough transmissions so they can spin their wheels or slide their tracks if hitched to an excessive overload such as they get when the plows hit a hard place or the tractor hits a soft place—ah, there's the rub!

We have lots of soft places of various kinds in California, including dust knee-deep or less on roads heavily traveled with loads of grain at harvest time. The truck length, width, and corrugations or the wheeling equipment are designed to meet average good traction and to permit slipping if an excessive overload is put on. This protects the engine from a great deal of excessive strain which it would get if extra lug equipment or track extensions were used on good traction surfaces.

So the inquirer for mechanical draft stock may well look for standard equipment to suit average conditions and extra equipment conveniently put on for emergency conditions only. Then he may be glad when using proper traction equipment if the engine is powerful enough to slip the wheels or tracks rather than strain the engine.



It pays the tractor buyer to know how many pounds a tractor can pull at the drawbar on good traction at the speed he prefers for plowing. This is a more satisfactory way of buying power than to depend on manufacturers' rated horsepower, which varies in different makes both above and below what the tractor will actually deliver.

standardized in that respect, and various tractors are geared or governed to plow at speeds varying from 1½ to three or more miles per hour.

Decide Your Own Plow Speed.

"What is plowing speed," is a necessary question to be settled in one's own mind. This will vary with the type of plow, the type of soil, and the condition you want it left in. Fast plowing will turn soil better with the same plow and will break it up finer, but this is not sufficient proof of the desirability of fast plowing.

We are accustomed to a speed of about two miles per hour for plowing. Various changes in implements may change this speed with advan-

speed on a score or more of tractors and we find that the published ratings of many of them are based on a faster speed than is ordinarily used in plowing. This, of course, enables a tractor of small power to rate itself as of equal power to a bigger tractor, which plows at a slower speed.

Conservative Ratings Best.

On the other hand, a goodly number of tractor concerns have rated their machines considerably lower than they would be entitled on the basis of two miles per hour and their actual pounds pull on the drawbar.

These are the conservative concerns who accept the fact that a farmer al-

grade raisin, is to be done automatically. Electricity provides the power, and when the one step in the process is completed, the raisins are carried along by belts or drapers of various types to the next portion of the plant.

Vastly Improved Packing Plant.

For light, airiness, cleanliness and beauty, there is as much difference between this plant and the old-style, barn-like packing-house that lines the railroads in the raisin district, as there is between the stage coach and the mail airplane as a means of conveyance.

When all is said and done, it is attention to every detail that brings success. Until the recent boom of seedless varieties, raisins were Muscats, and for year to come, possibly for generations to come, seeded Muscats will be the standard cooking raisin. But whether that is so or not, the use and market is bound to increase now the growers do their own marketing, and there is nothing like the kind of plant at present being erected to make the demand grow.

SHALL I JOIN THE ASSOCIATION.

To the Editor: Please advise me as to what walnut association to join; i. e., the one nearest. Also whether or not it would pay me to do so, having but 1,000 pounds of nuts.—A Reader, Paso Robles.

Your nearest local is the one at Goleta (Santa Barbara county). Unless you are peculiarly well situated with a private market it would pay you to join the association even for this small amount rather than fix up to grade, bleach and market it yourself.

Co-operative Selling Improves Raisins

(Written for Pacific Rural Press by D. J. Whitney.)

about picking at the right time than ever has been done before. Any definite figures as to the improvement in the raisin output as a result of this work are impossible to get; there is too much difference in seasons and other features of the industry.

Rivalry still exists between paper and trays for drying. Trays win on merit; paper on economy the way trays cost, with wood the best in the long run for every raisin grower that can afford it and for growers as a whole. Sand that works onto paper dried raisins are no help to them or to packing-house methods.

Driers for Emergencies.

Artificial driers make the important outlook in the raisin industry. If a couple more bad drying falls come, artificial driers will spring up like mushrooms over the Fresno district. The old-fashioned 2-cent raisin of competitive days could be used profitably for pork provided rains spoiled them for processing, so artificial driers under those conditions seemed to be too expensive insurance to bother about—particularly when surplus cash was a curiosity with most raisin growers, but now that raisins are worth several times as much and sufficient funds to provide artificial drains are available, the case is altered entirely.

Where the raisin company has done its great work, aside from marketing, has been in putting out good stuff and nothing but good stuff—standardiza-

tion all over again. To put in cull and half cull raisins in the long run is like shipping green, pucky table grapes, filling the bottom of a box with small fruit, or selling stove-pipe potatoes—the temporary gain may seem profitable, but the true outcome is disastrous. It is like robbing Peter of a dollar to pay Paul a dime. The Associated could afford to sell hundreds of tons of cull and half-cull raisins to make pork, and yet to take in more money for the crop than if everything at all possible was shipped for human use, and the continually increasing market and satisfied customers has more than justified the practice.

Half a Million for Seeding.

What no private company could have done is being done now in the erection of a half-a-million-dollar, reinforced-concrete structure, a thing of beauty and a source of pride, for the direct purpose of turning out seeded raisins. Every seeded Muscat raisin, except those produced and packed in Kings county, at the Hanford house, will be packed in this house, by the most modern devices that can now be designed. From the time that the raisins are delivered and dumped out of the sweat boxes until they get into the cartons, and the cartons are ready for the shipping cases, no human hand will touch them. Stemming, cap stemming, cleaning, sterilizing, culling, seeding, and packing into the cartons, everything needed to produce the highest

THERE is no denying the fact that one of the big things in the co-operative marketing of farm products comes from the production and processing of better material. The middleman packer frequently may put out goods containing as much poor material as he thinks can get by and stand the competition of other packers who feel the same about it as he does, but the final good of the markets calls for just as fine a product as can be turned out. Thus, although the greatest success of the California Associated Raisin Company has been due to co-operative marketing, the gathering up of loose ends that were a drag on the industry in curing and packing has been an immense help.

Best Method of Curing Raisins.

As to the curing, Noah's sons, in the part of the world that stands second to California for raisin merit, when they decided that raisin grapes were better than wine grapes for humanity, probably landed on the simple, efficient and excellent way of drying that has remained standard from that time to this: their raisins were sun made, or "Sun-Maid," which seems to be the correct spelling at present.

There have been a few things that the Associated has been able to do even in the curing. Growers always could have known the best time to pick their grapes, but they did not always know it or practice it just the same. Muscats are just right to go on the trays when they test 24 per cent sugar. Since the Associated controls practically the entire acreage and is in close touch with all growers, it has been able to do more to bring

Bud Variations and Strains of 'Deciduous.'

Written for Pacific Rural Press by John J. Fox.

AT THE May Fruit Growers' and Nurserymen's Conventions at Riverside, one of the engrossing subjects of interest was that of bud-variations and selections for the best types of existing varieties. We met a prune grower from Napa County who had left his work to attend the convention for this one subject alone. This grower, Henry Holden, claims to have five distinct types of French Prunes in his orchard—so distinct is shape, size, coloring and quality that they may be said to be separate varieties. As a result of his informal address to the assembled Nurserymen, a committee has been appointed, composed of nurserymen and growers, together with the Horticultural Commission, University of California, and Prune and Apricot Growers' Association, who may decide on the most desirable types to adhere to and improve and which nurserymen will select in future. It is a vast subject in embryo and may perhaps grow and become efficient under the combined thought and action of practical men until it becomes crystallized in practice under definite rules, embracing all varieties of commercial fruit. The deciduous fruit experimenters will take it up.

The Variability of Deciduous Fruits.

Professor A. D. Shamel of the United States Department of Agriculture, in his address told us that the Chesebro apple is a sport of the Northern Spy. The Black Ben, Gano, Arkansas Black and others are propagations of Ben Davis variations. The Red Gravenstein came from a limb sport of the Gravenstein. The Thick-nose Bartlett and other strains are bud variations from the Bartlett. The King Grape is a sport from the Concord. Early Elberta and Late Elberta and other strains are bud-variations from Elberta peach trees.

The Professor believes that the J. H. Hale peach is a bud sport of the Elberta. In many cases that he investigated of new varieties he found that the originator had found a tree in his orchard different from its neighbors, and immediately jumped to the conclusion that it was a seedling in which the bud failed to grow. In

THE COMPARATIVE VALUE OF STRAINS.

"THE VALUE OF THE VARIOUS STRAINS of our fruit varieties depends upon the quantity, quality, uniformity, regularity and season of production, and freedom from causes of loss of the crops of fruit borne by the trees of these strains. Obviously, the quantity and commercial quality of the crops are primarily important factors. The importance of the uniformity of the production of the trees in a strain is not so well understood or appreciated. The uniformly heavy production of superior commercial crops by all the trees in the strain is the object toward which our work for the improvement of fruit varieties and strains is directed. Strains of a given variety often differ in the regularity of their production and in the season when the crops ripen. A regular-bearing strain producing crops every normal year is an important factor in profitable fruit production."—A. D. Shamel.

some cases this was the truth, in others it was not. In most cases the valuable variable trees found have originated from bud selections. The Professor was most emphatic in his plea that bud selection should be practiced to improve existing varieties that are commercially valuable rather than in hunting something new and untried.

Trained, Careful Bud-cutters Necessary.

It was suggested by various men that bud-cutters naturally drift to those trees where it is easiest to secure good long bud-sticks with the least trouble. It is well known that generally, trees and vines that run heavily to wood growth do it at the expense of fruit production. These strains are the ones where bud wood is most easily secured and where it is often the least desirable. Budwood should be chosen from trees of known bearing qualities of good quality and not taken from young untried trees as is so often done.

If the plans outlined or suggested are followed closely, in the future buyers of nursery stock will enquire as to the origin of their stock and may later even be furnished with an association certificate as to its bud source and record. It may even pay to cut certain trees for wood without changing their character, though that is untried.

Elimination of Poor Strains.

One result of united action by the Associated Nurserymen and Growers

will be the elimination of poor strains of all fruits from new orchards. It will also result in additional confidence on the part of the buyer of nursery trees and an ever-increasing tendency to improvement by careful selection. Bud-cutters must be men of judgment and undoubted single-mindedness of purpose. The trees which bear a certificate of guarantee would doubtless bring the extra money that the cost of such care would warrant.

With the development of bud-selection it is thought that origin and quality of stock will enter into market value more than mere size and vigor in appearance so long as they are thrifty. It is understood that there is still much to learn in this matter.

The committee on investigation for establishing types and selection on prunes consisted of the following men: Leonard Coates, Morgan Hill; Geo. C. Roeding, Fresno; A. L. Wisker, Grass Valley; H. A. Hyde, Watsonville; J. E. Bergholdt, Newcastle; Wm. Kirkman, Fresno; University of California; the State Horticultural Commission and the Prune and Apricot Growers' Association.

Selection of Types and Buds.

After the most useful types of the varieties of prunes has been decided upon, the selection of trees from which to cut bud-wood will be perhaps one of the most difficult problems to deal with. For this purpose an intimate knowledge of individual tree performance is necessary. Until records have been made over a period of years this is out of the question. For growers

have not had the time or occasion to keep such records. Therefore a general knowledge will have to be relied upon. The committee will probably begin its field investigations in August when types can be established and growth noted under this year's conditions. Later all contributing conditions to production on marked trees can be recorded and provision made for bud-wood to be delivered through a central agency. That is the general outline. It is a big job and will need trained men.

Growers' Observations.

Before official cow testing came into vogue most dairymen thought they knew their most profitable cows. The tester has eliminated unsuspected "boarders" from the herds. It is at present out of the question to keep individual tree records on orchards that are operating on a large commercial scale, but we can work down to types after standard strains have been established. We noticed some years ago in one growers' orchard a cross cut into the bark of some prune trees, leaving a permanent and conspicuous mark. On asking the owner the reason, he said: "Those trees bear 'lady-finger' prunes in clusters like grapes. The leaves droop and the fruit never really matures so that they will drop without being batted off. I make that cross so that I can know them and hit them hard at pruning time. It helps them to size up."

Here is another factor to be watched for. But probably every grower knows these stick-tights. Growers generally also know their best trees—especially their best types. They will be able to help the committee with what knowledge they have, in the absence of absolute records. And it won't cost much to mark a certain number of trees in any orchard for term performance and condition, and carefully record the results.

It is easy to see that when more scientific and accurate means are taken by all propagators to secure only approved bud-wood, then length, caliber and price will not be the only governing factors to the buyer. It will eliminate the irresponsible cheap tree peddler.

The Standardization of the French Prune.

Written for Pacific Rural Press by Henry C. Holden, Prune Grower, Napa.

NOW, if the matter of size did not enter in as such an important factor, it would not be worth while to bother about the different varieties of French prunes, for varieties they certainly are, and not merely slight bud variations, as sometimes occur. There is a distinct variation in form, texture, color, and lastly in size, which is more important than all other variations.

Variations in Size and Value.

There is a variety of French prunes that will produce a large percentage of 40-50's even with a heavy crop, and will run 35 with a small crop. There is a variety that will produce 80-90's with a heavy crop and 70's with a light crop. There are more or less intermediate varieties that will produce 50-60's under favorable circumstances.

This year we have the highest premium ever paid for raising the large French prune: \$40 a ton extra for 40-50's and \$80 a ton extra for 80-90's. Besides this there is \$20 to \$40 a ton extra, which is the normal reward for raising large prunes; and occurs in direct ratio to the base price. So, if there is this premium for large prunes there is likewise a corresponding penalty for raising small prunes.

Cultural Methods Do Not Change Varieties.

You may fertilize, you may cultivate, you may irrigate the small variety of prune and you will not get one pound of 40-50's from them, no more than you would get a Mammoth

ARE ALL FRENCH PRUNES alike? Everyone who grows French prunes knows they are not. Some trees bear large prunes and some bear small ones. Some are reddish in color; some are blue; some dry quickly; some dry very slowly. Usually the grower accepts all these conditions as an act of God and harvests alike his prunes, big, small, and indifferent, and lets the grader say what he shall receive per ton.

blackberry from the Himalaya bush. On the other hand you may neglect your orchard so that all the prunes will be comparatively small regardless of variety. Of course soil conditions and the root on which the tree is budded or grafted also affect the tree, and the size of the fruit, but the varieties remain as distinct under all conditions. The tests that we have are with vigorous trees on Myrobalan root in one orchard where the soil conditions did not vary. Every orchard examined contains a mixture of all varieties. Some of the older orchards running heavily to small prunes and some of the younger orchards having a large percentage of the large prune, but we have not seen a true stand of any one variety.

Losses by Planting Poor Varieties.

Some attempt has been made by the Nurserymen in the way of selection, and this is very marked in some of the young orchards in Napa county, where in some cases 90 per cent are of the larger variety. Now, then, how much are we losing?

Figuring 25 per cent of a 200,000-000-lb. crop, we get 25,000 tons at \$40 per ton loss, equals \$1,000,000. We should say the loss is actually about

double that figure, but a million-dollar loss is sufficient to make it apparent that this should be corrected so far as possible.

Standardize Varieties.

It is up to the prune grower to establish this large variety, standardize and name it, and make it possible to purchase trees of this variety as easily as the Gravenstein apple can be bought.

Now is the time to observe your trees, just as the prunes are coloring. The small prunes color earlier and are smooth. The large prunes are lumpy and still growing. Also, the trees bearing the small prunes have a peculiar wilted appearance, many leaves showing the under side.

Practical Suggestions.

In drying, the small prune is more solid in texture and dries very slowly. Young trees may be grafted over with profit, but with these abnormal prices ruling, it would seem advisable to let old trees remain, for the time being, as they are. We may insure all future plantings if the proper steps are taken to isolate an orchard, work it over to large prunes and use it from which to obtain buds. Of course, these trees would be heavily cut each year

to obtain a maximum of bud wood; but this heavy cutting would not change the inherent character of the variety.

The distribution of these buds would naturally come under the supervision of the Horticultural Commissioners and their certificate should be a guarantee to the purchaser that the trees of this variety are being procured. We all want to grow mammoth French prunes and not "petite" prunes, as they are called in France.

The committee have collected a large amount of data in regard to these different varieties of French prunes and they would be glad to receive any additional information from growers who have made similar observations.

(Mr. Holden is chairman of the Horticultural Committee of the Napa County Farm Bureau, and addressed the Nurserymen's Convention at Riverside at their request. He is a successful prune grower at Napa and keenly interested in the industry at large.—Ed.)

The sale of the first car of Thompson Seedless grapes shipped this season from North Dinuba brought \$3,241, or from \$3 to \$4.60 a crate, in New York. A few crates of Wickson plums included in the car brought \$2.60.

The tonnage of peaches sold by the Tulare County Growers' Association will approximate 6,000 tons.

Dusting Prunes and Almonds for Mites

(Written for the Pacific Rural Press.)

Spraying against mites and red spider in the early spring is coming more and more into practice each year with almond and prune men. But this year of grace more dry sulphuring and dusting has been done in the orchards than ever before. The high prices in sight have more than ever made men realize that it is not safe to overlook a single bet.

In the San Martin, Coyote, Morgan Hill and adjacent districts, where these mischievous mites nearly defoliated some orchards by August last year, the trees are full of leaves that carry a good color. Growers here have been dusting with sulphur and sticking to it. Scores of dusting machines have been bought in this valley this year and both foliage and fruit are reflecting the thoroughness of the work done. For it has been done well and then repeated where the best results show.

A Notable Example.

E. B. Stone, who has a magnificent 20-acre prune orchard in the Moorland district, showed us one small spot in his orchard that was badly infested with red spider last year. For some reason it is a little wet and is not fit to plough till perhaps 10 days later than the rest of the land. As a consequence of last year's infestation there is a very light crop on these trees, while the rest of the orchard carries a heavy crop. The trees are very even in size throughout the whole orchard—are well pruned so that there is a good set of fruit even in the centers of the trees. Last year, on the red-spider spot, half the foliage was off the trees by August 15, so the condition of the rest of the leaves can be imagined. This is just the time the trees are maturing their buds for next year's crop, so the lowering of the vitality of the trees by such a loss cannot be calculated.

Trees Clear of Mites.

When we saw the trees July 22 they had been dusted then and a month ago. The trees were clean and in excellent condition in every way. Mr. Stone used a Kansas No. 4 duster—worked with a racket attached to his wagon wheel like a grain broad-caster, and

he dusted 10 acres a day with it, using four sacks of sulphur to the 20 acres. Under good conditions he claims he could far exceed this. He will probably have 80 tons of dried prunes from this 20 acres and they are going to run to large sizes.

Cultural Management.

Mr. Stone irrigates twice a year. He grows a heavy cover crop and allows it to mature before turning it under, replacing the loss of moisture by applied water. He also applies half a ton of mixed fertilizer to the acre containing Phosphoric acid, 15 per cent, and Potash, 5 per cent. Last year he applied one ton of Hydrated lime to the acre.

Example at Los Gatos.

Stanley B. Smith at Los Gatos had quite a bad infestation of red spider, and we saw his trees a couple of days after he had finished dusting. He has 27 acres mostly in prunes and apricots and he had used an American Beauty hand machine to good purpose. About 10 to 15 pounds of sulphur to the acre is enough. We could see many dead mites on the leaves and saw one or two new hatched ones—one just emerging from the egg. Mr. Smith is well pleased with the results he has obtained and realizes the importance of vigilance to keep the little insects good and dead.

Worst Infestations on Almonds.

The worst infestations show up on almonds. Already one can see trees waving a few pitiful little leaves like the ragged distress signals of a shipwrecked sailor.

How can such trees be expected to set a crop next year? They can't even make wood except maybe a few suckers inside—a forlorn attempt on the part of the tree to keep things going. Almonds in the right districts pay and pay well—if they are taken care of. But this one thing must be remembered—the mite is the worst enemy of the almond. It must be fought regularly and persistently before the damage is done. Fight or let somebody else come. And it has got to be done every year and be looked upon as of the utmost importance till the pest is in abeyance.

The Approaching Shipments of Grapes

(Written for the Pacific Rural Press.)

In reply to our enquiries regarding the shipments of the table grape and wine grape crops this season, J. L. Nagle, general manager of the California Fruit Exchange, gave us the following replies:

"If weather conditions permit, we anticipate that the total shipments of grapes packed in kegs and drums this season, will be approximately 500 cars. This will represent about 8 per cent of the shipment of table grapes. We have no reason to believe that the sawdust supply will be inadequate."

"We believe that the shipments of

table grapes in what is known as the 25-lb. lug will be heavier than last season. This particular style of package is popular in large cities, but has not been adopted generally by the smaller markets as the buyers contend that it is not a re-shipping package."

"The shipment of wine grapes depends upon three things—the supply of lug boxes; the feeling the buyers as to whether or not the manufacture of wine by the consumer will be interfered with by the Federal authorities, and the car supply."

DON'T SHAKE THE TREES FOR BEST RESULTS.

(Written for the Pacific Rural Press.)

Prunes.—The sugar, the weight and the quality of your prunes is only attained in full when the fruit is dead ripe. If the trees are shaken before the last picking you are losing maybe up to 10 per cent in weight alone. The prunes look large and full, but how they shrink away in the drying when they are filled with a sap not yet sugared up. Let them drop, even if picking does cost you a little more money. Every extra pound of large-sized prunes pays for picking up a box. Go after that pound. It's those "puddeny," dead-ripe ones that weigh like lead—that dry away 2 to 1 instead of perhaps 2½ to 1.

Peaches.—Labor is high. You said it! But that is no reason why you should shake those Muirs off into a sheet to cheapen the picking. Because maybe a third of them are not ripe enough to cut, and you know it. Go round those trays when they come out of the sulphur house and see what a lot of dead-white ones there are instead of the deep, golden yellow that ought to be all over the tray. You have lost weight there and your association loses quality. Taste one.

Raisins.—You can't shake these but they must be left to get real ripe. They should show a test of 24 degrees of sugar (Ballings) before picking. The difference between 19 degrees and 24 degrees sugar is 131 pounds of raisins to the ton of green fruit. Can you afford your impatience to throw that away. Thirteen hundred pounds of raisins to every ten tons of grapes gone to blazes. Let 'em hang and make your own tests for sugar.

"At the present time we anticipate a car shortage and if this develops it is not unlikely that certain shippers directly interested in the table grape industry, will enter a protest with Washington to embargo the movement of wine grapes if the shortage of cars affects the movement of table grapes."

PEARS IN LAKE COUNTY.

Fred G. Stokes, Horticultural Commissioner, states in a report on July 21: "Our pear crop is looking A-1 and the fruit is sizing up fine, though the present warm spell is checking their growth some, but two weeks ago we had a cool week or so and they certainly did get bigger than they were at the same time last year. Most of our orchardists have put on more cultivation than usual, and just now many are strawing their trees, which answers the double purpose of mulching and provides a soft bed for any pears which may fall, also in the case of adobe ground it is good to plow under in the fall or spring. We expect to begin pear picking in about two weeks' time."

Most of the pears will be dried, and the California Packing Co. has purchased land in Scotts Valley. They have almost completed their new dry yard and bought many crops in that section, paying all the way from \$55 to \$80 a ton orchard run. As much as \$85 a ton orchard run has been paid this year, and there is keen demand for Bartletts. Many companies did not get what they wanted of Lake County pears owing to the fact that many of our growers were tied up

by previous contracts. Next year it looks as if there will be a very lively competition for Lake County pears, as many of the long-term contracts will run out and the demand for our dried pears is brisk at big prices, the highest offer being of late 22½ cents a pound f. o. b. Lake."

ARCADIAN

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A ton of ARCADIAN Sulphate of Ammonia carries more plant food than a ton of any other nitrogenous fertilizer.

ARCADIAN Sulphate of Ammonia is the well-known standard article that has done you good service in your mixed fertilizers for years past. Especially kiln-dried and ground to make it fine and dry. Ammonia 25¼%. Made in U. S. A. Arcadian is the great American Ammoniate.

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It has sufficient capacity for two lines of hose. It has plenty of power for high pressure defective spraying. It is little in first cost, engine power, pump capacity and ability to do successful spraying. We believe this is the greatest small power sprayer ever manufactured, and placed on the market with phenomenal success in every fruit section in United States and vouched by thousands who own the Famous Hardie Junior. Equipped with one and one-half horsepower engine, battery ignition, 150-gallon tank with mechanical agitator, capacity of four gallons per minute with a steady working pressure of 200 pounds, and two 25-foot of the best spray hose, fitted with spray rods and nozzles; 4-inch tire truck with pole or shaft.

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This low price is made possible by big production.

If you are interested in other types and sizes of the HARDIE POWER SPRAYER, write us for the big spray catalog, and learn why we can offer more spray pump value than any other spray pump manufacturer.

The HARDIE ORCHARD GUN is now \$12.00, none better. Every one is guaranteed to give satisfaction to the user, or his money refunded.

The Hardie Spray Hose is the safest hose to buy.

The Hardie Manufacturing Co.

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Los Angeles, California

HORTICULTURAL JOTTINGS.

Olives in San Bernardino county are 25 per cent larger crop than last year's, it is reported.

Grape cuttings in Tulare County are now quoted at \$30 to \$35 per thousand, with a restricted output.

There are said to be 400 acres in cantaloupes in Kern county. Returns this year have not been encouraging in this district.

A San Jose man has sold green sugar prunes to the cannery at \$160 a ton. Some of his Sugars weigh eight to the pound.

The Almond Growers' Association at Lodi is planning to enlarge its plant and install new machinery for the more expeditious handling of the nuts.

A car of Thompson Seedless grapes shipped from Fowler July 24 was marketed on the 30th and brought \$4,270, probably the highest price ever obtained for a carload of Thompson Seedless.

The Arlington cannery at Riverside has been burned to the ground and the entire season's output of canned apricots was destroyed. The fire throws about 200 people out of work for the remainder of the season.

Five Japanese growers at Turlock have been arrested and prosecuted for trying to ship unripe cantaloupes in an attempt to evade the new standardization laws. Six hundred crates were turned back and fed to hogs.

Hayward Reed's pear orchard of 325 acres near Marysville (Yuba County) is expected to yield 5,000 tons of pears this season. Harvesting has commenced, giving employment to 250 men. This is probably the most extensive pear orchard in the world.

Apples from the Watsonville district are estimated now at 2,750,000 boxes, or 250,000 boxes more than last year. Growing conditions have been exceedingly favorable and quality and size are reported excellent. The dried apple output of the district will be 4,000 tons.

In San Benito County the price paid for cutting apricots is on the basis of two cents more per box than the fruit runs to the pound. Thus apricots weighing 10 to the pound are cut for 12 cents per 40-pound box, those weighing 15 to the pound, 17 cents, and so on.

Sixty carloads of fruit a day is being shipped out of Sutter county. The train picks up fruit at Oswald, Bogue and other way stations between Marysville and Woodland on the branch line of the Southern Pacific. The fruit is chiefly peaches—nearly \$100,000 worth a day.

Sixty cars of fruit was the average daily shipment of plums, peaches and pears from Placer county last week. Of these Newcastle shipped out 25 cars a day. The fruit-shipping season will close up two weeks earlier than usual. The plums are gone. Prices have been very good.

El Dorado county fruit men will employ only white labor in picking and packing their fruit this year. At a farm bureau meeting in Placerville it was decided to discourage employment of Japanese labor, and to prevent settlements of the Japanese in this country as far as possible.

The first almonds of the new crop were delivered to the warehouse of the California Almond Growers' Exchange, Chico, August 6. These nuts were produced in the Durham section. Orders for the first carload have already been given and will shortly be filled. The Exchange has already sold its estimate of the crop, and prices will be quoted in September.

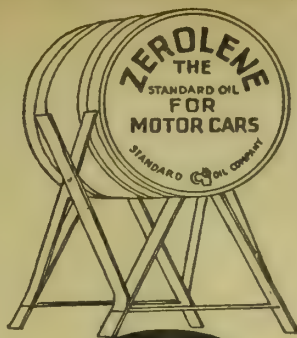
A big honey crop for the United States is forecasted by the Bureau of Crop Estimates. The yield of surplus honey per colony was 25.8 pounds, and this one-half of the annual product was realized by July 1. In 1918 the surplus was 21.4 pounds per colony and was 13.5 pounds at the same date in 1917. The crop is 92.1 per cent of normal, and good prices are in prospect.

The Apple Growers of Tuolumne county are planning to have a State expert come and conduct a short

course in packing, the growers to grade and pack under his supervision. In this way the growers will learn the proper methods of packing and just what the standardization laws require of them. They hope to have the expert at Sonora about the second week in September.

Reedley (in King's River) is right into work with the peaches. The C. F. C. A. alone is shipping six carloads a day from there (Tuscan Clings). All canneries are working to full capacity and distributing the overflow to other canneries best able to handle it. The E. Y. Foley packing house, the Stewart Fruit Co., the Earl Fruit Co., and the Fresno Fruit Growers are all equally busy—up to their eyes in work.

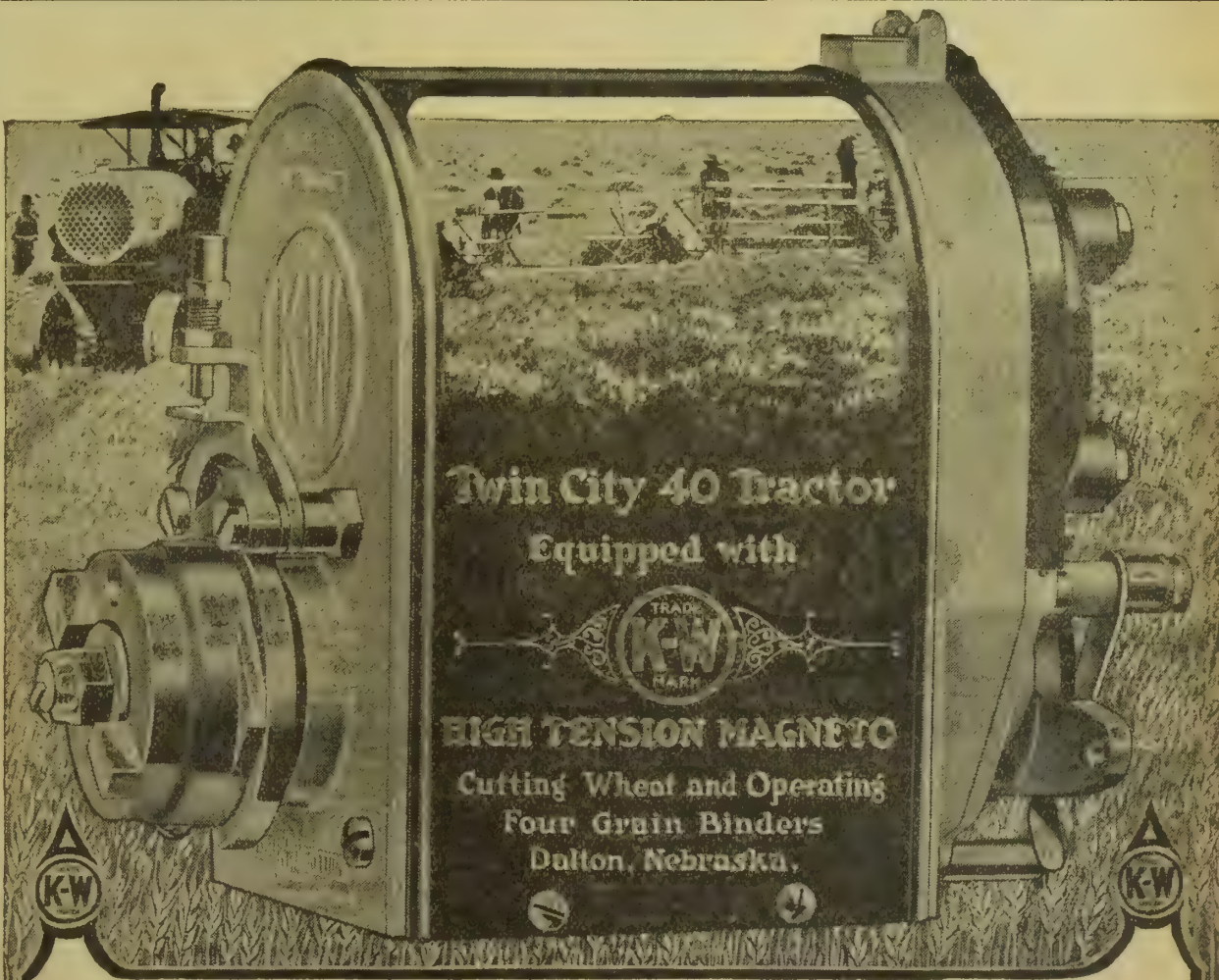
Where our outside packers have paid a fifteen-cent and upwards flat price for prunes the orchard run has warranted it. The owners might have done a little better on grading their fruit and selling through the association at the published basis prices. It is not believed that the independent packers have a bunch of buyers back east who are willing to pay them more money than the same prunes could be bought for through the association, which controls 75 per cent of the crop.



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EVERY farmer knows that Harvest time, when the crops of a season's labor must be gathered, demands prompt action. *Minutes count.*

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The K-W High-Tension Magneto is of the simple inductor type construction. There are no troublesome commutators and brushes, revolving wires or collector rings, no

moving wires or sliding contacts. All connections on the K-W Magneto are permanent and stationary.

The K-W Magneto is equipped with an Impulse Starter, insuring instant starting of the engine, no loss of time in beginning the day's work—no interrupted service afterwards.

Spring, Summer, Autumn, Winter, the tractor that is K-W equipped can be depended upon under all weather and working conditions to develop the maximum power out of every drop of fuel used, regardless of the kind or how low the grade.

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Just tell us "send me your book," and we will mail you our valuable guide to blasting, "Better Farming with Giant Farm Powders."

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THIS LIGHT STEEL
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—says Geo. Stuebaker, age 66,
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Mr. Stuebaker read my standing offer to ship 2 or more of the

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anywhere on approval—I pay the freight, you send no money until you have examined ladder thoroughly. When Mr. Stuebaker received the ladders he wrote me as follows: "I am enclosing check for ladders. Your ladder is all right. I am 66 years old today and have been picking apples from the ladder. Mine is the first one ever used in these parts. I never had any use for a three-legged fruit ladder, but yours is certainly all right. Yours truly, Geo. Stuebaker."

The offer is open to you, too. Write me today. I'll send you 2 or more ladders on approval. I pay freight, you pay when you examine ladder. If not pleased, return ladders at my expense. Write NOW before you forget it.

Prices: 8-ft. ladder, \$5; 10-ft. ladder, \$6;
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Buy only Melilotus seed that has a quality tag on each sack. It protects you against the low germination seed so general on the market this season. This seed is above 99 per cent pure and above 90 per cent germination.

Here and There in the Fruit Business

[Written for Pacific Rural Press.]

The Demand for Shelled Almonds.

"In past years, two-thirds of the almonds sold in this country came from Europe," says R. H. Taylor, Horticulturist with the New State Department. "Seventy-eight per cent of the European almonds marketed in this country are shelled. The imports last year totalled 19,000,000 pounds. It will be necessary for us to cater to the demand for shelled nuts. Only a small percentage of our almond crop is shelled." To protect our industry, Mr. Taylor thinks that the tariff on imported almonds should be 15 cents a pound on shelled and 5 cents a pound on unshelled almonds. The present tariff is four and three cents, respectively. "The freight rates from European ports to America are less than one-half the rates from California to any point East of the Rockies," he says.

Grade Your Fruit.

"Too much stress cannot be laid on the fact that those who expect to sell apples in Great Britain must grade them," says the U. S. Department of Agriculture in Reports in Foreign Markets. "Last year, the British public, having been deprived of foreign apples since the beginning of the war, purchased apples regardless of quality. Large shipments from America, Tasmania, and other places have changed this, and normal market conditions now prevail. The Tasmanian Parliament, appreciating the importance of apple-grading, has issued regulations regarding the export of fruit.

Fruit to Replace Vines.

The Guastl vineyard, a few miles north of Ontario, Los Angeles county, is to be converted into fruit orchards. The vines are being rapidly removed. Part of the vineyard was interplanted with trees last year. The intention is to plant 4,000 acres to peaches, walnuts, etc. Four large wells have been sunk and a reservoir constructed with a capacity of 13,000,000 gallons.

Women Will Continue to Help.

Officials of the Free Employment Bureau at San Jose have organized the first party of women workers to help in the prune harvest. Mrs. A. J. Brady will chaperon the party. It is planned to form a number of these parties and a number of young women and girls have already signed up. Many of the store clerks plan to spend their vacation in this way. They will find it profitable, healthful and enjoyable as well as carrying the consciousness that they are doing patriotic service in helping save food in good condition that all humanity is crying out for.

Grape Juice, at Least.

Representatives of manufacturers of loganberry and grape juices in Washington, Oregon and Pennsylvania have presented before the Senate Finance Committee strong arguments for the repeal of the existing tax of ten per cent on the gross sales of their products.

Water Rate Raised.

The rates for water charged by the Watsonville Water and Light Company have been raised by authorization from the Railroad Commission, which says, noting that the system is but 10 per cent metered: "The benefit to be derived from a metered system is not only an equitable distribution of the charges, but is also a means whereby the water supply can be conserved, good service rendered and operating expenses reduced." The new rates call for a monthly meter minimum of \$1, this rate increasing with the size of the meter. Six hundred cubic feet or less will cost \$1 and all above that amount 15 cents per 100 cubic feet. For each company owned 2-inch hydrant the charge will be \$1 a month; 4-inch, \$1.85. A charge for water sold for irrigating strawberries has been increased from \$30 per acre per annum to \$35.

A Community Packing Association.

The small body of fruit growers who

determined to unite their forces last year at Mount Vernon (Placer county) made a success of it, packing at the farm of one of the members. But to make it more convenient for labor they moved into Auburn this year, renting one of the old stores for a packing house. There are 15 members so far. J. A. Teagarden, the manager of this Mount Vernon Packing Association, said: "We have no trouble in the packing house for a Women's Club at Auburn undertakes the work, thereby discharging a duty to the community, enjoying social intercourse with their fellow-members and making some money besides. They wouldn't go out to work as they have their homes to care for. It is more like an old-fashioned harvesting 'bee' than anything else and is conducive to a harmonious neighborly spirit. We pay these ladies six cents a box for packing plums and pears and 2½ cents for peaches. For cherries we paid 15 cents for ten-pound boxes; above twelve we shipped in bulk. Diamonds, Dukes and Giants are finished. We all have plenty of pickers and can attend to it ourselves."

Workers' Community Camps in South.

The first vineyard workers' community camp to accommodate at least 75 men has been built at Fowler (Fresno county), along the Highway. The city installs the water, light, and sewage system, while the citizens and the Farm Bureau helped to complete the necessary conveniences. The Valley Fruit Growers' Association erected and will control the camp. Similar camps will be built in different sections to accommodate the large amount of help necessary to secure the valuable harvest of the vineyards. Screened kitchens and dining-rooms will be provided together with competent help. The help furnished by these camps will be distributed and returned by motor vehicles. Active co-operation by all is necessary to make a success of the labor-housing movement.

AN EARLY DELIVERY OF PRUNES.

(Written for Pacific Rural Press.)

The first prunes of the 1919 crop will be delivered to the Association Packing Houses this week (second week in August), according to H. G. Coykendall, General Manager of the California Prune and Apricot Growers' Inc. This means that shipment of this year's pack will be made before the end of August, and, with good drying weather, heavy shipments of prunes will be sent out during September.

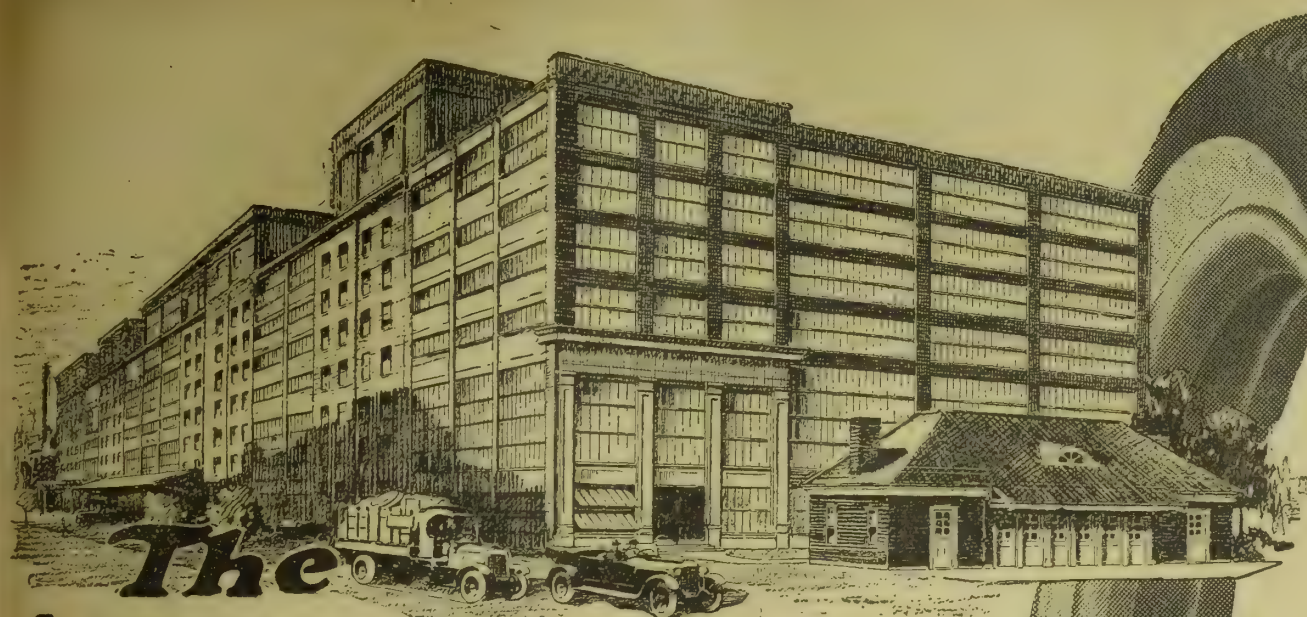
Grower members will be paid 15 cents a pound for their largest fruit running 20 to the pound as a first payment "on delivery." For sizes ranging from 30 to 100 they will be paid on an 8-cent basis on delivery and for the small sizes, 5 cents. Full payment is made after the fruit has been distributed in the world's market.

The Association estimates that it will handle 90,000 tons of fruit for its members this year, which will net them about \$25,000,000. Half of this sum will be in their pockets within the next three months, as they are paid approximately 50 per cent on delivery of their fruit.

Dried Apricots on the Market.

The Canadian market will receive the first shipment of dried apricots to be sent out of the Santa Clara Valley this year by the association. A carload of mixed grades now being made up will be shipped to Canada before the end of this week, according to a statement made today at the Prune and Apricot Growers' Association headquarters.

Other apricot districts of the State have already shipped several cars of dried apricots to New York and Chicago and other eastern markets and additional cars are expected to be sent out much more rapidly from now on.



The \$7,000,000 3½ Inch Tire

—or it might be called the \$73,000,000 tire, for it is possible only because of the entire resources of the Firestone Company.

BUT \$7,000,000 is what has gone directly into this new, vast Firestone factory that is devoted exclusively to the making of this tire and the tubes to match. The main plant is now concentrating on Cords and big sizes.

16,000 TIRES and 20,000 tubes, all 3½-inch size, is the daily capacity of this new factory. This plant is years in advance in its mechanical efficiency. Into it has gone the thinking, planning, the spirit of service that distinguishes the entire Firestone organization. Its methods and machinery were developed by Firestone men.

FIRESTONE HAS STEPPED FAR AHEAD in engineering practice and you get the benefit. The labor saving equipment of this factory cuts costs on every operation from 10% to 30%.

FROM THE TIME special shipments of rubber and of fabric arrive at this plant, until the finished tire is loaded on the freight car, there is not a backward move.

AND THE MAN POWER of this plant is as far in advance of the ordinary as is the mechanical efficiency. The Firestone organization is the talk of men in big industry everywhere.

THE FACT THAT 90% of Firestone workers own stock in the Company is an index to their interest in their work. Their superior skill, their spirit of service, is stimulated by their financial interest in winning you as a customer.

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NEVER HAS FIRESTONE, NOR ANY TIRE MAKER, offered car owners so much as they are offered now. It is the year of big value. Ask your dealer.

Prices on Special Molded

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Gray Tube

\$18⁰⁰ \$3²⁵

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Non-Skid

Gray Tube

\$21⁰⁰ \$3⁷⁰

6,000 Miles

This is the

Firestone Year

Green Sudan Grass Increased Butterfat

(Written for the Pacific Rural Press.)

When Fred Foiada walked into a Modesto seed store a year ago last spring and ordered 2,500 pounds of sudan grass seed, he knew what he was taking about, but the seedsman almost lost his breath.

Mr. Foiada is a dairyman. He had about 50 acres of sudan grass in 1917. His 95 cows had been fed alfalfa hay and pasture. They were in good condition and averaging about a pound of butterfat per day along in the fall. He cut off the alfalfa entirely and fed the cows nothing but green sudan grass—all they wanted of it. The herd increased its butterfat production an average of 20 pounds per day for the whole month that the green sudan lasted. That is why he says this grass is rich in butterfat. That is why he ordered 2,500 pounds of seed in the spring of 1918. That he was not disappointed last season is indicated by the fact that he bought 2,500 pounds again last spring and had to skirmish around the country to get a few hundred pounds additional this summer.

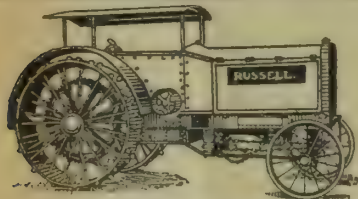
Planting After Irrigation Ended.

Sudan seed was still being planted when the writer visited Mr. Foiada, July 21. He had one field forty days from seeding in which the grass was over four feet tall on some areas. He had some all ready to cut, some only a foot tall. He had seeded about 100 acres within the past two weeks and still had 45 acres to plant, although all irrigation had been shut off July 15.

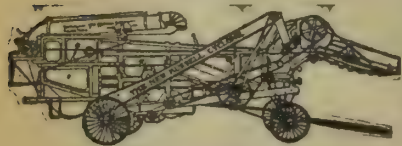
Sudan for Hay.

"I cut some of the first year's crop for hay," said he. "It made all of five tons per acre. But I made the mistake of letting it head out, and it became too coarse for good dairy hay. It ought to be cut as soon as it is half-headed out. Then it is finer, but it has the maximum strength and sweetness that we can get in this grass without letting it get too coarse. We don't want to cut or feed it too green, either, because then we don't get the sweetness."

If you want to cut sudan for hay, you ought to plant as early in the spring as is safe for corn. Then irrigate about 30 days later and it springs out three or four inches a day. Mow it when it is half headed and it stools thickly. It can be mowed for hay about once again. But dry weather is needed. New growth comes so fast on irrigated heavy land that it is a foot tall before you can get the hay off. Fall weather doesn't dry it quickly enough. The standing grass stems have drops of water on the outside in September and October, and that makes it hard to cure.



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BUILT IN ALL SIZES

RUSSELL ENGINES
BOILERS
SAW MILLS
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TRACTORS

BEAN AND PEA THRESHERS
— CLOVER HULLERS —

CALL OR WRITE FOR PARTICULARS
The A. H. AVERILL MACHINERY CO.
SAN JOSE, CALIF.

Even in July you would get dripping wet by walking through the field.

Prefers to Feed Sudan Green.

Nothing beats sudan for quantity of hay, but Mr. Foiada prefers alfalfa for this purpose. He feeds most of the crop green. He would have put up a 300-ton silo this year if irrigation had lasted, but without irrigation the yield is reduced.

For green feed, late planting is possible. Although the same amount of seed is used and the same amount of work required, as if it were planted earlier, the late planting makes a second crop following grain. Oats had recently been harvested from the piece being planted when the writer was there. One unirrigated piece cut last September would have made four tons of hay per acre if it hadn't been fed green.

Pointers on Planting.

Owing to the stooling tendency of sudan, it is not advisable to plant over twelve or fifteen pounds of seed per acre. But it must not be planted too thin or the stools may become too large to cut well. One bunch made a full armload—about all a man could handle green. A few like that would try the mowers' tempers.

The finer the seedbed, the better sudan grows, but it also does pretty well if neglected. However, plenty of moisture is needed for plenty of growth, so fine seedbed preparation is profitable, especially in summer planting in order to save moisture. When irrigation is conveniently at command, the best way is to plow, then irrigate and work down the soil before planting. This was done on 125 acres this season by Mr. Foiada. But if you can't get water when you would want it, some must be used before plowing. In either case prompt cultivation is necessary to save the moisture.

It is also necessary to create a fine mulch, which prevents deep penetration of sun-heat. The field Mr. Foiada was planting when we saw him was rather sandy, but less than two inches down we found moist earth. The oat stubble had been promptly plowed with a tractor and harrowed twice. It was being planked just ahead of the sudan drill. This kept the moisture near enough the surface so the seed didn't have to be drilled too deep to come up. It could in one night break through an inch of daily heated surface mulch.

Experience on a seven-acre piece this year, which was not finely harrowed, showed that heat and drying out had killed many well-developed seedlings before they could break through the surface.

There is great room for expansion of sudan grass under similar conditions to those in the Modesto district, and other alfalfa growers may find sudan a good supplementary feed for their cows.

LIMA BEAN LESSON FOR ALMOND MEN.

(Written for Pacific Rural Press.)

"The California Almond Growers' Exchange" tells a good bean story with a punch to it.

On March 1, the lima bean growers of this state had approximately 850,000 bags of lima beans on hand which could not be sold, even though some growers were offering beans as low as five cents a pound.

Citrus fruit had sold right along for the past few months at prices equal to those prevailing during the war with a strong market. Raisins were even higher than when the armistice was signed, with a demand exceeding the supply. New crop prunes were being sold at an exceedingly high price. The almond crop for 1918 was entirely sold and the demand for 1919 exceedingly good.

The bean market situation was demoralized. The growers decided that something must be done. After conferences, they concluded that the only salvation was to pool the crop. The services of C. C. Teague, President of

the Walnut Growers' Association and also a prominent factor in the California Fruit Growers' Exchange, were sought. As a result, Mr. Teague brought together an organization representing over 85 per cent of the lima and baby lima beans on the Pacific Coast, which is known as the Lima Bean Selling Agency.

Merely the announcement that the organization had been effected brought a firmer tone to the lima bean market! The Agency first announced a price of 6½ cents per pound (which by the way was guaranteed against its own decline until August 1), and which brought an avalanche of orders. After three days the Agency was compelled to withdraw from the market, having sold 222 carloads, which would take at least thirty days to ship. Shortly afterward the Agency sold 100 carloads additional at 7½ cents and then advanced the price to 7½ cents. Further advances have been made.

"Let us hope that those growers will never forget the value of organization. Sometimes we have thought

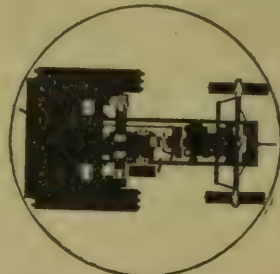
that it would be a mighty good lesson to discontinue the activities of our Almond Exchange for a year. . . . The growers would be told that the crop of almonds in Europe is heavy, that there are on hand over there crops of one and two years in the warehouses, and that the market is demoralized."

"They cannot pass that kind of information while the Exchange exists, because they know that the Exchange is in a position to get all that the market will legitimately pay."

This year's California rice crop was recently estimated by Secretary Charles Merry, of the Pacific Rice Growers' Association, at over 4,250,000 bags. Last year it was about 3,700,000 bags. It was feared earlier that Oriental rice would injure the market for ours this year, but the Asiatic crop is reported short and even higher prices are expected for California rice this year than last. W. C. Davis of the Association estimates this year's average yield at 30 sacks per acre.

The LAUSON Leads

at Walla Walla, Washington



There are 24 sets of Hyatt and Timken roller and ball bearings which make the LAUSON the FULL JEWEL TRACTOR

In the most remarkable, sensational showing ever made by wheel type tractors, the LAUSON carried off first honors over other wheel type tractors at Walla Walla. The LAUSON negotiated the 35% grade and the 43% side hill with ease.

The LAUSON pulled three 14-inch mold-board plows to an average depth of 7 inches without a stop or delay for repair of any kind and operated throughout the demonstration on kerosene. This proves again that the LAUSON has surplus power, greater stamina, more efficiency at the drawbar, better distribution of weight, greater ease of handling. If you are thinking about buying a tractor, find out why the LAUSON is known as "The Pattern Tractor of the Industry."

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97

YOU get real satisfaction from your tractor and a real job of plowing when you use this Moline Plow. It has improved positive power lift device which saves power, time, and enables better work to be done. To raise the plow pull the cord until the power lift lever locks, and the plows are raised without further attention. If you want to raise your plows, just an inch or two or any intermediate distance, to relieve your tractor or clear an obstruction, you can do so by a slight pull on the cord. This is the only lift on which you can change the plowing depth without raising the plow out of the ground. Just one of many features which will make your plowing easier and better. See your Moline Dealer or write for full information.

Moline Plow Co., Moline, Ill.

AGRICULTURAL NOTES.

Butte county rice is looking fine. Cotton looks good in the Imperial Valley.

In the San Joaquin Valley there are 6391 acres of short staple cotton and 285 acres of long staple this year.

Many barley growers are now wishing that they had stuck to barley this year instead of switching to wheat.

Three hundred tons of tomatoes are expected from 16½ acres of the Torres ranch in Contra Costa county.

Turlock district has shipped over 3,000 carloads of cantaloupes this season so far and watermelons over 1,000 cars.

Prices of Siamese rice on the wharf in Siam rose about eleven per cent between January and March of this year.

Exports of rice from Hongkong and Siam are absolutely embargoed—the first time such a thing has occurred in Hongkong.

Five and three-quarters cents for rice is making growers uneasy. It is a record price and for the biggest crop ever in sight.

Yellow dent corn of the 90-day variety stands twelve feet tall eight weeks from planting on the W. M. Harris Los Molinos ranch.

L. D. Macy has been harvesting 150 acres of broom corn on the Vina Stanford ranch at Chico. He showed a sample with brush on it three feet long.

One sack of potatoes is reported to have multiplied to one ton and 50 pounds on ½ of an inch planted by W. C. McCargar of San Joaquin county.

The Hughson (Stanislaus county) sorghum factory is ready to crush the first cane which is expected about the 20th of August. It is said to be a very complete plant.

Special arrangements have been made for the admission of Mexican laborers in the cotton-raising sections of this country, through the U. S. Employment Service.

To buy up your neighbors alfalfa hay and hire a machine to come and grind it on your own ranch is a project suggested by W. C. Brown's activities in San Joaquin county this season.

Cotton is selling at the highest price since the civil war, according to Myron A. Rice, Farm Advisor of Kern county. He says that local growers are being urged to sell now.

On account of the embargo on grain at the various shipping ports, the Ball Bros. storehouse at Clovis is filled to the limit, and they have been turning away grain for lack of space.

The United States Land Farm Company has purchased the Bliss Ranch of 26,000 acres in Madera county for \$1,430,000, it is announced. It is to be subdivided and placed on the market.

G. B. Harlan of Willows put in 350 acres of rice on Clear Creek (Shasta county) and estimates his crop will yield 50 sacks to the acre. This is the first large acreage grown in the county.

The California Bean Growers' Association will send a committee to Washington to seek protection against being again swamped with Oriental beans, which would starve their industry.

G. B. Daniels, former publisher of the Oakland Enquirer, has been appointed by Governor Stephens as a director of the State Board of Agriculture, to succeed Theodore Gier, whose term has expired.

The standard weight of a sack of onions is 100 pounds. The State Sealer of Weights and Measures says that sacks must contain this amount, or have each sack clearly marked with the weight of its contents.

The Canadian wheat crop of 1919 will be bought by the Dominion Government and sold at "prevailing world prices," the surplus proceeds being divided among the original sellers of the wheat. Speculation and profiteering is prohibited.

Prices for threshing rice have advanced over 50 per cent, and as a re-

sult many prominent farmers are considering putting in their own threshing outfits. More new machinery is going into use in the rice industry this season than in any previous one.

Michigan, Colorado and New Mexico will not produce 60 per cent of a crop of beans, according to G. A. Turner, President of the California Bean Growers' Association. "The demand this year for beans is in excess of the supply. A fair price is positively assured for the new crop."

Kern county's alfalfa crop is estimated at 90 per cent, Tulare at 85 and Merced at 80 per cent. Merced county has 105,000 acres to alfalfa, Tulare has 103,000 acres and Kern county has an acreage of 95,000. The crops are reported not to be doing so well this month.

Orange county is planning a tax on trucks and commercial haulers. The heavy traffic now in use is breaking up the highways and paying nothing for their repairs and upkeep beyond

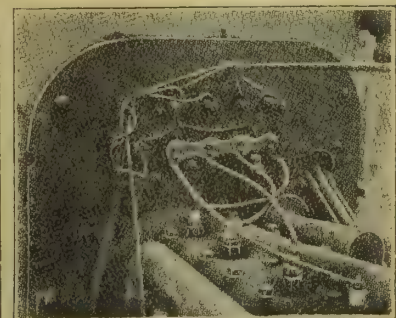
what automobiles pay. They were not built for such heavy traffic as has since developed, it is said.

Oriental rice before the war was largely distributed from Hamburg to European and even American markets. During the war Seattle and San Francisco secured a great deal of this trade, which is now shifting to New Orleans, because of the latter's geographical advantage with respect to both American continents and with Asia via the Panama Canal.

FORD OWNERS! TRY FOR-DO 10 DAYS FREE



**EASIER
TO PUT ON
THAN NEW
PLUGS**



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Potato Crop Short in 1919

Written for Pacific Rural Press by R. E. Hodges.

POTATO CROP PROSPECTS, which on July 1 were for a considerable reduction below the 1918 crop, are still further reduced, as reported August 1 by E. E. Kaufman of the U. S. Bureau of Crop Estimates. The total U. S. crop prospects are reduced from 391,000,000 bushels, as forecasted July 1, to 357,000,000 bushels as forecasted August 1. The California July 1 estimate was 12,252,240 bushels from 88,000 acres, but on August 1 the total crop looked like only 11,668,000 bushels. The condition of the California crop is considered 85 per cent of normal as against 79 per cent a year ago and 88 per cent for a ten-year average.

California is really "small potatoes" in the potato industry of the U. S. Yet this is one of eighteen states, each of which has over 75,000 acres this year. Of the four hundred million bushels of potatoes produced in the U. S. last year, California turned up nearly 13,000,000.

While our potatoes do not compete for the major part, with those of the Middle West, they would if the prices of either district were notably different from the other, for potatoes are easily shipped 2,000 miles or more in good condition. Potato markets of the central west are also responsive to those of the Atlantic states for the same reason. Thus we are interested in markets, crop acreages and conditions in all of the American states.

U. S. Acreage and Crop Reduced.

It is noteworthy and of significance to every potato grower that in practically all of the eighteen major states the acreage is considerably reduced this year; and the total for the U. S. is about five per cent less than last year. The average condition, as estimated July 1 by the U. S. Bureau of Crop Estimates was the same in 1919 as in 1918, so we can look for a smaller crop this year especially since the average conditions in the major states are about the same. Those conditions are, however, somewhat better than the ten-year average. New York leads all the states with 357,000 acres and her crop conditions are eight percentages less than at the same time last year. Michigan is a close second with 333,000 acres, her prospects are four points better than last year. Minnesota, with 309,000 acres, has not so good prospects as last year. The same is true of Pennsylvania with 287,000 acres. Wisconsin, with 289,000 acres, is in about the same condition as last year. No other states have planted as much as 200,000 acres. None of the states west of the Missouri River, except Nebraska, have as much as 100,000 acres this year.

Our Direct Competitors and Ourselves.

Oregon, Washington, and Idaho are our principal direct competitors, but their combined acreage this year is only 45,000, or about 50 per cent greater than that of California. Both their combined acreage and that of California are less than last year. Idaho has an increase of 1,000 acres, but the condition of her crop is very much inferior to that of a year ago, so her total production will probably be less. Oregon, however may have a few more potatoes than last year, though her acreage is reduced by 5,000. Washington's acreage is reduced by 7,000, her crop prospects are better than a year ago, but hardly enough to justify predicting as big a crop. California's acreage was reduced two thousand, and the crop shows less promise than it did a year ago.

Potatoes from all of these four states are marketed chiefly west of the eastern line of the Rockies. Northwestern potatoes are strong competitors with our own on our own markets as well as in Arizona, Utah, Colorado, New Mexico, and Texas. We have advantage in distance, and our potato storages are not sealed up by the icy grip of winter as those in the northwest frequently are, but our yield per acre is so much less that the northwestern growers can often underbid us in our own cities.

Early Potatoes Important.

Part of our potato area produces

two crops per year. Part of it produces only an early crop. Most of it produces only a late crop. Southern California is the leader for earlies, though southern San Joaquin Valley and the Delta in northern San Joaquin Valley as well as certain districts in Sacramento County contribute largely to the early crop from California. These early potatoes practically monopolize the early markets of Texas and the Rocky Mountains and westward while the crop lasts. Also many carloads of them go to Kansas City, Omaha, Chicago, Des Moines, etc., where in midsummer they compete with early northwesterners. They are about gone now for this season, although we note from the August 5 report, which has just come to hand, that 52 carloads were shipped that day from California, of which two went to Arizona and two to Colorado from Southern California, and the other carloads went from "Northern" California to Omaha, Arizona, Kansas City, Oregon, Texas, and New Mexico. At this season, however, we are beginning to encounter competition from early northwestern potatoes, though just now the latter are not reaching southwestern markets nor California. Our local markets had a depression this summer when potatoes from the Delta came in quantity-competition with those from Southern California, but prices have picked up again, and there seems reason to believe that the markets will remain firm throughout the marketing season for the 1919 crop.

Imports and Exports Unimportant.

Potato imports and exports of the U. S. do not materially affect the general markets, though the past year has developed some rather startling changes. The latest figures we have on potato exports and imports are those of May 31. During the eleven months ending that date, the U. S. imported 119,238 bushels in 1917, 131,153 bushels in 1918, and 2,735,444 bushels in 1919. A large part of the imports came to the Atlantic side. The great increase last year is more than offset by our exports of 3,375,958 bushels, besides \$50,513 bushels of the foreign potatoes which were exported after importation. Our exports last year, however, were not materially greater than those of the year before when they did not come so near balancing the imports. But after all, the total quantity of exports or imports is not much as compared with our own production of 400,000,000 bushels.

STARTED ON A 40-YEAR CRUISE.

A satisfied subscriber writes thus: "Your paper is O. K. Your solicitor said when we first subscribed he had just renewed a 40-year-old subscriber's paper for him and if we started in we would be taking it forty years hence! This will make five years of it so far, and we are still going strong."

"It is my opinion that the cotton crops in the valley have improved in condition as compared with the last week in June, as follows," says Robert Hulme of Fresno: 90 per cent improvement in Bakersfield district; 100 per cent in the Corcoran district, and 60 per cent in the Fresno district. The Pima cotton in the Bakersfield district is doing particularly well."

Grain lying in the field in Yuba county is reported to have been stolen. Some growers obtain partial insurance against theft by marking their sacks.



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You farmers can save *all* the grain you raise—with an E-B Osborne Grain Binder.

Cutter bar can be set close to the ground. Reel can be adjusted to push down grain onto platform. Platform canvas runs one-seventh faster than elevator, straightening grain before elevating. Seventh roller avoids grain dropping through onto main wheel and helps prevent clogging. Drop leaves, grain springs and three discharge arms prevent stringing grain. Get all the interesting harvesting facts about the

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The uniting of E-B with Osborne means much to you in harvesting your crops. The Emerson-Brantingham Implement Company rep-

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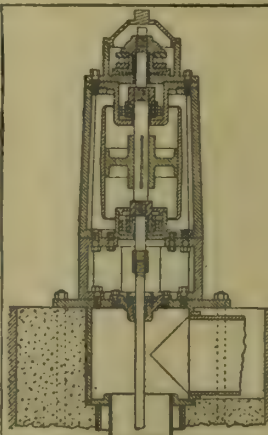
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For shallow or extreme deep lift; one that will give more water for the power expended; more water from small diameter wells without any pit, and more pump for the money than

Any Pump on Earth

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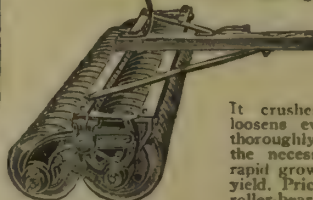
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connected with 3½-ton truck. One of several operated by Grange Company in San Joaquin Valley, California.

28 Models—2 and 4-wheels. Ask for new catalog—"Trailerized Transportation." **LOS ANGELES TRAILER CO.** 1328 Palmetto St., Los Angeles

Make Your Land Hump Itself

If you want your land to hump itself with the biggest crop you ever had, pulverize every clod for quickest seed sprouting, and loosening up the plant food for most rapid growth of young plant. And do it with this light draft, roller-bearing



Brillion King Team or Pulverizer

It crushes every clod into powder, loosens every particle of plant food, thoroughly packs the soil for holding the necessary moisture for the most rapid growth and biggest possible crop yield. Prices reasonable. Strongly built, roller-bearing, lasts lifetime.

AT ALL JOHN DEERE DEALERS



GRAIN BAGS HARD TO GET.

(Written for Pacific Rural Press.)

The grain-bag market is not hysterical though there is a tendency for some people to get hysterical about it. Many rice growers still have bags to buy. It is noteworthy that all this season the market for jute and burlap has been on the upward trend. Whenever buyers refused to pay advanced prices, holders sat tight and buyers eventually paid the higher prices.

This situation has come about through Calcutta domination of the market and through the universal difficulty encountered in getting shipping space for jute or burlap or bags. Lifting the embargo on shipments to Germany was anticipated by the Calcutta factors and did not create a great deal of impression on the market when it occurred.

Jute Crop Short.

The crop acreage report, issued about July 12, indicated 2,749,000 acres of jute in India. This was about ten per cent increase over the previous year, and the crop was reported in good condition, but knowledge of the extra acreage did not cause much flurry because it did not prove a greater crop, and anyhow the carry-over from last year's crop was less than usual. A very recent Government report places the production this year at 2,000,000 bales below normal.

Calcutta Dominates Bag Market.

A large proportion of the jute is spun and woven in Calcutta mills. A great deal, however, is shipped as jute to the Scotch center of Dundee, and some raw jute is shipped to New York. All markets fluctuate in response to changes in Calcutta.

Speculators, of course, make headquarters there. These practically useless middlemen also gained control of a great deal of the available shipping tonnage and made a pile by extorting high rates from bonafide shippers. Financial exchange has added to the difficulties and expense of importations from Calcutta. On top of that, the Calcutta mills entered an agreement to operate only four days per week up to September 30, thus restricting the output of burlap. More recently the four-day agreement has been extended to November 30, and it is reported that another month has since been added. This, of course, keeps prices up. One reason for the short running time is claimed to be shortage of labor.

May shipments of burlap from Calcutta to the United States were reported to have been 50,000,000 yards, of which only 9,000,000 came to the west coast. June shipments were reported to include 78,400,000 yards to our east coast ports, 5,300,000 to our west coast ports, and 4,000,000 to Canada. However, it was suspected that part of the reported June shipments included burlap that had been delayed from intended May shipments. Late in June cablegrams from Calcutta indicated practical impossibility of getting shipping space for any considerable quantity until the end of August, as the British and Germans were making large reservations, both of burlap and of shipping space.

Consuming Pressure Strong.

As late as June, English and American spinners and weavers and bag manufacturers refused to buy liberally at the advancing prices, but pressure from consuming buyers increased until bag stocks were about cleaned up. Manufacturers then found it necessary and profitable to buy at the required prices. During July the offerings of jute and burlap were scarce, and bag manufacturers were putting up a healthy demand based on robust call from consumers. Prices for grain bags, August 11, were quoted at 18 cents in wholesale quantities.

Our Advice Proves Helpful.

I am glad to report that my foundered horse is very much better after following your directions. It has taken quite a long time to bring him out of the trouble, but the new hoofs on his front feet have grown out about an inch, and we think he will soon be O. K. I thank you very much for your help.—J. D. Hart, Santa Maria.

CULTI-PACKER

TRADE MARK REG.

It Cultivates — It Packs

Which Seed Will Grow Best?



Put a seed in fine, moist earth and firm the soil particles closely around it.

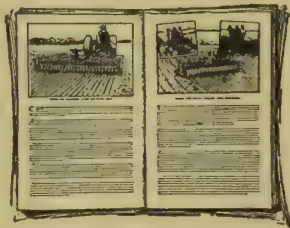
Put another seed in a soil that is loose or lumpy and where moisture has partly dried out. Let it be loosely surrounded by earth.

Which seed will grow best—which roots will have the best opportunity—which will give the hardiest plant—which will yield the biggest crop?

You know the first seed will stand at least five chances to one—but are you planning to give your seed that same advantage this fall?

SOIL SENSE BOOK

Ask your dealer for this free 60-page book on soils, illustrated with over 100 fine soil photographs.



Half an hour's trial in your field will absolutely convince you that a Cultivator-Packer will make a finer, firmer, better moisture holding seed bed than any tool you ever used.

Go to your local dealer now. Order a Cultivator-Packer. Use it in making your seed bed, then after the seeder and in all the other ways the instructions suggest.

We give you our word, backed by sixty years of honest dealing, that you will be satisfied with the purchase.

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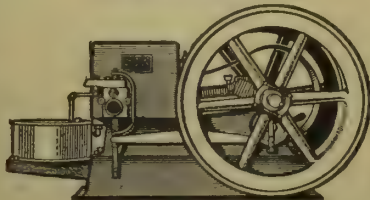
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Built Better—Cost less to operate and to own
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interchangeable and easily replaced by oper-
ator. Ask us for prices on all sizes. Sta-
tionary, Portable or Saw-Rig Outfits.

A. H. SIMPSON CO.

129 FREMONT ST.
SAN FRANCISCO, CAL.

Cotton conditions in the United States have improved since the July 1 forecast of the U. S. Bureau of Crop estimates. An increase of 30,000 bales is noted in the forecast.

A 5,000,000 ton surplus stock of grain, including a large amount of corn is reported in Argentina by the American consul.

SIMONDS SAWS

Blades that never cause trouble no matter how high the speed or how tough the log.

Put a Simonds on your drag saw.

Simonds Manufacturing Company

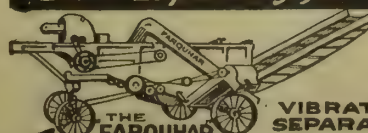
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The Saw Makers since 1832.

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BEAN THRESHERS THE TWO STANDARDS

Built Especially for California Conditions



Guaranteed by "The House of ARNOTT"
Ask The Grower Who Owns One
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Past the Experimental Stage
Eleven different models, with or
without Engine, mounted complete
Ranging in Price from
\$190. to \$2175.
All Repair Parts Carried.



Suggestive Agricultural Pointers

(Written for Pacific Rural Press.)

Seed Growers Organized.

An organization of leading seed growers of the state filed articles of incorporation August 5. They will have headquarters at San Jose, according to their attorney, Aaron Sapiro.

Plant Cabbage Seed Soon.

June to August is generally the best time to sow cabbage seed to pro-

duce plants for the winter crop. Transplanting will then be done around the holidays. An ounce of seed will plant 400 feet of row as thickly as it is desirable to have the seedlings.

Sweet-Corn Ear Worm.

Garden sweet corn is almost universally affected with worms in California. The moths lay their eggs on corn silks. To get the worm before it gets to the corn, dust the silks with a half and half mixture of powdered lime or flour and powdered arsenate of lead. The latter is poison, but none of it is likely ever to touch the kernels and would be washed off by the housewife if it did.

Wheat Exports Multiplied.

In the twelve months ending June, 1918, we were bending every energy to ship wheat to the allies, yet we exported only 34,118,853 bushels. Our efforts must have accumulated momentum, for in the following twelve months we exported 181,414,673 bushels. The momentum is further indicated by the relation of 466,624 bushels exported in June, 1918, to 19,221,853 bushels exported in June, 1919.

Barley Exports 1,000 Per Cent.

Barley exports from the United States for June, 1918, were 613,901 bushels. In June, 1919, we shipped to foreign countries 6,046,275 bushels, or practically ten times as much. In the year ending June 30, 1919. For our barley exports were 26,285,378 bushels as against 20,457,781 bushels in the year ending June 30, 1919. For several months since the 1918 harvest there was stagnation of barley movement, but shipping has been excessive in recent weeks.

Have Your Scales Tested.

Disagreeable disputes often occur between grain growers and warehousemen as to weight of grain delivered to warehouses. This frequently occurs when the warehouse scales are inspected and sealed by a state or county sealer of weights and measures and the farm scales are not. The State Superintendent of Weights and Measures will have your scales officially tested and sealed at nominal cost. They must be so tested before you weight for the public.

Wanted—Owner of 86 Sacks of Beans!

Some indication of the feeling of bean growers is seen in the inability of a Merced warehouse man to locate the owner of a lot of 86 sacks of beans stored in his warehouse last fall. Some other bean owners were located recently after long search. Taxes have to be paid on these lots and the warehousement did not want to add that charge to the warehouse charges, possibly figuring that the beans would not sell for enough to cover both charges.

Masqueraded as Co-operative Organization.

A decision was handed down last month commanding the Farmers' Co-operative Fertilizer Co. of Kansas City to desist from business. The hearing was held in Washington, D. C., February 17, 1919. It was shown that Armour & Co were masquerading under the guise of a co-operative organization whereby they secured business that probably could not have been secured above board. This was in violation of the Federal Trade Commission Act.

Cheap Help for Indian Corn Harvest.

Too much work to harvest Indian Corn! Let the hogs help, as M. Bas-

sett of Kings County does. Indian corn is not so wasteful to hog down as gyp. Mr. Bassett turns hogs into the field just when the kernels will shell off—later than he would cut it for silage, but just at the stage it would be cut for fodder in the East. Some fields must be gathered by hand for winter feed. Hogs are later turned into these to clean up the waste. They are seldom fed anything else during this time.

Onions Here and in the East.

Australian Brown onions were bringing \$2 to \$2.25 wholesale in Stockton August 5. On the same day Stockton Australian Browns were quoted wholesale in Omaha at \$4, in Chicago at \$3.50 to \$4 and New Orleans at \$5 to \$5.25. Freight from Stockton to Omaha and New Orleans is 94 cents per hundred and to Chicago is \$1.39 per hundred. Freight to Chicago was 45 cents greater than to the other cities, yet our onions there were cheaper than at Omaha and \$1.25 to \$1.50 cheaper than at New Orleans. Possibly the climate had something to do with this, but more likely the variation was more largely due to unscientific distribution, which resulted in an oversupply in Chicago and an undersupply in New Orleans. The difference between Stockton and central western prices, aside from freight, represents the handlers' charges between grower and jobber.

Lettuce Planting in Imperial.

Late August is the time to thoroughly soak the fields to be planted to lettuce in Imperial County. They are plowed as soon as possible after irrigation and worked down fine and well leveled. Then narrow furrows are made about 2½ feet apart from center to center and a light float smooths the ridges between them, about 14 inches wide. The lettuce is planted with a drill early in September on top of the flattened ridges, but near their edges, so frequent irrigations will keep the roots moist without flooding the surface soil. When the plants have four or five leaves so they are pretty sure to grow, they are thinned, leaving them eight or ten inches apart and using excess plants to fill in where a poor stand is found. A first class man can thin half an acre in ten hours. Twelve-inch spacing produces the highest priced heads.

Mellilotus Increased Potatoes.

A winter crop of mellilotus plowed under in the spring may be given a large part of the credit for an increase of 65 sacks of potatoes per acre on five acres grown by L. R. Doan of Los Angeles County. Three acres heavily fertilized with manure made an increase not nearly as noticeable as the mellilotus section. The idea was suggested by Prof. J. Elliot Coit, who was then Los Angeles Farm Adviser. The five acres produced 40 sacks of potatoes per acre in a previous year. In October, 1917, the mellilotus was planted so it would get a good start before cold weather, during which it does not seem to grow much above ground. In spring, it shoots ahead, however, so this piece was about 2½ feet tall in March. It was mashed down with a drag and disked both ways, then plowed deep. Ten days later, about April 1, the potatoes were planted and the mellilotus was found rather well decayed. The manured piece was planted the same time. Where mellilotus had been plowed under, the potatoes yielded 105 sacks per acre.



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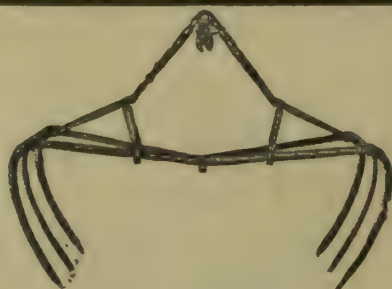
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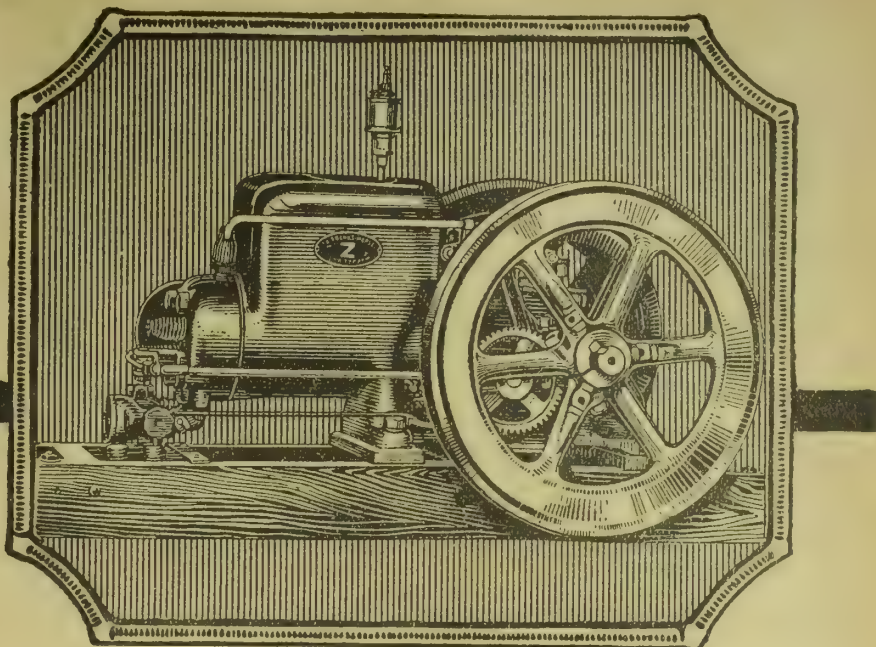
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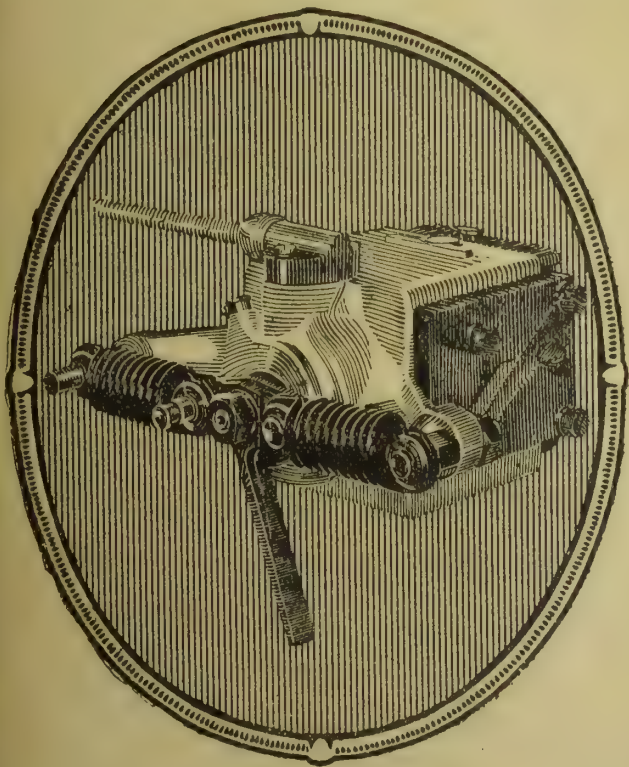
SWEET POTATO INDUSTRY TO EXPAND IN CALIFORNIA.

THE SWEET POTATO curing plant at Turlock is over a third completed and two units will be ready for sweet potatoes by September 1. This will be the largest sweet potato curing and storage plant in the world. Crops to fill it are now growing under contract. Harry Beck of Longview, Texas, where the oldest plant of this kind has been the means of multiplying the acreage and making poor farmers prosperous, is visiting California. He says there is every favorable condition here for great increase in acreage; but we need better varieties. He hopes, through the operation of the Turlock plant, to introduce several varieties that have proved outstanding at Longview. The best of these, according to Mr. Beck, is the Pumpkin Yam, which must be baked in a pan to save the syrup that comes out in baking. The Porto Rico sweet potato introduced from Porto Rico to Longview has proved one of the most prolific good varieties. With cheap and certain facilities for storing sweet potatoes until the new crop comes in, and with climate and soil favorable, a great increase in this crop may be expected.

Making the Best Engine Better-



Fairbanks-Morse "Z" Farm Engine with Bosch Magneto



JUST think of the famous "Z" engine with a Bosch high tension, oscillating magneto—which delivers a steady succession of hot, intensive sparks. ¶ Every farmer in America should at once call on the nearest "Z" engine dealer and see the result of this recent epoch-making combination—FAIRBANKS-MORSE "Z" WITH BOSCH MAGNETO. ¶ Mechanical perfection, plus power—and right price—to date sold the "Z" to over 250,000 farmers. ¶ This quality and quantity production enabled us to contract for a large proportion of the extensive Bosch facilities for making this one possible "Z" betterment, which establishes a new farm engine standard. ¶ And over 200 Bosch Service Stations assist all our dealers in delivering maximum engine service. Prices—1½ H. P. \$75.00—3 H. P. \$125.00—6 H. P. \$200.00—All F. O. B. Factory.

Fairbanks, Morse & Co.

MANUFACTURERS CHICAGO



Mechanical Power on the Farm

Users of tractors, engines, pumping plants, motor trucks, automobiles, electric motors, and other mechanical farm power are invited to make this department an exchange of their experiences and troubles.

GREAT PUMPS IRRIGATE FROM RIVER.

When Sutter Basin was covered deep with water each winter and farmed only around the edges where river seepage helped keep fields moist, no irrigation was practiced. Now that the water has been excluded by big levees, 60,000 acres are to be worked the year around, specializing on the system of getting two crops a year from the same land. This means that it has to be irrigated. A pumping plant has recently been completed to use river water for the purpose. Three forty-two-inch centrifugal pumps, which will have a capacity around 180,000 gallons per minute, are to be run by motors of 250 horsepower for each pump. The area is all level or with a slight uniform slope. This year it includes 17,000 acres of barley, 9,000 acres of wheat, 13,000 acres of beans, 7,500 acres of rice, and a great deal of corn and other crops.

PUMP SAVES LAKE COUNTY ALFALFA.

Mr. H. W. Merritt of Lake County finds that two second-hand automobile engines, for which he paid \$50.00 a piece, answer his purpose finely for pumping water for his alfalfa. He has no belt, but gets direct action. He has done away with what he calls the foot valve in his pump and considers that it is the greatest improvement and advantage that he has made in his pumping plants. While many farmers claim they do not have to irrigate in this valley, Mr. Merritt finds it does pay. From his third cutting of alfalfa he got one ton per acre. The piece adjoining his on same kind of soil yielded only 1 ton from ten acres and is now dry.

INCREASING DEMAND FOR POWER PUMPS.

The San Joaquin Light and Power Company has a great many working parties constantly in the field now installing leads of power-line to pumping plants. It is said that 30,000 acres of land have been placed under irrigation this year by using water from electrically-driven pumps.

The chief value of the pump method is that it is under the control of the owner throughout the year and he can irrigate at any time he wishes. According to A. G. Wishon, manager of the above company, the 30,000 additional kilowatts available when their new plant is completed will probably result in 2,000 pumps additional being installed.

U. S. Potash Production and Imports

(Written for the Pacific Rural Press.)

Potash production in the U. S. has increased in a very healthy way during the past three years as shown by the International Institute of Agriculture. Total production of soluble potash (the only kind suitable for fertilization) was 8,818,000 kilograms in 1916 (a kilogram equals about 2.2 pounds), or close to 10,000 tons. Production more than trebled in 1917, and increased over 60 per cent in 1918 over the previous years. Three-fourths of all the soluble potash produced in 1918 came from natural salts. Soluble potash from mineral sources constituted 60.1 per cent of the total soluble production in 1916. This percentage increased to 76.3 in 1917 and 83 per cent in 1918. Thus the furor regarding recovery of potash fertilizer from seaweed dwindled in proportion though it actually gained a little in tonnage each year. The same is true of potash from molasses of distilleries. The newspaper hysterics about recovering fertilizer for the nation from the waste of cement works began in 1917 and dwindled in 1918.

CHARGES FOR ARTESIAN WATER.

To the Editor: What charges should be made to a neighbor who has land adjoining my farm. He wishes to irrigate from my artesian well which flows about 65 miner's inches.—T. A. C., Stanislaus.

Your water is probably inexpensive and it might pay you to gain your neighbor's good will by selling to him at cost with perhaps ten per cent profit added to cover your risk and general supervision. The cost will include interest on the cost of the well, charges for keeping it in operation, and a depreciation charge for eventual overhauling of the well if the casing should give way. Prorate the total of these items between yourself and your neighbor in proportion to the amount of water used by each. Then add your profit, if you wish, as suggested.

COUNTY LICENSES FOR MOTOR TRUCKS.

Sacramento County proposes to make motor trucks pay the county something for the use of county roads. A license fee proportional to load capacity is to be paid to the county, if an ordinance now being drafted shall pass and be found legal. We are informed by an employee of the State Motor Vehicle Department that such an ordinance would be illegal. State licenses for motor trucks cost 40 cents per horsepower plus \$5 for trucks weighing under 4,000 to 6,000 pounds unladen, \$10 for those weighing 4,000 to 6,000 pounds, \$15 for those weighing 6,000 to 10,000 pounds, and \$20 for those weighing over 10,000 pounds. Horsepower of all motor vehicles is figured by squaring the diameter of the cylinder in inches, multiplying by the number of cylinders, and dividing by 2.5. Motor trucks using pneumatic tires seem to be exempted from the surcharges mentioned.

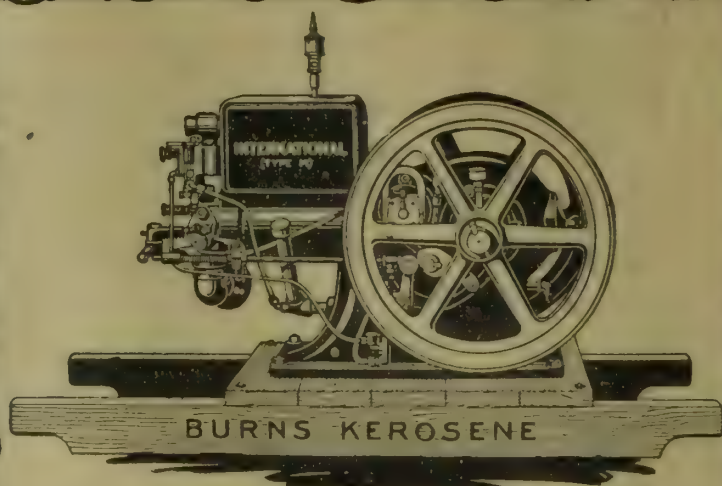
FARMERS' CHIEF TRACTOR QUESTIONS.

"The largest number of inquiries on any one subject coming to the Division of Engineering of the College of Agriculture pertain to tractors and refer to selection in particular," writes Prof. J. B. Davidson in the Sun Maid Herald.

"Tree or four years ago the majority of inquiries were concerning the relative economy of horse and tractor power, but now this question is not so prominent and the outstanding question is—what kind of a tractor to buy?"

Imports of potash to the U. S. practically doubled in the fiscal year 1918 over 1917 and increased 50 per cent in the fiscal year 1919. Imports in the eleven months ending May 31, 1919, totaled about 19,000 long tons (2240 pounds each), of which muriate of potash comprised about 1400 tons, carbonate of potash 700 tons, and nitrate of potash or saltpeter about 17,000 tons. In May, 1919, the imports of saltpeter amounted to about 600 tons, which was about 200 tons less than was imported during the war month of May, 1918. The nitrate of potash is soluble and good fertilizer, but has been used mostly for explosives.

Exports of potash from our seaweed amounted to about 900 tons in the eleven months ending May 31, 1919, which was some growth over the previous year and constituted about one-fourth of all that was manufactured in the same time. This is practically all that was exported, the imports and other domestic production having been used in this country.



Let It Carry Your Load

IN the olden days folks put the world on the back of a fabled giant called "Atlas." Today progressive farmers put a world of work on the shoulders of an

International Kerosene Engine

This sturdy, reliable, willing, inexpensive servant is doing more today to take drudgery out of farming than any other one factor. It tackles scores of jobs about the farm—such as sawing wood, pumping water, cutting feed, running the fanning mill, etc., and disposes of them swiftly and satisfactorily.

Rations for the smallest size cost less than 3c per hour—pretty cheap board for a "jack-of-all-trades" that does the work of a dozen men. Stop working so hard. Slip all the pesky little jobs to an International. It conserves your time and labor and fattens your purse. There are three sizes, 1½, 3 and 6-H. P., all operating on kerosene or gasoline.

An International dealer nearby will go over this work wizard, point by point, and explain why its "credentials" are gilt edge. Or write the address below and full information will be supplied.

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My WADE Saws Four Cords an Hour!

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Why break your back sawing wood by hand, when the powerful little Wade Portable Gasoline Drag Saw will outlast 10 men at one-tenth the cost! Light, simple, economical. Cuts wood of any size. Averages 8 cords to a gallon of gasoline. Thousands of Wades now in use. When not sawing wood, the 4 h. p. engine will operate other light machinery.

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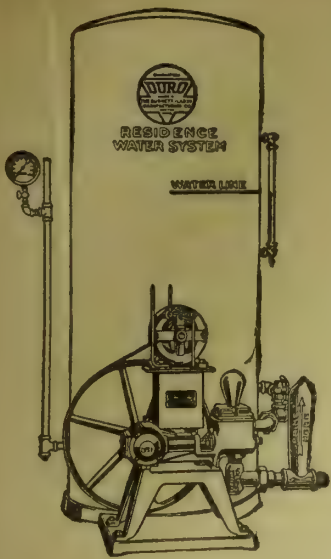
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Will handle 3 14-inch plow bottoms under normal conditions. Furnish ample power for hay baler, silo filler, grain separator, with weigher, wind stacker and self feeder. Furnishes steady power for pumping water or any smaller farm work. Interchangeable road wheel attachment—can be converted in less than hour into rubber tire wheel road truck. Will do anything that a 3,500-lb. truck can do with trailers. Good territory open for dealers.

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The New 16 valve Twin City Tractor PAYS BIG DIVIDENDS

For the first time in the history of the tractor industry, the 4-cylinder, 16-valve engine (valve in head type) is now applied to a tractor. The TWIN CITY 12-20 with its 16-valve motor actually develops 25 per cent more than its rated horsepower.

This new 12-20 is a light weight tractor that will out-pull, out-last, and out-dividend other tractors of equal rating.

Not built down to a price, but built up to a fixed ideal—to do the work assigned to it better than it has ever been done before.

The highest grade tractor will unfailingly prove the least expensive and pay the biggest dividends.

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produce 180 to 4500 Gallons per minute

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WHEAT OR BARLEY NEXT YEAR.

(Written for Pacific Rural Press.)

Recent high barley prices unsettled some of the good work done in the "More and Better Wheat" campaign which was so successful last fall. More recent declines in barley have left folks somewhat in the air and made more promising the success of another similar campaign this fall by the Sperry Flour Co. The recent decline from \$3.40 to \$2.90 on December barley will help greatly. We have never been able to see how the high price levels could long be maintained in the face of reduced consumption the world over.

As stated by the Sperry Co. California raised 53,000,000 bushels of wheat in 1896, 7,000,000 bushels in 1918, and more than double the 1918 crop in the past season. Six thousand tons of Early Baart wheat were planted in this State last fall, and it proved almost universally satisfactory. Over 100 tons of Bunyip (Sperry No. 1) were planted and results were equally satisfactory. These varieties have proved valuable competitors against barley in earliness and yield, while the price has been better than even the barley inflation.

Wheat bulletins will be issued weekly by the Sperry Co. from their Stockton office to all who ask for them. The August 15 bulletin is a review of the world's markets showing the probable future values of coarse grains with special reference to wheat and barley. The August 22 bulletin will deal with the suitability of various California soils for wheat. August 29 the subject will be Early Baart and Bunyip wheat and their requirements. The September 5 bulletin will cover preparation of soil, weed killing and prevention, value of fallow and early planting. On September 12 treatment for smut and selection of true-type seed will be discussed.

BEAN DELEGATION TO WASHINGTON.

At a meeting of the California Bean Growers' Association, August 1, it was decided to send a delegation to a meeting which has been arranged with the Ways and Means Committee of Congress in September. The object is to secure a tariff of four cents per pound on imports of Oriental beans, since any lower tariff would not keep them out of competition with our own. The delegation will consist of President G. A. Turner of the California Bean Growers' Association; Aaron Sapiro, attorney for the association; C. K. Hardenbrook of Lompoc; C. L. Preisker of Santa Maria, and Jesse Mendenhall.

All principal bean sections in the United States will co-operate in this effort, either through representatives of their organizations or through temporary committees where no organizations exist.

Perhaps an Embargo.

If it is possible to get a transcript of the evidence in the hearing where the import company fraud was disclosed as published in our issue of July 26, they will go to President Wilson, show him that the bean growers have lost money due to fraud in the Food Administration, and ask that he proclaim an embargo, keeping all Oriental beans out of the United States until our present crop is well marketed. Of course, that would tend to raise the price of beans in a time of high cost of living and with a smaller crop than last year, but bean growers are entitled to extra profit this year to make up some of the losses of last season. Moreover, consumers and Government may well consent to measures which will make bean-growing profitable in America, or we will soon be depending for this staple food on a people who will raise prices with impunity whenever they know our own crops are short, and we will have no control over them.

Over 50,000,000 bushels of wheat were in the elevators, mills, warehouses, and in wholesale hands July 1, not including stock on farms and in commercial hands, according to the Federal Bureau of Markets. This is more than three times the "carry-over" of a year ago.

We Manufacture Levelers for Any Power From 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Frescos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners' time, labor and money.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

A GREAT ROAD MACHINE

Every road district should own one of these machines for constructing roads. They will cut down the high places and make fills quicker and cheaper than by any other known method.

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send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

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Load the thousand and one internal farm transportation problems on a husky, enduring Bethlehem. The time-devouring odd jobs that add dollars to your costs and hours to your working day. A Bethlehem Motor Truck on your farm will not only mean a connecting link between you and your market, but a production time and money saver as well.

The Bethlehem Internal Gear Drive, Electric Starting and Lighting System, superstrong frame, and powerful, economical engine represents more farm value per cost dollar than any other hauling apparatus.

The nearest distributor of Bethlehem Motor Trucks can tell you of the many economies a Bethlehem could effect on your farm. Examine a Bethlehem.

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— INTERNAL GEAR DRIVE —
MOTOR TRUCKS
— DEPENDABLE DELIVERY —
BETHLEHEM MOTORS CORPN. ALLENTOWN, PA.

Are You Salting Your Cows?

(Written for the Pacific Rural Press.)

An important item that is often overlooked in the management of the dairy herd, and other animals as well, is the necessity of providing salt in the ration. All farm animals have an instinctive craving for salt, and become emaciated when deprived of it. It is more than an appetizer; it is a real necessity. It promotes an active circulation of the blood, which never becomes thick and sluggish so long as the supply is plentiful; it assists digestion, and often proves a preventive of disease.

"But how much salt should a mature cow receive per day?" That is a question which is often asked, and experiments conducted by Prof. Babcock, the inventor of the milk tester, may prove helpful. He found that if salt was withheld entirely the effect would be seen in some cows in two or three weeks, but others went for the greater part of a year without any bad effects. Sooner or later, however, every animal developed a state of low vitality, ending in a complete breakdown, although recovery was rapid when salt was again given. The breakdown was marked by a loss of appetite, a generally haggard appearance, lusterless eyes, a rough coat, and a very rapid decline in both live weight and yield of milk.

The effect was worse at calving time or immediately after. In general, cows giving the largest amount of milk were the first to show signs of distress. There was less trouble with those on pasture than with those kept in the barn and fed. Dry cows suffered very little, and the same applied to stock cattle—the salt naturally in the food or in the "earth-licks" of animals in the fields being nearly sufficient for them.

In an ordinarily daily ration there is about three-quarters of an ounce of salt, and this is nearly, but not quite, sufficient for dry stock, but not enough for a milk cow as the milk drains away a lot of salt from the system. According to Henry and Morrison's "Feeds and Feeding," a cow requires about three-quarters of an ounce of salt daily per 1,000 lbs. live weight for maintenance, and 0.6 ounce extra for each 20 lbs. of milk produced. On this basis the average cow, yielding from 20 to 30 pounds of milk per day, requires about 1½ ounces of salt, and she will get from ½ to ¾ ounce of this in her feed. More salt is required by cows at high elevations and at points far removed from the ocean, and for this reason very little salt is needed in the Imperial Valley aside from that provided in the feed.

On the other hand, excessive salt—5 to 7 ounces per day—causes excessive excretion of urine from the kidneys. If water is not supplied to replace this, kidney trouble results. If it is supplied freely the excessive water used does not increase the milk yield, but causes digestive disturbances and scours, which reduce milk yield and health.

Some farmers make a practice of salting their cows only once a week or so, generally putting it in a trough and giving them free access to it. This method should be discouraged, for after cows have been deprived of salt for several days they are apt to overeat of it, and then there is trouble.

Salt may be provided in the daily ration by mixing it with the grain, but this method is not entirely satisfactory, because, as a rule, the cows are fed collectively, rather than individually, and the one giving 50 pounds of milk will receive no more than the one giving 20 pounds. Also there is the danger of unevenness in mixing.

Consequently, except to make a ration more tasty, or to furnish a little variety, the simple method of giving cows free access to salt daily is the best, as each one can then satisfy her individual appetite. Keep it in a box or trough in the corral, under cover, if possible, and each cow will consume just as much as she needs and no more.

Either rock salt or dairy salt will answer. It is so cheap that no dairyman can afford to deny his cows all they want to eat, and it should be

borne in mind at all times that salt is absolutely essential to the economic handling and health of dairy cattle, as well as all other classes of livestock.

DAIRYMEN, USE YOUR OWN GOODS.

"Have you any good butter," inquired a customer of his grocer in a small town.

"Yes," replied the grocer, "here's six pounds. A farmer just brought it in to me, and bought oleomargarine to take home with him."

If this were the only penny-wise, pound-foolish farmer in the country the incident would not be worth mentioning, but there is a growing tendency on the part of dairymen to cut their own throats, and at the same time starve their families, in order to save a few pennies a day. In the dairy sections of the state where farmers are selling their butterfat to creameries we find that, instead of encouraging the industry by buying butter back from the creameries, quite a number are purchasing oleomargarine at grocery stores and are using very little butter, thus helping to create a surplus of butter, depress the

market price of their product and give the industry a setback.

"Go home and eat butter," was the injunction thrust upon the members of the Chicago Milk Producers' Association by Chairman Potter. He told them that the city people were simply following their lead in buying milk and butter substitutes, and that just as long as they used oleomargarine for their own tables they had no right to complain because they were not making enough money.

We say "Amen!" to this condemnation of those who use substitutes for their own products. Perhaps the campaign for eliminating the ignorance that exists regarding the food value of dairy products should be extended to the dairymen themselves. We hope that this class of short-sighted dairymen will soon disappear, and that every one will support the industry upon the success of which his own success depends.

BRIDGFORD'S NEW RANCH UNDER WAY.

The Bridgford Company, now of Knightsen, whose fame as Holstein breeders is nation-wide, have commenced to erect extensive dairy buildings on their new ranch at Patterson. Contracts have already been let for the milking barn, milk house, feed room, calf barn, test barn, feeding

sheds, corrals, office building, and quarters for the men. Also plans are being completed for a residence for H. V. Bridgford, the manager.

The buildings will be attractive and substantial and will include the very latest sanitary and labor-saving devices. A complete drainage system, designed to keep the buildings, paddocks and corrals, dry and clean at all times of the year, will be installed. The whole plant will be electrically lighted. Contracts now let call for completion of the buildings by October 6.

The entire herd of Holsteins will be moved to Patterson as soon as the new quarters are ready, and the business will then be conducted under the name of the Bridgford Holstein Company.

Not every dairy farmer can afford to own a good registered bull, but the bull association has made it possible for each member to own a share in one. A farmer for \$50 may buy a scrub bull, but if five farmers will join a bull association and each invest \$50 they may own a \$250 purebred bull.

Butterfat in milk has been found by investigation to average as follows: Holstein, 3.42 per cent; Ayrshire, 3.66 per cent; Brown Swiss, 4.24 per cent; Shorthorn, 4.05 per cent; Guernsey, 5.16 per cent; Jersey, 5.35 per cent.

START WITH GUERNSEYS

This is the breed to take up if you want to make the greatest possible profit from dairying. The Guernsey is noted for the most economical production of milk and butterfat, as well as the best flavored and highest natural colored products. In all impartial trials the Guernsey has shown greater returns for each dollar invested in feed than any other breed.

BEGIN WITH THE BEST

We believe that our herd cannot be surpassed anywhere in uniformity of type, health, breeding and production. Heretofore most of our cows have been held above price, but now, because of the rapid increase of our business along other lines, we are compelled to disperse this entire Guernsey herd.

100 HEAD AT PRIVATE SALE

Everything goes; not an animal reserved. There are 83 females of great production and promise; 17 males that are real herd headers. Twenty-one of the cows have Advanced Registry official yearly records of from 500 to 800 pounds butterfat, and several more are now on test.

If you want show quality as well as heavy production, you will find them here. The herd includes the grand champion cow and the junior champion bull at the last San Francisco Show, and many young animals fit to win in the hottest competition. Will sell separately or in lots.



FEMALES OF GREAT PROMISE

While a good share of the mature females have been given records, they have not been forced, and there is not a cow in the herd that has shown her limit of production. Also many of the untested cows give promise of making even better records than the ones already tested.

BULLS FOR BREEDING UP

Guernsey bulls quickly build up grade herds. They are so prepotent that they stamp the breed characteristics upon their offspring to a marked degree, and soon you have profitable producers of quality products. We offer some royally bred young bulls that will quickly double the profits from your herd.

Your Opportunity—Act Quickly

The sales list is completed and we are ready to sell. Breeders know how difficult it has been to secure good Guernsey stock, and will jump at this chance. Don't put the matter off. If you want foundation stock for a registered herd, now blood for an established herd, exhibition stock for the fall shows, or a bull to breed up a grade herd, come at once and make your selection. If you can't call, write your wants fully. But don't delay.

Write for Price List. DO IT TODAY.

Palo Alto Stock Farm

Directors:

HERBERT FLEISHHACKER, M. H. TICHENOR,
VICTOR KLINGER, C. F. HUNT,
J. C. MCKINSTRY

M. H. TICHENOR, Pres.
PALO ALTO, CALIF.



Live Stock Profits

are directly dependent upon the general health of herds and flocks. Not all live stock diseases can be controlled or cured, a fact that justifies owners of livestock taking advantage of every proven method for eliminating possible risks.

PURITY BIOLOGICAL PRODUCTS

(not always cheapest but always best) offer the greatest protection against certain diseases.

Purity Blackleg Aggressin—Germ Free Vaccine—produced by the Kansas method. One treatment immunizes for life. Being germ-free its use will not introduce blackleg into healthy herds. Over 1,500,000 calves vaccinated without loss.

Purity Anti-Hog-Cholera Serum is the most extensively used in the world.

Purity Mixed Vaccine for Swine prevents Swine Plague and Necrotic Enteritis.

Purity Hemorrhagic Septicemia Vaccines for cattle and sheep prevent Hemorrhagic Septicemia and reduce losses in infected herds.

We are prepared to offer the highest degree of service—service that counts, and does not end with selling. Correspondence and consultation invited. Write, wire or phone.

PURITY SERUM COMPANY
J. L. Thatcher, Manager
(Successor to Thatcher Serum Co.)
Riverside, Calif. Sacramento, Calif.

THE OTIS HERD

WILLOUGHBY, OHIO.
Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledge the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison.

Santa Rosa Stock Farm, Santa Rosa, Cal.
California Representative.



\$150,000
FOR PRIZES
PUBLICITY
AND
SERVICE
EXTENSION

Breeders of Holstein unanimously voted to quadruple the fees for recording transfers of their cattle sold, and spend the income therefrom to place the merits of this greatest of dairy breeds before the public. If interested in

HOLSTEIN CATTLE

send for our booklets and inform yourself on how to make money in breeding dairy cattle.

The Holstein-Friesian Assn. of America
Box 141 BRATTLEBORO, VT.

Don't Fail to See

the
Keep On Herd
of

Register of Merit Jerseys
at the Sacramento and Orland fairs. Beautiful specimens of both sexes at reasonable prices.

DR. H. W. HAND
Orland, California

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.
R. D. "A." Box 437.
Two miles out North First Street.

BLAKE, MOFFITT & TOWNE

Dealers in
PAPER
37-45 First St., San Francisco
Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

PASTURE CONDITIONS AND HAY CROP.

We present below a summary of the condition of pasture and the hay crop in California by counties, grouped into zones. The estimated acreage of alfalfa by counties indicates in a general way the relative importance of each county in the production of alfalfa hay, although in many counties more or less alfalfa is pastured all or part of the season. A further decline in the condition of pastures is noted this month, particularly in valley counties. Some counties show an improved condition of hay. Should this occasion surprise, it must be remembered that in California August 1 conditions for all hay are based almost entirely on the condition of alfalfa, grain and other cultivated varieties of hay being practically eliminated from the calculations. In other words, the condition of alfalfa will generally indicate the condition of hay. These figures are of considerable value to the stockmen of our state, and are prepared by the Field Agents of the Bureau of Crop Estimates at San Francisco:

County	Pasture	Hay	Alfalfa	Alfalfa
	all	all	acreage	acreage
Zone 1.				
Lassen	75	65	80	17,000
Modoc	75	75	65	18,000
Plumas	..	..	..	7,000
Shasta	90	90	90	30,000
Siskiyou	90	90	90	35,000
Sierra	..	..	..	1,000
Trinity	..	..	..	1,000
Zone 2.				
Amador	..	..	..	7,000
Butte	90	83	90	21,000
Colusa	90	90	90	..
Del Norte	..	..	..	..
El Dorado	85	90	95	..
Glenn	76	90	85	17,000
Humboldt	100	100	..	1,000
Lake	100	100	100	4,000
Marin	..	..	..	..
Mendocino	100	90	..	..
Mono	100	..	..	3,000
Napa	90	95	85	4,000
Nevada	80	90	90	..
Placer	73	90	90	2,000
Sacramento	95	90	90	6,000
Solano	100	85	95	50,000
Sonoma	90	85	95	..
Sutter	80	..	85	7,000
Tehama	90	90	95	8,000
Yolo	84	90	90	42,000
Yuba	90	87	..	5,000
Zone 3.				
Alameda	79	85	85	1,000
Contra Costa	90	90	85	2,000
Monterey	88	90	95	16,000
San Benito	80	90	95	3,000
San Luis Obispo	95	95	90	3,000
San Mateo	..	..	..	..
Santa Clara	89	95	90	4,000
Santa Cruz	..	..	..	..
Zone 4.				
Alpine	..	..	..	..
Calaveras	77	86	80	..
Fresno	85	87	80	70,000
Kern	55	85	90	95,000
Kings	80	85	80	37,000
Madera	80	90	..	7,000
Mariposa	82	90	..	..
Merced	80	80	80	105,000
San Joaquin	75	90	85	33,000
Stanislaus	80	85	85	67,000
Tulare	65	90	85	103,000
Tuolumne	60	80	..	..
Zone 5.				
Imperial	95	95	95	125,000
Inyo	70	80	70	33,000
Los Angeles	62	85	95	4,000
Orange	50	70	85	2,000
Riverside	50	85	85	40,000
San Bernardino	63	85	85	19,000
San Diego	71	75	90	2,000
Santa Barbara	77	80	75	..
Ventura	75	60	..	1,000

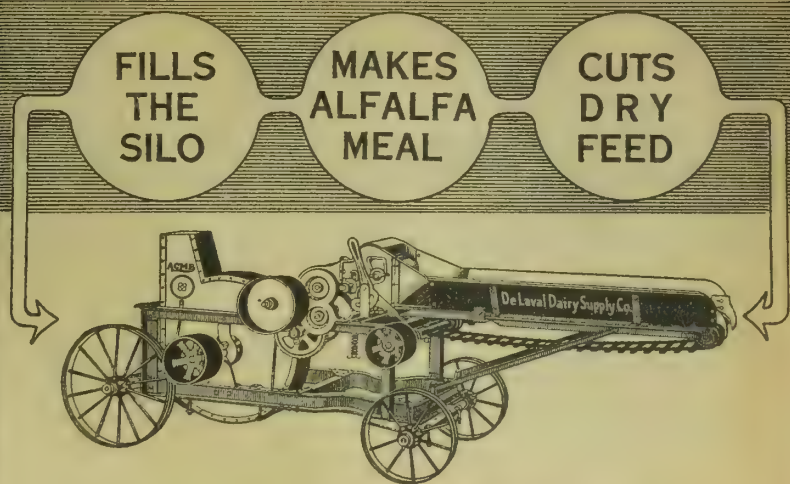
VAN NUYS TO THE FRONT IN DAIRYING.

An active campaign has been started by W. P. Whitsett of Van Nuys with a view of attracting dairymen to that section. Mr. Whitsett has with him H. L. Boyer, a prominent dairy man of Fresno. Mr. Boyer was one of the organizers of the Delta Creamery in Imperial Valley, and still retains an interest in the large Boyer Dairy near Fresno.

The soil conditions in the Van Nuys section are ideal for the growing of alfalfa and there is an abundance of water for irrigation purposes.

Already there are several large dairies in this Valley. The Los Angeles Creamery Company has recently purchased 1040 acres and will commence the erection of large barns and buildings; also an ice cream plant.

While silage is an excellent feed for dairy stock, it should be combined with some leguminous feed, such as alfalfa. The leguminous material will tend to correct the deficiencies of the silage in dry matter, protein, and mineral constituents.



The ACME Cutter

PRODUCES SILAGE OF THE FINEST QUALITY.

It is convenient to operate. Its compact, rigid steel frame and 3-bearing cutter shaft practically eliminate vibration. This construction is found in no other cutter and makes the Acme the light-running power-saving machine it is.

The Acme is absolutely reliable and safe—the most durable feed cutter and silo filler made.

COMPARE THE ACME WITH OTHER CUTTERS. Send for our Acme Catalog. Study it. Your own good judgment will convince you that the best cutter to own and use is the Acme.

DE LAVAL DAIRY SUPPLY CO.

61 Beale St., San Francisco.

Van Nuys

Is fast becoming the dairy center of Southern California.

Why?

FIRST—On account of the abundance of aqueduct water.

SECOND—Silt soil free from alkali and hardpan.

THIRD—Less than one hour's distance by auto truck over fine boulevards, to the heart of Los Angeles markets.

FOURTH—Ideal climatic conditions.

FIFTH—Unsurpassed home, school and living conditions, all city conveniences.

Among the foremost dairymen of the Pacific Coast to recognize these facts is George Platt, President of the Los Angeles Creamery Co., who has recently purchased 1040 acres one mile north of Van Nuys and is now preparing to care for 1000 cows on this property.

ALFALFA RANCHES

Large and small. Improved and unimproved.

Most of this land is planted to alfalfa and in full production.

W. P. Whitsett

Owner and Developer of Van Nuys Properties.

Van Nuys, Calif.

Phone 23, Van Nuys

HAVE SOME NICE YOUNG BULLS

Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.

Diamond Bar Ranch Imports Durocs

(Written for the Pacific Rural Press.)



"The Diamond Bar Ranch at Spadra, California, has received the best carload of Durocs that ever crossed the Rockies, and they surely will be heard from in the western shows of 1919," said Fred De Vore, the Duroc Bulletin field man, referring to the recent purchase made by manager Walter T. Gatton, back in Nebraska. Mr. Gatton went back to the corn belt determined to secure the best animals of the breed, and he certainly knows how to pick the plums. Our Mr. McConnell recently visited the ranch, and he says that it is seldom pos-

sible to see such high quality and uniformity in one lot as is represented in this shipment.

The event was considered of enough importance back in the corn belt to justify decorating the car with a banner, as will be seen by the accompanying illustration, published by courtesy of the Duroc Bulletin. We also show a few of the yearling sows in the shipment. They certainly are corks, and with such foundation stock the Diamond Bar ranch should soon become one of the leading Duroc-Jersey Coast establishments.



Underhill Sale a Hampshire Conquest

(Written for the Pacific Rural Press.)

If anyone went to the Underhill sale at Santa Barbara, August 6, feeling that the Hamps were second-raters in hogdom, he certainly had his mind changed before he left. E. C. Stone, the live-wire secretary of the American Hampshire Association, was on hand to tell of nation-wide achievements of this popular breed, and local breeders were there galore to swap experiences and tell of the wonderful and economical gains made by the belted hog. They convinced many beginners of the merits of Hampshires, and as a result many new herds were started.

Man and nature combined to provide an ideal place for holding such a sale. The Ortega-Underhill rancho is a regular paradise, and under wide-spreading oaks is a natural amphitheater, in the center of which a salesring has been built, and directly back of this are the hog pens. A more fitting place for a sale could not be found.

A large crowd of critical and exacting buyers was on hand, but Col. Ord L. Leachman proved equal to the occasion, kept his 12-cylinder tongue working at full speed, and cried a sale which proved most satisfactory to both Mr. Underhill and the buyers. Some of the stuff was shipped, and from the East at a critical time, and did not show enough growth, but the good stock sold well and proved, not only that California is ready to take up Hampshire breeding in a big way, but that she wants to start with the best foundation stock obtainable.

The top of the sale was the two-year-old-sow, Martha 2nd, a big, stretchy, smooth animal bred to Rod. She brought \$300, going to V. R. Smith of Lindsay. The heaviest buyer was Walter Dupee of Edgemoor Farm, Santee, who secured five of the best animals for a total of \$885. H. F. Sheldon of Serena bought six head for \$640; C. G. Meiners of Ojai, four head for \$465; Peter Cook, Jr., of Rio Rista, four head for \$455; and C. E.

Shattuck of Los Angeles, three choice ones for \$410. Other buyers were: A. R. Glaizer, Kalaheo, Hawaii; University Farm, Davis; Nielsen Bros., Solvang; Pacheco Ranch, Martinez; Gwyn Thurmond, Saticoy; Rancho San Julian, Lompoc; C. H. Kellogg and L. A. Denker of Sanguis; Loring Farnam, Ojai; King G. Gillette and T. W. Andrews of Los Angeles; F. V. Gordon, Perris; Tom M. Bodger, Gardena; Dr. E. Avery Newton, Lankershim; Conejo Ranch, Newbury Park; F. J. Costello, Los Altos; Josh L. Wilson and son, Monrovia; and Jas. Marwick, A. L. O'Banion, Miguel Erro and Alfred Naylor, all of Santa Barbara.

The average for 63 head was \$110.32, which was very good for the first sale of its kind on the coast. Mr. Underhill is already planning for another bred sow sale to be held about the last of February, and it is expected that this average will be just about doubled. The stock will be of the same superb breeding, but a little better grown out.

LAST CALL FOR CARRUTHERS SALE.

Would you like to cheat yourself out of several hundred dollars? That's what you surely will do if you fail to attend the Carruthers sale of Berkshires at Live Oak Saturday, August 23. It will be different from the ordinary sale where mature and highly fitted hogs sell for high prices. Nearly all of this stock is young. You can buy the animals at low prices and they will grow into money for you.

Don't forget that Mr. Carruthers holds the coast record for the two highest averages at Berkshire sales. He is offering you the very best of his young stock—nothing reserved. You owe it to yourself to attend this sale and secure some of the bargains. It means a great deal to have Carruthers-bred Berkshires in your herd. This is your chance to get them. Col. Ord L. Leachman will cry the sale.

IT'S A SOURCE OF SATISFACTION

To know where to find the right kind of hogs when you want to buy.

KING JONES OVER

a son of the Great King Jones. Dam by Long King, out of a Big Bob sow. Weighs 600 lbs. at 14 mos. Stretchy, deep-bodied, well hammed and right up on his toes. He heads the best herd of strictly big-type sows in California.

Some extra good fall boars for sale. Cholera immune.

McCARTY & STARKWEATHER

P. O. Box 2250 San Francisco.

Ranch, Paradise Road, Modesto, California



RUSSEL ORION BOY

No. 265993

This boar runs in the blood of such pigs as Brown's Orion, No. 126677, Chief Col., No. 22875, and the Lucy Wonder family on his sire's side; Colonel S. E. 126361, Gladys X. L., No. 263328, on his dam's. Watch his get at State Fair this year.

JACK BORGE, Owner. Dos Palos, Cal.



Grand Champion Herd of Hampshires

FOR SALE

Brood Sows, litters at foot. Sows bred for fall litters. Young Boars and Glits

Best families.

Finest individuality and clean-cut markings.

Call or write

Address F. V. GORDON or F. A. LANGDON, Llano Vista Ranch, Perris, Cal.



AUCTION SALE

Duroc Jersey Swine, Shropshire Sheep

Tuesday, August 19th, one o'clock sharp.

Place, Garden City Sanitarium.

Bred and open glits, bred sows, weanling pigs, 27 head. Pedigrees at sale. Some good stuff here, bred to \$1500 O. C. K. boar. Eight head pedigreed Shropshire sheep, 8 lambs. One imported Buttar ewe and fine lamb. All young stock. Come and get them at your own price.

JERSEY QUEEN FARM

L. J. BELKNAP, Prop., San Jose.

ORD L. LEACHMAN, Auctioneer.

Imperial Stock Farm Berkshires

are the kind you are looking for. We have to offer at the present time some exceptionally good young boars. They have the best of breeding, lots of size for age, and long deep bodies, with high backs.

Write us for price and further particulars.

R. J. MERRILL & SON,

MORGAN HILL, CAL.

Every Hog on the Gardiner Ranch is Cholera Immune.

Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER

GARDINER'S KING'S COL.

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH

ROUTE 4, BOX 735.

SACRAMENTO, CAL.

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars bred by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM

P. O. Box 177,

Lancaster, Cal.

DUROC GLITS

Orion, Long Wonder and Volunteer Breeding.

Also young pigs by a son of Johnson's Defender. For prices and particulars write

GUY H. MILLER

E. 1.,

Modesto, Calif.

Immune Hogs Bring Better Prices

(Written for the Pacific Rural Press.)

"Are they cholera immune?" That's the first question asked by about nine out of every ten buyers of purebred hogs nowadays, and the breeder who cannot answer in the affirmative stands a mighty slim chance of making a sale. Prices of good stock are too high for breeders to run the risk of loss from cholera. And what's the use of running this risk anyway, when for a few cents a hog can be permanently immunized? Years ago the results were not always satisfactory, but rapid progress has been made during the last few years, and nowadays there are practically no

losses or even temporary setbacks. Nearly all of the leading purebred swine breeders of the State now have their herds immune, the latest to fall in line being J. Francis O'Connor of Castleview Ranch, Santa Rosa, W. S. Guilford at both Butte City Ranch and Monroeville Orchard, James Mills of Hamilton City, and W. M. Carruthers of Live Oak. J. L. Thatcher of Sacramento and Riverside immunized all of these herds with Purity serum. Mr. Thatcher recently opened an office in Sacramento and is already doing an extensive business with the purebred breeders as well as with the big feeders.

What Better Live Stock Means

(Written for the Pacific Rural Press.)

The following authentic incidents are cited by the United States Department of Agriculture in its "Better Sires—Better Stock" campaign to show what American farmers and stockmen may expect through improved methods of breeding and handling animals:

One Cow Equals Five.

A New Jersey boy was influenced to buy a high-grade cow for \$155. The cow on freshening gave 24 quarts of milk and kept it up for a long period. The father owned 5 cows—the average cows for the neighborhood. They were fresh in the spring. Their product did not equal the product of the cow owned by the son. Think of it—five times the labor and five times the feed, in comparison with one good cow.

High-Class Bully Beef.

An Oklahoma farmer had 2 registered Shorthorn yearling bulls that he priced at \$100 each for breeding purposes. A butcher saw the bulls, asked the price, and learned that they were registered and that it would take \$100 each to buy them. He bought them, killed them, and stated that they were the cheapest cattle he had bought for some time, because they cut the better kinds of beef, and more of it.

Valuable Stock—Valuable Offspring.

In several counties of North Carolina more pure-bred livestock has been purchased during the past year at the higher prices which have prevailed than in any other year. Hogs were never so high, yet hundreds of boys bought pure-bred pigs at high prices with the expectation of selling their offspring. Through the county agents many hundreds of pigs bred by the boys have been sold at good prices and this is stimulating the extension of pure-bred hogs.

Better Poultry—More Meat.

In a southern community, following the introduction of well-bred poultry for breeding, there was noticeable im-

provement in the size of the next generation of the fowls. The average weight of the birds marketed was 25 per cent greater than previously, according to the observation of an experienced poultry buyer.

DON'T MISS FRESNO POLAND-CHINA SALE.

Next Wednesday, August 20, one of the greatest lots of Poland-Chinas ever driven into a sales ring, will be offered by the Fresno Poland-China breeders at the Fresno Fair Grounds. Although this is the first sale of the association, the breeders are old-timers. Their stock will rank with the best in the State, and they are offering the tops of their herds in order to establish the reputation of Fresno county for profitable Polands.

The catalog shows a great line-up of sows and gilts, of royal breeding, bred to noted boars—some of them imported from the East at long prices. It will pay you to attend, or to send mail bids if you cannot be there. Dandy lunch at 11:30. Sale starts at 12:30.

EXTRA—As an additional feature of this sale a fine spring gilt will be given away to one of the guests. Everyone present will have a chance, and the one drawing the lucky number will be presented with a very choice specimen of the breed.

One of the most serious troubles with dairy cows is failure to breed regularly. Sometimes this failure is caused by accident, sometimes by disease. Whatever the cause, it interferes with the cow's value. A good cow should give birth to a calf every year. The buyer should make sure that the cow is not troubled with abortion, and that she is not hard to get with calf. Many herds have been ruined by the introduction of cows carrying the germs of contagious abortion.

P-R-O-F-I-T

That's what a sow or gilt will spell to the purchaser if bought at the

Fresno County Poland-China Sale

Seventeen of the leading breeders of the county have consigned the tops of their herds in order to make a big success of this inaugural sale. They are outstanding animals with both size and quality, and will suit your purse and purpose.

50 Bred Sows, Bred Gilts, Open Gilts

Wonderful brood matrons, sired by such noted boars as President, Jumbo's Equal, King's Big Bone Leader, Young Jumbo and Model Fellow. In their pedigrees you will find the most noted blood lines of the breed. You need this blood in your herd to put you to the front.

Among the eastern bred boars to which the sows will be bred are Vaughn Jones, a descendant of Gerstdale Jones; Hather's Big Bob, grandson of the world's champion; California Jumbo, a grandson of champion Giant Buster; and Blue Valley King, a son of King Big Bone.

Wednesday, Aug. 20th, Fair Grounds, Fresno

Come early and look over the stock. Free lunch at 11:30. Sale starts at 12:30. If you cannot attend, send mail bids to Thos. F. McConnell, field man for Pacific Rural Press, in care of the secretary. Field men will only bid on animals whose owners will ship on approval.

SPECIAL FEATURE—A fine spring gilt to be given away to the one drawing the lucky number. Everyone will have a chance.

Fresno County Poland China Breeders' Assn.

ALFRED BUCKLAND, President.
COL. GEO. W. BELL, Auctioneer.

For catalog address
W. C. FICKLIN, Sec.
Box 946, Fresno, Cal.

BANK ON BERKSHIRES!

The hog you want is the one that comes the nearest to the pork-maker's ideal. He must produce the greatest amount of the highest quality of meat at the earliest age and the lowest cost. That's the Berkshire.

Carruthers Farms Sale 65 Head at Auction

This is your opportunity to get young stock from the herd that holds the coast record for the two top sales of Berkshires. All of our young stock will be offered. Nothing reserved. Many prospective prize-winners among them.

The females will include 12 under-one-year sows, and a junior yearling and a senior yearling good enough to win anywhere. Also 20 young sows 4 to 7 months old.

The boars will include 10 topky youngsters, 4 to 7 months old, that will make great herd headers for registered herds. Also 20 good young stock boars for grade herds.

SPECIAL ATTRACTIONS: Live Oak Champion, reserve grand champion of 1918, being defeated only by his sire. He is a two-year-old, out of one of the greatest daughters of Rival's Champion's Best. Also will sell the two-year-old Mayfield Superbus, by Superbus and out of one of Corsa's best sows.

Saturday, August 23rd

Sale will be held at the farm, three miles west of Live Oak, Sutter County, starting at 1 o'clock. Be sure to attend. You can't afford to miss this farmer's sale where high-class stock will go for moderate prices. Send for catalog.

Carruthers Farms
COL. ORD L. LEACHMAN, Auctioneer.
W. M. CARRUTHERS, Live Oak, Cal.

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

Livestock and Dairy Notes

Livestock breeders all over the state are invited to send on postal cards, notes regarding their sales, State and County Fair intentions, new stock, etc.

LIVESTOCK SALES DATES.

August 19—Garden City Sanitarium, San Jose, 27 Duroc hogs and 18 Shropshire sheep.
 August 20—Fresno County Poland-China Breeders' Association, Fresno. Consignment sale of bred sows and gilts.
 August 23—Carmuthers Farms, Live Oak, 70 head young Berkshire sows and boars.
 September 17—John M. Bernstein and W. L. Haack & Son, Hanford. Poland-China bred sow sale.
 September 19—San Joaquin Poland-China Breeders' Association, Stockton. Consignment sale, 60 head.
 September 30—Dimmick Bros. and De Rand, Hanford. Disposal sale of Poland-Chinas.
 October 4—H. I. Marsh and Les McCracken, Modesto. Poland-China bred sows and gilts.
 October 7—M. & A. L. Bassett, J. A. Crawshaw and F. D. Ross, Hanford. 75 head of Poland-Chinas.
 October 11—Kings County Poland-China Breeders' Association, Hanford. Consignment sale.
 October 16—H. M. Elberg, Roselawn Stock Farms, Woodland. 45 head of Shorthorns.
 October 18—Trewitt, Vaughan and Nehls, Hanford. Poland-China bred sows and gilts.
 October 21—Tulare County Poland-China Breeders' Association, Tulare. First consignment sale.
 November 6—California Shorthorn Breeders' Association, San Francisco. Consignment sale.
 November 7—Pacific Coast Hereford Breeders' Association, San Francisco. Third sale of Herefords.

FALL FAIRS AND SHOWS.

August 22-23—Livestock and Agricultural Fair, Patterson.
 August 25-26—Placer County Farm Bureau Fair, Roseville.
 August 30-Sept. 6—California State Fair, Sacramento.
 September 16-18—Humboldt County Fair, Ferndale.
 September 17-20—Antelope Valley Fair, Lancaster.
 September 22-27—Glenn County Fair, Orland.
 September 27-30—San Diego County Farm Bureau Fair, San Diego.
 September 30-October 4—Fresno County Fair, Fresno.
 October 4—Contra Costa County Farm Bureau Fair, Brentwood.
 October 6-11—Land Show, Martinez.
 October 6-11—Tulare Livestock Show, Tulare.
 October 7-11—Southern California Fair, Riverside.
 October 15—Kings' County Pork Producers' Contest, Hanford.
 October 13-18—Tulare County Fair, Visalia.
 October 18-26—Los Angeles Livestock Show.
 October 25—Shasta County Farm Bureau Fair, Anderson.
 November 1-8—San Francisco Livestock Show.

The Dairy.

C. D. Hayworth, Modesto, has sold to A. H. Rona of Modesto, a registered Jersey bull out of a Register of Merit dam.

E. E. Greenough, Merced, recently sold to Mr. J. J. McMasters of Merced, the promising young Jersey bull Brownie's Marquis.

Leeman & Killgore, Ripon, have sold to Smith & Marchant of Ione, a 7-months-old bull calf that is a grandson of Tilly Alcartra.

Gotshall & Magruder of Ripon have purchased from R. L. Holmes, Modesto, all of his milking stock, consisting of 15 head of registered Holsteins.

Aaggia Acme of Riverside 2nd, owned by A. W. Morris & Sons, Woodland, has made a yearly record at the age of 12 years of 1,053 pounds butter from 20,354 pounds milk.

Harve De Wolf of Ripon has a daughter of Sir Skylark Ormsby Korn-dyke that has recently made a record of 21.28 pounds butter from 468 pounds milk with her second calf.

E. E. Greenough of Merced recently purchased two granddaughters of the ex-world's record cow, Goldie's Nehalem Beauty; also the young show bull, Fussy Fern's Noble 9th, which he will show at the State Fair.

At the Butler Jersey sale at Mt. Kiso, N. Y., 48 imported Jerseys sold for an average of \$3,308, which is Mt. Kiso, N. Y., 48 imported Jerseys sold for an average of \$3,308, which is a new record for the breed. This is the sale at which the bull Sybil's Gamboge brought \$65,000.

E. E. Freeman, Modesto, has sold to John Saxer of Modesto, a Holstein bull calf out of his 32-pound cow, Verona Hengerveld Glen Eva, and by Segis Pontiac De Kol Dutch. Mr. Freeman now has five cows on yearly test.

D. F. Conant of Rancho Santa Margarita, Modesto, has recently sold the Jersey cows, Hugo's St. Dinah and Lady Lurbigo, to J. D. Nash, Modesto. Also, he has sold the bulls Margery's Crackerjack of R. S. M. and Mamie's Owl's Laddie Boy of R. S. M. to J. R. Edgcomb of Ceres and Mr. Allen of Ceres.

Dr. H. W. Hand, owner of the Keep On herd of Register of Merit Jerseys at Orland, has secured the services of Walter C. Klein, formerly herdsman of the Ladd herd at Portland. Mr. Klein has had almost a lifelong experience with noted Jersey herds, and with such cattle as he has to work on in the Keep On herd some great records may be expected.

Arrangements are being made for a special delegation of California dairymen to attend the National Dairy Show at Chicago October 6-12. California should send a delegation to represent her second largest industry and all interested should communicate with Sam H. Greene, secretary California Dairy Council, 268 Market Street, San Francisco, who will be glad to give full information.

Leeman & Kilgore of Ripon have recently made records with their Holsteins as follows: Laura Netherlands Skylark, 27.57 pounds butter from 629.6 pounds milk; Miss Cornucopia Colantha, 24.12 pounds butter from 555.1 pounds milk in 7 days, and 96.55 pounds butter from 2,430 pounds milk in 30 days; Clothilde De Kol of Linwood, 24.78 pounds butter from 577.8 pounds milk in 7 days, and 100.13 pounds butter from 2376.2 pounds milk in 30 days.

Bridgford Company, Knightsen, have sold to H. H. Wallace of Crow's Landing, for \$1,500, the fine young bull, King Segis Hengerveld Inka Prilly, by King Segis Alcartra Prilly and out of Mercedes Inka Hengerveld, who has two records above 32 pounds. Mr. Wallace will use this bull on his grade Holsteins and the pleasing part is that he has been using pure-bred sires for a number of years and knows from experience that he can pay this amount for a high-class bull for a grade herd.

Beef Cattle.

Wm. Briggs, who formerly has a large herd of Herefords in Texas, has lately moved to Dixon where he will again raise white-faces, and he has already become identified with the Pacific Coast Hereford Breeders' Association. Secretary Bunting reports that Hereford herds are growing all the time in California, and he looks for many new members in the near future.

"That bull calf of Bemmerly's" continues to grow and improve at an astounding rate. At 11 months he weighed 1,150 pounds, and Mr. Bemmerly expects to have him weighing over 1,250 pounds when a year old. He was sired by New Era 2nd and out of a cow by Bonnie Brae 6th. The latter weighed 1,425 pounds when 16 months old, proving that quick-growing qualities can be transmitted.

Swine and Swinemen.

Ireland Ranch, Owensmouth, will hold a sale of 50 bred Duroc sows January 31.

H. C. Witherow, Greenwood Farm, Live Oak, has sold to Thos. Ashurst of Mendota, a young Duroc service boar by Johnson's Defender Jr.

Secretary Paine of the State Fair reports that over 1,000 hogs have been entered for this year's Fair. The quality is said to be excellent and there promises to be some lively competition.

Henry Schumann-Heink, son of the noted operatic singer and an officer on the battleship Oregon during the war, has purchased an 80-acre farm in the Natomas district. He will breed Duroc-Jerseys.

Geo. V. Beckman & Sons of Lodi have recently added to their large Po-

land-China herd a number of choice bred gilts. Their show stock is coming along fine and they expect to make a good exhibit at the fairs.

The J. S. Gibson Company of Williams get very satisfactory results in their market hog business by crossing Duroc-Jerseys on Berkshires. Mr. Gibson claims that the cross grows faster and finished better than the pure-breeds.

Jack Borge of Dos Palos is doing a large Duroc business among his neighbors and has recently made the fol-

lowing sales: Sam Dyer, 2 head; H. Gauger, 2; E. Maracini, 6; J. W. Thomas, 1; Leo W. Bello, 1; J. W. Baldwin, 1.

Ira L. Mason of Fowler is greatly pleased with the way his young boar, Smooth Leader, is coming on. He is all that his name indicates, and is putting on over 50 lbs. per month without forcing. Watch him at the fall shows.

The judging committee of the San Joaquin Poland-China Breeders' Association has made an excellent selec-

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?

Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

59 SUTTER STREET,

SAN FRANCISCO

Perfect Maid

Sells at Fresno, August 20th



This wonderful sow is sired by the noted boar President, and out of Fruitful Maid. You can't beat that breeding anywhere. She is strictly big-type, and one of the largest sows to enter the sales-ring this season.

Bred for October farrow to Smooth Leader, he by King's Big Bone Leader, out of a granddaughter of Blue Valley. He traces back to the grand champion and greatest boars of the breed—Big Bone Leader, The Big Orphan, Smooth Price and Blue Valley. A great individual, too—gaining over 300 lbs. in 6 months in breeding condition.

Her Litter Will Put You on the Map

Be sure to put in a bid on this big sow. If you can't attend, send bid to Thos. F. McConnell, Pacific Rural Press field man, in care of W. C. Ficklin, Route A, Box 189, Fresno.

FOR SALE AT PRIVATE TREATY.

HADLEY BOY, a boar pig from Perfect Maid's February litter of 9 by Hanford Hadley. He is a corker—will surely make a great herd header.

Ira L. Mason

FOWLER,

CALIFORNIA

tion of young boars to go into the September 19 sale to be held at Lodi. Some great herd headers will be offered.

W. O. Pearson of Swineland Farms, Woodland, reports sales as follows: Two Tamworth boars to the Veteran's Home of California, Yountville; 2 Duroc-Jersey sows and boar to J. Schambler, Woodland; 1 Tamworth boar to Hite Robinson, Shively; 1 Tamworth boar to O. D. Elgan, Santa Rosa.

Lloyd & Tointon of Lloyton Farms, Santa Rosa, have sold to Dr. L. A. Danielson, a Yorkshire herd consisting of 3 bred sows, 2 bred gilts and the boar Lloyton King. The two gilts are out of the famous Nema 8th, with a litter of 20 to her credit. Dr. Danielson is a veterinary surgeon and dentist and has recently bought a ranch near Kenwood, Sonoma county, where he will establish his herd of Yorkshires.

Sheep.

R. H. Brotherton of San Francisco has just received a very fine yearling Hampshire ram from Idaho for his herd at his Los Altos ranch.

The Australian ram, Marshall Foch, has been sold for \$6,132. He goes to South Africa. This ram clipped 3 1/2 pounds of wool when 2 1/2 years old.

Ellenwood & Ramsay of Red Bluff have received 15 head of Corriedale sheep, purchased in New Zealand. The consignment consisted of 9 ewes and 6 rams from the greatest herds in that country. \$1,000 was paid for one yearling ram.

LIVESTOCK DIRECTORY

Rate in this directory 3c per word each issue

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

GRAND NATIONAL CHAMPION

Do you realize this is the only opportunity on have ever had on this Coast to secure the sire of a Grand National Champion. Duke is breeding them long and thick. He is getting old and may die any time. You are started right if you get his pigs. A very good April pig sired by Duke and from a half-sister of Rincos Rival 2nd, cholera immune, \$35.00. Sandercock Land Co. In charge of famous Sales, 23 Montgomery Street, San Francisco, California.

GRAPEWILD FARM BERKSHIRE-GUERNSEY—Spring pigs sired by Big Leader and Grapewild Farm Leader, A. B. Humphrey, Prop., Bescalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. B. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH—Top Berkshire litters. Bred right, prices right. Satisfaction guaranteed. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of all sexes. Calac Orchards, Geo. P. Upham, Jr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the 500 boar. Kounias Registered Stock Farm, Modesto, Calif.

RIVER GARDEN FARM BERKSHIRES—They are sure to please. E. H. Whiting, Clah, Calif.

SOME CLASS!—Registered Berkshire weaners. L. Pearson, 2128 Alum Rock Ave., in Jose.

FOR REAL GOOD BERKSHIRES write ask B. Anderson, B. 724W, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—olera immune. Live Oak, California.

REGISTERED BERKSHIRES—Write B. D. me, Dos Palos, California.

BERKSHIRES—Fair Oaks Ranch, Willits, ifornia.

Poland-Chinas.

POLAND-CHINA RANCH

Five and six months old boars and gilts by Greenfield's Special, an eight-hundred-pound boar of Superba and Big Orange breeding. Special price on this stock now. It won't last long. Satisfaction sure. H. B. Peake, Manager, 358 Eleventh St., San Bernardino.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

POLAND-CHINA GILTS FOR SALE—10 read of 160 to 200 lbs., 8 mos. old gilts for sale. Some of these from Big Bone Bob, nice, smooth pigs, half large, half medium type. Will sell these open for \$60.00 each, or bred to Barton's Big Korver for \$75.00. Recorded your name, F. O. B. Lodi. This is a nice lot; better act quick. W. A. Young, Lodi, Cal.

EL PROFITO—Our great herd boar, will put profit-making qualities into your herd. His offspring have size, stretch, bone, good backs and feet, and easy feeding qualities. To make the right start with big-type Poland Chinas, get one of his boar pigs. Prices right. Correspondence cheerfully answered. Viola L. Renwick, Santa Barbara, California.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route G, Fresno, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

SOWS FOR SEPTEMBER FARROW—Nebraska boar of prize-winning blood lines. March gilts. Prices right. R. W. Jickling, Elmira.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Rt. 1, Box 39, Watsonville, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for sale. Giant Buster and President Stock. Prices right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

ELDERSELY FARM—Big-type Poland-China hogs and Aberdeen Angus cattle. J. H. Ware, Live Oak, Calif.

FOR SALE—Poland-China boar, age 14 months. Priced right for quick sale. Box 332, Healdsburg, Cal.

BIG-TYPE POLANDS—Spring pigs from prize-winners. J. H. Hansbrough, R. A., Box 22, Modesto, Cal.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old—"A Wonder" bred boar.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

POLAND-CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Nothing this month. Eight spring boar and 5 spring sow pigs to offer during August. All young stock is now immune. At the State Fair this year will show a full exhibit of good ones. Drop in and see them and get some real big typey ones. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

HORINE'S REGISTERED DUROC JERSEYS—I sell weanlings and buy gilts. Don't fool with scrubs and don't buy elsewhere until you know my plan. Write today for full particulars of a guaranteed profit-making weaned pig. Geo. L. Horine, Winton, Cal.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

REGISTERED DUROC JERSEYS—Open and bred gilts. August and November boars. Great herd headers. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Dos Palos, Cal.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Ethanac, Calif.

DUROC-JERSEYS—Smooth, long, strong-backed, big-boned type, with lots of quality. The kind you will eventually buy—why not now? F. D. Burr Co., 235 Montgomery St., San Francisco.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

PATHFINDER AND KING'S COL. stock—immune. Weanlings, \$25 each. Bred gilts and service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento, Calif.

WE WON MORE MONEY in Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

PURE-BRED WEANLING BOARS, \$20—L. R. Adams, Island Mountain, Calif., on Northwest Pacific.

DUROC-JERSEY SWINE AND SHEEP SALE—See add on page 176. Jersey Queen Farm, San Jose.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Unedda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

Miscellaneous.

"SAPPHIRE" SWINE (BLUE HOGS)—Actually blue in color. The Blue Hogs are no longer an experiment. We have bred them successfully for twelve years before offering any for sale. They mature quickly, grow very large and the females are the most prolific breeders on earth. Write for information. Mention this paper. The Blue Hog Breeding Co., Wilmington, Mass.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

DAIRY CATTLE.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckles Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

AYRSHIRES—Quality bulls at farmers' prices. Redwoods Ayrshire Farm, La Honda.

Guernseys.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from higher record dams. J. W. Gemmer, Ripon, Cal., R. 2.

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Jerseys.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2 1/2 years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

A PRICE ON EVERY ANIMAL. Herd free from tuberculosis. All sales subject to sixty days' retest. Sons of Funderne Soldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

Toyon Farms Association.

FOR SALE—7 head of registered Holstein cattle, 3 cows milking, 2 fresh, 2 heifers and 1 bull calf by Prince Hiske Walker, a full brother to Lady Hiske Walker, one heifer by a grandson of Prince Gelsche Walker. B. A. Overland, Hanford, Route 1, Cal.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. M. Freeman, Route B. Modesto, California.

CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, Box 437, San Jose, California.

HOLSTEIN BULL CALVES—Two, 5 months old for sale. Tilly Alcarra Blood. A. Swensen, Box 192, Livingston, Cal.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spires, Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif. Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS and Duroc Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibbles, Santa Barbara or Lompoc, Calif., John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke. Likely, Modoc county, California.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

REGISTERED SHORTHORNS—Julien Ranch, Granada, Siskiyou Co., California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch, Esparto, California.

HORSES AND MULES.

FOR SALE—Pure-bred imported German coach station. Awarded first premium at State Fair. For particulars, address P. O. Box L 141, Dos Palos, Calif.

FOR SALE—A-1 Breeding Jack. Bargain. Have quit raising mules. W. F. Harkey, Gridley.

PERCHERONS—Registered Stallions, Mares and Fillies; three, four, and five years old. Cora S. Secrest, Escalon, Cal.

SHEEP AND GOATS.

PURE-BRED RAMBOUILLET RAMS, large smooth frames, extremely heavy shearers, from the very best strains of this country and France. Immediate delivery from ranch at Ord Bend, Glenn county. P. O. address, Windell Orchards, Glenn, Calif.

F. A. MECHAN ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

HAVE FOR SALE fifty head of fine yearling Shropshire rams. Also 25 head of high-grade Rambouillet rams. These are big fine woolled rams. E. D. Dudley, Dixon, Calif.

SHROPSHIRE—43 yearling, purebred, registered Shropshire rams for sale. Harry L. Huston, Winters, Calif.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

WANTED—Two Lincoln or Corriedale rams, purebred or grades. C. C. Perkins, Homewood, Lake Tahoe, Cal.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale, Shorthorns; Shropshires; Berkshires; Ponies. Next sale April 17, 1920. All breeds.

Along the California Livestock Trail

(Written for Pacific Rural Press by Thos. F. McConnell.)

Winsor Ranch Feeding Methods.

The system of feeding hogs at Winsor Ranch, Bonita, is producing excellent results. Considerable attention is paid to cleanliness. All pens are cleaned at regular intervals; feed is not allowed to get stale or sour, and by the use of a system of their own the drinking water is always clean and fresh.

The hogs are kept in dry lots at night and on alfalfa pasture during the day. Both dry and pasture lots have plenty of fresh, clean water at all times, but mud wallows are discouraged. Grain in the form of slop is fed in the dry lots night and morning, and is ready in the troughs at night, so that bringing in the hogs at that time is merely a matter of opening the pasture lot gates and the hogs do the rest. They are fed another ration of grain before being turned out in the morning.

The dry lots are 25x150 feet and the pasture lots contain one-third of an acre each. All lots open into a system of 16-foot alleyways that make it easy to shift and sort the hogs. Everything is so arranged that the maximum results can be obtained with the minimum of labor. Cement is used for feeding floors and surrounding all water troughs; also in the farrowing pens, where the guard rails are gas pipes imbedded in the floor. Shavings are used for bedding in the farrowing pens with the very best results.

Brown Breeds Good Ones.

Grant A. Brown, the breeder of registered Jerseys at El Monte, believes in raising as much feed as possible for his cows. He double-crops for silage, growing Indian corn in the summer and oats and vetch in the winter. Mr. Brown believes that corn makes the best silage, but finds oats and vetch a very good feed readily eaten by the cows. Silver Birdie, an 18-year-old cow in this herd, has the edge on appearance of many younger cows. She is a descendant of Brown Bessie, the cow that made a great record at the Chicago World's Fair. The October bull calf, Shylock's Monte, is a youngster of great promise. He should equal his sire, Lady Shylock's Financier, in conformation, and as he is out of the great cow, Fernie's Imperial Lady, he seems destined to become a great sire.

Hampshires at Llano Vista.

Here at Llano Vista Ranch, Perris, we find one of the premier Hampshire swine breeding establishments of California. Mr. Langdon, the member of the firm in charge, is a great believer in barley and alfalfa for growing hogs. He says that with ground barley and alfalfa meal, ground from his own alfalfa, he can grow Hampshires to 230 or 240 pounds in six months for 10c per pound, counting all costs and figuring at 3½c per pound.

Mr. Langdon grinds his own barley and alfalfa, and prepares it by mixing enough in the morning for the following night and morning, and wetting it thoroughly. This soaks half of it 12 hours and the remaining half 24 hours. In the winter time it is sometimes soaked even longer. The proportions used are 50 pounds of alfalfa to 75 pounds of barley.

The senior herd sire, Gold Mine, is 5 years old, but a very vigorous, active fellow and a great sire. One sow is so popular that customers will take her pigs as soon as weaned at from \$25 to \$350 each. Mr. Gordon has only been able to keep one of her gilts for himself. She certainly is a good one and at 8 weeks weighed 72 pounds.

The popularity of the Hampshire hog is increasing rapidly in California as proved by the fact that Gordon & Langdon have sold \$14,000 worth during the past year. Mr. Langdon says that they can be put on the market for less money than any other breed; that they are better rustlers and kill cleaner with less waste.

Lark Meadow Ranch.

Geo. E. Stingle of El Monte raises Berkshires and very good ones. To begin with he has the very best he can buy, and then every pig that shows inferiority in any way is eliminated from the breeding herd as soon as weaned. Then those that are left are registered immediately so that when anyone buys a pig at this place it is already registered and only needs to be transferred and the transaction is complete.

A recent addition to the herd is a boar, Escalon Majestic, from the celebrated herd of A. B. Humphrey, and bred to Mr. Stingle's sows should produce something fine.

Cox and His Cows.

Russell H. Cox of Escondido for years devoted his efforts to raising standard-bred trotting horses, but as the demand fell off he turned his attention to registered Guernseys. He used to breed them back in Pennsylvania and believes that his father brought the first registered Guernsey cattle to California. Mr. Cox now has 13 head, mostly young stock, many being due to freshen this fall. That he believes in the best is proved by the recent purchase of a young herd bull from Edgemoor Farms for \$1,000. The bull's two nearest dams average 846.5 pounds butterfat in a year. Watch him come to the front.

Christiansen's Unique Feeding Methods.

The arrangement of the feeding floors, troughs and water devices at the Poland-China breeding establishment of H. Christiansen, Riverside, is rather unique and was worked out by Mr. Christiansen himself. The floor, feed trough and watercups are of cement, and in one solid block with no crevices in which feed can accumulate. The drinking places or cups are oval depressions in a solid block of cement 6 or 8 inches high and 12 inches wide, extending the full width of the feeding floor and placed under the partition between two pens. The oval depressions in the top of this long block of cement are placed crosswise and are five in number, connected one to another by an open slot extending the full length of what would be a trough if it were hollowed out. Instead, it is simply a series of five oval cups plenty large enough for a hog to drink out of, but not large enough for any pig to get into. The water is supplied from a depression in an extension of this block of cement on the outside of the pen and is governed by a float beyond reach of the hogs. The plan seems to work to perfection.

CHANGE SHEEP PASTURES OFTEN.

Unless sheep are kept in a healthy condition they will not pay. The health question is chiefly one of internal parasites, and of these the stomach worm is the most troublesome. Fortunately, the trouble can be controlled in a practical way, and the methods of prevention are exactly in line with the practices that result in the most economical production.

The basis of success in the farm sheep business is in the frequency of changing to pastures which have not had any opportunity to become infected with stomach worms by older sheep. These frequent changes are particularly necessary during the stay of the young lambs upon the farm. The older sheep are less susceptible to the effects of the infection, though danger of their being injured is not to be overlooked.

The plan of frequent changes to fresh feed can be adapted to the most economical systems of using high-priced land in the rotations of crops to produce feed and forage for other kinds of livestock. The important part is to change the feed frequently enough so that no part of the flock will be upon land that has previously carried sheep during the same year. With this simple precaution the dreaded stomach worms will give little trouble.

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Livestock Queries and Replies

Cow Has Gastro Intestinal Catarrh.

To the Editor: I have a cow that freshened in March, but five days afterward she bloated from clover. I got her straightened out, but about four weeks later she began to shrink on her flow of milk and within a week had dropped from 3 gallons to 2 quarts. I drenched her, but this gave only temporary relief. She does not eat or drink much and seems a little bloated most of the time. What can I do for her?—H. C. L., Healdsburg.

(Answered by Dr. E. J. Creely, San Francisco.)

Your cow has gastro intestinal catarrh, which is a condition brought about by the eating of fermentable food. Change the feed and feed lightly of nourishing, easily digested foods, such as freshly mown meadow grass or tender hay, the idea being to stimulate the stomach movement more than to satisfy the appetite. At the same time encourage thirst by giving salted gruel or whey, or if she refuses this keep salt before her constantly. The movements of the stomach and intestines may be stimulated by hand-rubbing the under surface of the abdomen and especially the left side of the flank in the region of the paunch. Occasionally give a mild physic of Glauber or Epsom salts in combination with mucilaginous foods, or with flaxseed tea (2 or 3 quarts at a time), divided into three doses and given at three-hour intervals. Two ounces of turpentine in one pint of raw linseed oil may also be given to reduce fermentation—once daily. If this is not sufficient it may be necessary to give an enema of lukewarm Castile soap water or salt and water—a teaspoon of salt to each pint of lukewarm water.

Temperature of Animals.

What are the usual temperatures of farm animals and what shall we do to tell whether or not they have a fever?—E. J. K., Armona.

(Answered by the Live Stock Editor.)

Horses about 100 degrees, cattle 100.5 to 102, hogs 102 to 103, sheep 102 to 104. Usually young animals have a higher temperature than older ones, and excitement, slight digestive disturbances or extreme cold or heat will affect the temperature. A regular fever thermometer for veterinary use is a handy thing for every rancher to possess. The thermometer is inserted into the rectum and left there for two or three minutes. A horse with a temperature of 103, a cow with 104, a hog with 106, or a sheep with 107 denotes illness. Do not give animals medicine to bring down the fever. A high temperature is Nature's way of combatting the growth and multiplication of bacteria, and it is better to leave this alone. A thermometer is a valuable friend and gives warning when to summon a veterinarian at the very beginning of a disease.

Calves Have Ringworm.

To the Editor: Several of my calves have sores about their eyes, head and neck, which are small at first but gradually enlarge. They are dry, of a whitish color and somewhat scaly. I used a salve and the scales came off, leaving the skin a fiery red. What is the trouble and how can it be cured?—C. B., Marysville.

(Answered by the Live Stock Editor.)

Your calves have ringworm, which is caused by mold growing on the skin and through the hairs. It is transmissible, so the calves having it should be isolated. Scrub the diseased spots with soap and water and a stiff bristled brush. After the scabs have been removed, apply an iodine ointment or touch the spots with tincture of iodine.

Horse with Indigestion.

My horse got very poor on the range. Since then we have fed him barley hay and all the alfalfa meal he would eat, in addition to pasture during the day. He eats well and has gained a little, but seems very weak

and drags his hind feet.—I. A. B., Santa Margarita.

(Answered by Dr. E. J. Creely, San Francisco.)

Evidently your horse has indigestion, due to his not being able to masticate his food, and the staggering gait would result from this. If you examine the feces you probably will find that a great deal of his food passes through him unmastered. Have a competent veterinarian float his teeth. Mix the following powder and give a teaspoon in the grain twice a day: Bicarbonate of soda, 4 ounces; pulverized nux vomica, 2 ounces; pulverized ginger, 4 ounces; pulverized gentian, 3 ounces; pulverized and dried iron sulphate, 2 ounces.

Thos. E. Wilson, Chicago packer, has been elected president of the Institute of American Meat Packers recently organized "to co-operate with the government, foster domestic and foreign trade, and promote mutual improvement along lines connected with the meat packing industry."

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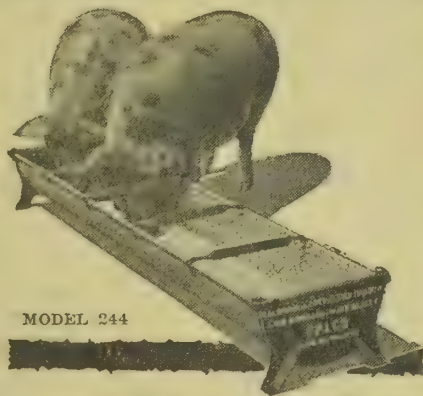
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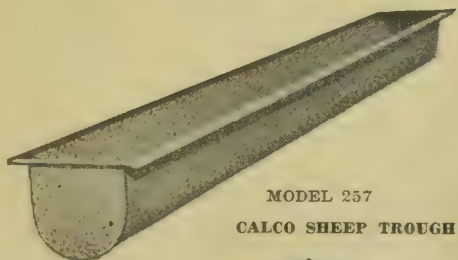
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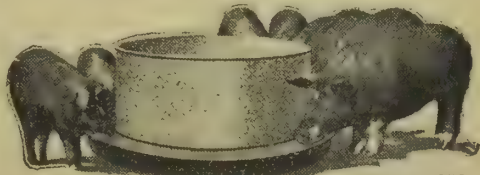
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When to Breed Beef Heifers

(Written for Pacific Rural Press by R. H. Whitten.)

Should heifers of the beef breeds calve for the first time when from 24 to 27 months old, or is it better to carry them along and not have them calve until they are three years old?

For four years tests have been carried on at the Kansas Agricultural College, and they show that when heifers are crowded by heavy feeding through the first two winters the re-

sults will be satisfactory if they are bred to calve at from 24 to 27 months, but when they are wintered on roughage they cannot be bred profitably to calve at these ages. Only 40 per cent of the heifers fed roughage alone dropped calves at two years old; most of these had difficulty in calving, the loss of calves was great, and the growth of the heifers was noticeably retarded by early breeding. The heavily fed heifers that were given concentrates during the winter dropped a normal percentage of fair-sized calves, and the results were generally satisfactory.

Of those bred to calve when 3 years old, the ones fed heavily on corn, cottonseed meal and alfalfa were not enough larger and did not produce calves enough better than those getting only roughage to pay for the extra feed. It had cost \$32 more a head to bring these cows to producing age than the more practicable plan of roughing them through the winter, and there was no perceptible difference in the value of the calves.

In summing up the results it was advised that in general farmers should crowd their heifers by heavy feeding and breed them to calve at 2 years, or rough them through the winters and

Stock Farm, Taylorsville and Santa Clara, believes that the Kansas recommendations are all right for California. With purebred Herefords the Association does not permit the recording of calves that are dropped before their dams are 27 months old. Mr. Barngrover thinks this a good ruling, and finds it safer to have heifers calve during the early summer months than in the early spring. The heifers have a chance to run on grass before calving, which puts them in better physical condition for the ordeal, besides allowing the extra three months for growth. On the other hand, a late calf will come into the winter smaller and will require extra attention and feed to guard against its becoming stunted. With purebred cattle that are kept growing from babyhood, there is more danger of developing non-breeders when carried to calve at 3 years than when bred younger.

Jas. McDonnell of Ormondale Ranch, Redwood City, believes that no set rules can be laid down. He says that heifers develop quicker in California than in the eastern states, and that a heifer well raised is fit to breed at from 18 to 20 months, while one that has been made to rough it all her life and has developed slowly should not be bred until she is 30 months old.

John A. Bunting of Mission Hereford Farm, Mission San Jose, says we have such wonderful winters that he believes the average California cattle-



"With better breeding and feeding methods we should be able to develop beef heifers in California so that they can safely be bred to calve at 24 to 27 months, instead of the customary 36 months, thus saving time and increasing profits."

breed them to calve at 3 years.

But how about California? Are conditions so nearly the same that the same advice will apply, or will our longer grazing season enable heifers to develop sufficiently without heavy winter feeding so that they can be bred to calve at 2 years?

Dr. H. M. Elberg of Roselawn Stock Farm, Woodland, says that as a rule, California cattlemen do not pay enough attention to winter feeding, as in most sections cattle can run the year through on the ranges, and while they will make a living, they will not mature as soon as when they are fed and protected during the winter. He says that at the present time the average beef heifer cannot safely be bred to calve at two years, but believes that with better breeding and feeding facilities we should be able to develop heifers so as to have them calve at 24 to 27 months instead of 36. Dr. Elberg's registered Short-horns are winter fed and always kept in thrifty condition, so he breeds his heifers to calve at 24 to 27 months of age.

C. N. Hawkins, of Pacheco Ranch, Hollister, believes that on the average California range heifers do not get as good treatment in the late fall and early winter as they do with ordinary roughing in the East, and consequently are not well enough matured to calve at 2 years. Another point he mentions is that to have a 2-year-old heifer calve safely she must drop her calf fairly late in the spring, and she is compelled to suckle the calf for some time on dry feed, which not only stunts her growth and that of her calf, but so reduces her condition that she is likely to fail to breed that season. Many poorly developed heifers calving at 2 years miss at 3 years, and have to be carried over or sold for beef. But calving at 3 years, they come in early, keep in good flesh, breed in good time for the following season, and wean their calves early in the summer.

H. M. Barngrover, of Veramont

men neglects his stock and lets them rough it when he ought to be feeding them. He says that it pays to have a heifer well grown out before she calves, and even if this means one less calf from her during her lifetime, the calves she does have will be enough better to more than make up. The mother will never be the cow she should be if she calves when not well developed. Mr. Bunting breeds heifers to calve at 27 months when they are well grown, but if one has had a hard time of it he holds her longer.

H. H. Gable, of Diamond G Ranch, Esparto, has his Hereford heifers come through the winter in such good shape that they are bred to calve at two years, and he cannot see that the calves are less thrifty than those from older mothers. The element of risk is a little greater, but the returns come a year earlier. Mr. Gable believes that, with milder winters and longer grazing season, we can more safely breed our heifers to calve at two years than in the East, yet for the average California case, where heifers have had to rough it, he is of the opinion that it is better to have heifers calve at three years, as it results in larger cows and more thrifty calves.

E. A. Noyes of Bar N Ranches, Sutter, breeds his registered Herefords to drop calves at 27 months so that the calves can be registered, but with unregistered stock he believes that when heifers are reasonably well cared for until 15 or 16 months old, they are sufficiently developed to be bred, and he breeds all of his own grades to calve at 24 to 26 months of age. He finds that he does not have as many losses when heifers drop their calves early, as when they are carried along for late calving they take on too much flesh.

So here we have, not a lot of theories, but the actual experiences of many of the leading California breeders, and from their methods young breeders ought to be able to determine what is best for their individual cases.



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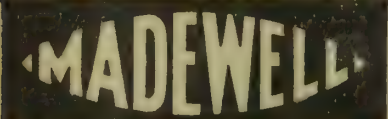
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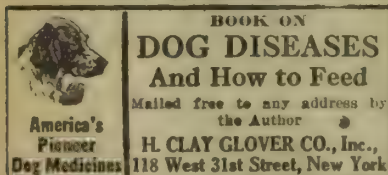
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SKILFUL CULLING PAYS BIG DIVIDENDS.

[By Prof. J. L. Dougherty, University Farm, Davis.]

Every poultry raiser understands that intelligent culling of unprofitable layers will increase the average productivity of his flock. But are you putting that knowledge into practice? Are you reaping the financial benefits of intelligent culling? Here are the twelve points of successful culling:

1. Between July 1st and October 1st is one of the best times to cull laying flocks. The sooner the better. Culling slacker hens saves feed.

2. A hen must have a healthy, vigorous body to be able to lay heavily. Fowls with weak constitutions cannot stand up under the strain of heavy egg production. They should be active and good rustlers.

3. A well developed comb of good color, short strong beak, blocky head, bright eye, well proportioned body, and clean-cut action are indications of a vigorous fowl.

4. The size of the comb in relation to the normal size for that breed is correlated with a hen's egg laying ability, so that the size of the comb is one indication of ability to lay. The larger the comb the better layer a hen should be, other points being equal. Abnormally large combs, however, are not desirable.

5. The better the layer the later she should molt. The molting of a fowl before September 1st is one indication of a rather poor layer.

6. Pubic bones should be thin, fairly straight, somewhat flexible in a pullet, but thicker on ends and more rigid as she gets older. Those hens, the ends of whose pubic bones thicken very slowly and so remain relatively thin from year to year, should be better layers than hens whose pubic bones thicken rapidly on the ends, other points being equal. Therefore the relative straightness of the pubic bones and thinness of the ends of these bones are valuable indications of egg-laying capacity.

7. The distance between the rear of keel bone and the ends of pubic bones is a measurement of abdominal capacity. Hens measuring less than the thickness of three fingers are usually culls. Laying hens need good sized abdomens in which to manufacture a good yield of eggs per year.

During the laying period the distance between pubic bones increases to the thickness of two fingers or better to allow of free passage of eggs. When laying stops the ends of the pubic bones may come closer together again.

9. In the laying period the abdomen becomes fuller and the vent more dilated, due to stretching of the abdominal tissues to allow for the increase in size of the egg organs while active. The abdomen should, however, remain flexible to the touch. The accumulation of excess fat in the abdomen crowds egg organs, interferes with and checks production, and is indicated by the abdomen losing its flexibility and becoming hard to the touch.

10. A hen in good laying condition should be in good flesh, but not over-fat as shown by a hard abdomen and too plump breast.

11. In yellow shanked varieties, good layers "lay out" the yellow color on beak, earlobes, vent and shanks as the laying season goes on, so that the comparative shades of yellow of these parts in different fowls after July 1st are an excellent indication of their egg-laying performance. Pale shanks and beaks after July 1st indicate poor layers, whereas bright yellow shanks and beaks indicate culls.

12. The more different indications that are used in culling poor layers and selecting extra good layers, the more accurate the work will be. Experience should soon enable one to cull laying flocks with surprising accuracy. Are you getting that experience? Remember that skilful culling pays big dividends.

INCREASE WEIGHT BY GRADING UP.

The average farmer of today knows that it pays him to grade up his herds, and he has his purebred bull, boar and ram. But how many carry that practice to their poultry flocks? "Grading up" is just as applicable for the betterment of flocks, and mongrel flocks respond rapidly to the introduction of standard-bred males.

Perhaps you would like to have a well bred flock, but hesitate to make any change because you don't like to sacrifice the fowls on hand in order to purchase quality birds. If so, you need not give up the attempt, for by the use of carefully selected standard-bred males you may grade up your flock so that in three or four generations you will have birds of superior egg and meat producing qualities.

Specialists of the United States Department of Agriculture have obtained some interesting results in poultry breeding work at the Government Experimental Farm, Beltsville, Md., where they have mated mongrel hens of unknown lineage with standard-bred males. Up to the present the particular purposes of these investigations have been to increase the size and weight as well as to improve the uniformity of type of the progeny. The study will be continued to cover egg production and the transmission and improvement of other hen characteristics.

Standard-bred White Plymouth Rock males were crossed with mongrel hens which weighed only 4.33 pounds apiece. The first generation progeny of this union at the same age had an average weight of 5.68 pounds apiece, while the fowls composing the second generation weighed an average of 5.98 pounds a piece at the same age, and those of the third generation 6.49 pounds apiece. The gain due to increased size and meat-making qualities which resulted the first year from the crossing work amounted to 1.35 pounds per bird. Naturally the greatest increase came during the first step in the up-grading work when the standard-bred male was mated with a mongrel hen. The increase resulting from the mating of another standard-bred male of the same breed with the pullet of the above cross was not so great, amounting to 0.3 of a pound, while the gain of the third year's investigations totaled 0.51 of a pound. The total gain as shown by these three generations of intensive up-grading work amounted to 2.16 pounds a bird.

From the standpoint of meat production this up-grading work should be extremely profitable to the average farmer, as the investigations show conclusively that the introduction of superior blood into the flock by the utilization of a standard-bred male increases the meat-producing and size-increasing ability of the progeny. If the progeny be a grade hen, united with a standard-bred male, will weigh 1½ to 2 pounds more at market time than with the same aged offspring of a mongrel hen and a common male, it should be easy to convince every farmer that it will be more profitable for him to keep better blood in his flock.

PAYS TO FEED HENS ON RANGE.

Does it pay to feed hens on range during the summer months? This question was asked by Mrs. Houck McHenry, whose poultry flock had extensive range. Her theory was that the birds should scratch for a living during warm weather and should not be fed at all, but from a flock of more than 100 Barred Rock hens she got only from 1 to 5 eggs a day during the latter part of May and the early part of June. Also, many of these eggs had green whites and were considered unfit for food.

So Mrs. McHenry called upon the County Farm Adviser, who recommended that the hens be given both

grain and mash in addition to all other feed secured on range. The first day after the new plan was begun she got 8 eggs, the next day 15. In one week she was getting 52 eggs and in less than three weeks she got as many as 90 eggs in a day with an average of 70. How is that compared with the average of from 1 to 5 a day before the feeding began? The feed paid for itself a dozen times over. It will in your flock, too.

SUMMER CARE OF RABBITS.

Improper feeding is responsible for more grief to the rabbit raiser than anything else, and especially during warm weather. Those who have cows, hogs or poultry know that heating foods should be reduced or eliminated during the summer months, but when it comes to rabbits they go on feeding the same feeds right through the year, and then wonder why the poor little animals do not thrive.

Rabbits are fed hay, greens and grain. The grain is usually barley, and barley is very heating. It should be cut down during the summer months; in fact, some breeders cut it out entirely. If the rabbits are valuable and it is not necessary to keep the feeding cost to the minimum, rolled oats can be substituted with excellent results. Oats make muscle and bone and are not heating like barley.

As the grain is reduced the green feed should be increased. Vegetables, weeds, lawn grass and other greens should be fed very liberally. Don't cut out the hay, as it supplies the roughage that the rabbits require to help digestion. Be particular about the drinking water and see that it is cool and clean.

If a rabbit is suffering from the heat, dampen—don't sop—a grain sack and lay it inside the hutch. If this is not sufficient, hang moistened sacks around the hutch and occasionally sprinkle the ground underneath. Remember, though, that rabbits do not thrive in damp weather, so don't over do.

Shade, of course, should be provided. There is nothing quite so good as the natural shade from trees, but sacks sewed together and put over the hutches, high enough to allow a circulation of air underneath, are a great help.

Clean the hutches at least twice a week, and end up by spraying well with a good disinfectant. Be sure to have it reach all corners and cracks. The rabbits enjoy lying about during the hot days, and you can make their enjoyment far keener by giving them clean quarters in which to stretch out.

A little thought and care during the summer months will bring in more dollars and keep up the vigor of your stock.

GOOD-NIGHT DEPLUMING MITE!

This is the time of the year when fowls become infested by depulmating mites, which live at the base of the feathers, causing an intense itching and producing a disease known as mange, or depulmating scabies. The mites live around the quills of the plumage, and by their gnawing of the quill, cause the feather to break off. The trouble generally begins at the rump, and spreads to the head and neck, back, thighs and breast. Around the stumps of the lost feathers and at the ends of the quills of feathers near the bare spots will be found masses of scabs and crusts. In this way the condition can easily be distinguished from molting or the vice of feather pulling. However, the irritation caused by mites leads fowls to pull out their feathers, and they often acquire the habit of feather pulling, attacking the plumage of other birds as well as their own.

The mites causing the disease are introduced into the poultry yard by affected fowls and spread rapidly from fowl to fowl, finally infesting nearly all birds in the flock. On this account care should be taken not to introduce infested birds, and if the disease appears the affected birds should be isolated at once. The disease usually begins in the spring, is

most active in warm weather, and disappears in winter.

The affected spots of the skin from which the feathers have dropped out should be anointed for some distance around them with an ointment made of 1 part flowers of sulphur and 4 parts vaseline or lard. Or a carbolyzed vaseline may be used. If a liquid preparation is preferred use 1 ounce of Peruvian balsam to 13 ounces of alcohol. Apply the preparation selected twice a week until the disease is cured.

In an extreme case it may be well to dip the bird in a Zenoleum or sheep dip solution. The bird is held by the shanks and wings, and is wet all over by immersion in the lukewarm solution. Either do the work in a warm room or select a warm, sunny day so that the bird will not suffer from the severe wetting. Repeat in a week.

Poultry Breeders' Directory

MOST FALL CHICKS ALREADY BOOKED, yet hundreds open most weeks, reduced, in each of seven popular breeds. Clearing customers, \$5.00 yearly. 200-290 egg strain. Large, vigorous winter layers. Half chicks go to former customers. Doubling our 70,000 hatching capacity. Returned thousands of dollars for chicks we couldn't supply. **FEW HUNDRED BREEDING HENS, MALES,** laying younger pullets, going rapidly—50c to \$2.00 under price. Valuable circular with proof free. J. Beeson, Pasadena, Calif.

WE SOLD OVER 800,000 White Leghorn baby chicks to satisfied customers since January 1. Buy chicks now, and sell Fall and Winter broilers at fancy prices. Pullets will make fine early Spring layers. Price per 100: July, \$14.00; August, \$15.00. Safe arrival of full count live chicks guaranteed. **THE PIONEER HATCHERY,** 408 SIXTH STREET, PETALUMA, CAL.

PEERLESS WHITE WYANDOTTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels—100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hoganized and Trapped stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Ohio St., Berkeley, Cal.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties very week. Only good, strong youngsters shipped. **Stubbs Poultry Ranch and Hatchery,** Box 67, Palo Alto.

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CAPON SPECIALIST—Make capons of your useless cockerels. Learn how at the State Fair and add profit, fine meat and infertile eggs to the poultry industry. Mrs. H. Ament, 423 Kerkhoff Bldg., Los Angeles, Cal.

FALL BABY CHICKS—Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. **Santa Clara Valley Hatchery,** San Jose, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Improve your color and egg capacity. Wm. Larm, 3915 39th Ave., Fruitvale, Calif.

EASTMAN'S BRED TO LAY—Hoganized and trapped Barred Poultry Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

FALL BABY CHICKS from our large heavy-laying S. C. White Leghorns. Send for prices. **Tupman Poultry Farm,** Box 7A, Ceres, Calif.

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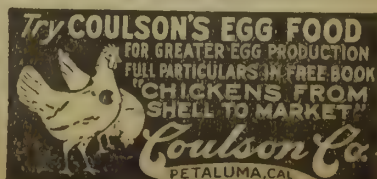
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NEW ZEALAND REDS—First class utility does bred, \$5.00 each. Young does, \$2.50 each. F. R. Caldwell, Broadmoor, San Leandro.



THE HOME CIRCLE

THE YOUNG EARTH.

The fields were parched with summer's heat
The life and green from swamps had fled;

The dry grass crunched beneath the feet,
And August leaves dropped stiff and dead.

Then light south winds 'cross wood and shore

Brought cooling clouds and slow, sweet rain,

And hills and crops were new once more,

And grasses greened on march and plain.

So swift the magic sent its spell
Through burning corn and pastures dumb,

'Twas clear the world had rested well
Against the time when rain should come.

So virile is this earth of brawn,
So quick with life its soil is stung,
A million years have come and gone
And still it rises green and young.

—Liberty H. Bailey.

RUFUS ADOLPHUS' RED SHOES.

"We'll call ourselves the D. R. L.'s," Polly Anne said with decision. "That will be such a nice, mysterious name, Sarah, because nobody in all Sharon will know what it stands for. You see we might be the Daughters of Royal Line, or the Daring, Roaring Lions, or Dainty Red Leaves—anything but the Dolls' Rescuing League."

Polly Anne and Sarah sat on the fence that shut in the wood lot back of the Tibbet's little brown house. It was late fall. Red and yellow leaves, like flaming sparks of fire, drifted down from the sky, and the air was full of pleasant odors,—the smell of bonfires and over-ripe apples, the pungent perfume of late asters and pumpkins that lay, golden, on the ground in the next field. The cold wind that blew across from the woods



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made a whistling sound in the corn-stalks; and, as it swept over the wood lot, it brought with it a round, hard hickory nut that rolled and bumped across the ground and stopped by the fence.

Polly Anne jumped down from her perch and picked up the nut, holding it in the hollow of one brown little hand.

"You know we will really be that, Sarah. No one would know that this is a doll."

Polly Anne fondled the hickory nut, and pointed to its wrinkled shell and the hard knob on one end.

"But is it a doll," Polly Anne continued.

"See its cheeks and its sweet little nose. All it needs is to have a face painted on and a body and some clothes. Every time that we make a hickory nut into a doll we'll be rescuing it from a boy or a squirrel, Sarah."

"You fill the pockets of your coat with nuts, and I'll fill my hood. It's so fine to feel the wind in your hair, and my ears are as warm as stoves. Come on, Sarah, we'll go over to the woods and pick up as many nuts as we can, and may be we can find homes for the dolls when they're done. I'm the president of the Dolls' Rescuing League, but you may be the vice-president, and the secretary, and the treasurer, Sarah."

All the long, sunny morning the two little girls bent over the ground, gathering nuts. Polly Anne, in her coat made of Grandmother Tibbet's plaid shawl and holding her red worsted hood, looked like a little forest dryad as the wind tossed her brown curls and painted her cheeks crimson. When Mother Tibbets, standing in the door of the little brown house, rang the big dinner bell to call Polly Anne and Sarah, they had enough nuts to make a whole orphan asylum of dolls.

There were crisp, hot baked potatoes for dinner, and steak, a wonderful treat in the Tibbets family, but the Dolls' Rescuing League was even more fascinating.

"Don't eat so fast that you'll choke yourself or burn your mouth, Sarah," Polly Anne said, as they all, mother and grandmother, John Henry and Rufus Adolphus, the baby sat around the table in the kitchen; "but don't waste any time eating, dear, I've got such plans in my head for making the dolls; and you, John Henry, will have to help, too, so we must finish dinner as soon as ever we can."

When dinner was over and the dishes were washed, Mother Tibbets let the children have the whole kitchen table to work on. It was pleasantly warm in the kitchen, and the kettle sang shrilly from its place on the stove as the children drew their chairs up to the table and spread the nuts out ready to begin the work of the Dolls' Rescuing League.

"You must make the dolls' bodies, John Henry," Polly Anne directed. "Your jackknife is so nice and sharp, and you can just whittle pointed sticks from some of the softest pieces of wood in the kindling box. Bore little holes in the nuts and glue the bodies in the holes. I'll make the dolls' faces, and as soon as John Henry gets a doll's body done, Sarah can glue on rolls of white cloth for the arms and legs. Grandmother gave me her piece bag for the clothes. Oh, aren't we going to have a perfectly beautiful afternoon, and aren't you glad we formed the Dolls' Rescuing League?" Polly Anne rocked her little thin arms in an ecstasy of delight.

It was surprising how the nuts wanted to be rescued and how fast the dolls multiplied under the clever fingers of the leaguers. Polly Anne painted eyes and red cheeks and crimson lips on each wrinkled nut face, and then John fitted it to its body in less time than it takes to tell about. The little rag arms and legs that Sarah made would bend like real human ones, and then came the fun of dressing the nut dolls. It was such very jolly fun that even dear Grandmother Tibbets couldn't resist joining the children, and her fingers flew,

too, as she helped to make little underclothes and all sorts of pretty dresses.

One nut doll was Red Riding-Hood, her little brown face peeping out from a round red hood that topped a red cloak made of a scrap of flannel from Grandmother Tibbets's wonderful piece bag. Another was a little grandmother in a white cap, a gown of gray calico and a red and white frock; and there were other dolls, too, just little girl dolls in print frocks and with bows of ribbon glued to the top of their nut heads.

"There," Polly Anne said, as she stood the dolls on up the window sill. "Think what we've rescued you from! You might, every single one of you, my dears, have been eaten by this time, and here you are dressed up all spick and span and ready to be adopted. We'll

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AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electricity
More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The

COLEMAN QUICKLITE
No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over.—will last a lifetime.

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is mightier than pen and sword

It is the foundation of health and human energy. It produces the stamina and the strength to do things. On the field of battle—as well as on the tables where peace and plenty reign—chocolate has proved itself a 100% food.

To insure supreme quality chocolate you must insist upon Ghirardelli's. It comes *only* in cans—for your protection.

At the store where you do your trading—in ½ lb., 1 lb. and 3 lb. cans.

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D. GHIRARDELLI CO.

Since 1852

San Francisco



Ghirardelli's Ground Chocolate

DREADNAUGHT
BLAZING AWAY IN COST-DEFENCE!



Mother's Nose

We sometimes wonder if mother has eyes in the back of her head—she knows about things we cannot even see or feel. The truth is, mother's nose is a lightning circulator—one sniff and it's all added up and she has the correct answer. How did she know that Johnny "fell" into the lake and dried his clothes in the sun?—How does she know when the heat is right and everything cooked properly?—Because her "nose knows" and she knows it knows.

It's positive knowledge with mother; no "guess" work goes—so it is with a Dreadnaught Burner in the stove. The heat is always there and never varies—no worry about wood being cut and keeping up the fire; nothing to clean and carry out. The gas burns steady and even, without watching. A touch of the valve and the fire is out—expense stopped immediately. Let's take up this item of mother-help and adjust it for all time. You cannot do too much for mother—anyway, in this case a Dreadnaught Burner means as much help to you as mother. Write for our circular—we will be glad to send it.

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AGENTS WANTED.

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NEEDLE VALVE AND DRAIN.

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keep one or two for ourselves, Sarah, and try to get the others adopted. O Sarah!" Polly Anne's eyes shone with excitement. "Wouldn't it be splendid to put them in the store, in Mr. Jonas' show case, where everybody can see them, and know how dreadfully in need of homes they are? Let's take them down now. There's plenty of time to do it before tea, and there's just a chance that some of them may get adopted tonight. No, dear. I'm so sorry, but you can't go with us."

Polly Anne gave Rufus Adolphus a big hug.

"You haven't got any whole shoes, you blessed baby, but some day sister'll buy you some."

It was almost a week before Polly Anne remembered the "candidates for adoption," as Mr. Jonas, the Sharon storekeeper, dubbed the nut dolls which Polly Anne and Sarah Tibbets left in his care. He was very nice about keeping them. He put them in a glass case right next to some lollipops, and he said he would try to call people's attention to their lonely state; but there were examinations in school, and Rufus Adolphus got the croup and had to be rocked all Polly Anne's spare time. It was not until the next Saturday that Polly Anne had time to go down to the store again, and she wouldn't have gone then except that the flour gave out, and she and Sarah had to take the cart to bring home another sack.

"Well, Sarah, we're a society if we are poor," Polly Anne said, as the two little girls trudged down the road to the village.

"I'm the president of the D. R. L.'s, and you're all the other officers, if I have got holes in my elbows and your rubbers do leak. Wouldn't it be fun if we should find that somebody had adopted a doll?"

There were a great many customers in the store when Polly Anne and Sarah reached it. The people who were buying thread, and buttons, and eggs, and sugar, and shoes, stood in front of the counter and quite covered up the case where the lollipops were. When Mr. Jonas had finished waiting on them, Polly Anne and Sarah pressed anxious little noses against the glass of the case.

There wasn't a doll there! "O Mr. Jonas! Was anybody good enough to adopt them?" Polly clasped and unclasped her red mittens. "Adopt 'em?"

Mr. Jonas leaned his kindly, smiling red face over the counter and beamed down on the little girls. He looked a little like a large hickory nut himself, for his face was wrinkled into a hundred benign puckers, and his nose was short and pointed. "Adopt 'em, Miss Polly Anne?" Mr. Jonas repeated.

"Why, bless your heart, they bought 'em! I could have sold twice as many of them nut dolls if I'd had 'em. Miss Jane Doyer she came in, and she says: 'Mr. Jonas, those dolls look just like Polly Anne's work. I must have five of them to send to my little niece.'"

"Then the writer man strolled in, and he bought two, 'for mascots,' he said. And all the others went before sundown to other folks who wanted 'em for different things, pincushions, and ornaments, and needle cases, and some for just plain dolls."

"We didn't make no business arrangements, Polly Anne," Mr. Jonas' eyes twinkled, "but I allowed 10 cents apiece was a fair price, and I took 1 cent of the 10 cents for case room. Business is business, you know. Here's your money. It's \$1.08."

Polly Anne never could think of anything to say when she was "flabbergasted," as dear grandmother put

it; but Sarah was always equal to the occasion.

"The land flowed with milk and honey," said Sarah, which had no very great connection with the matter in hand. "I'm the treasurer of the Dolls' Rescuing League, Polly Anne. You know you made me everything but the president, so I can spend the money. We'll buy Rufus Adolphus a pair of new shoes, red ones, dear; you know he needs them more than we need anything."

"O Sarah, you do think of the beautiful things, once in a while!" Polly Anne exclaimed as she hugged Sarah rapturously. "Have you any red shoes for a \$1.08, Mr. Jonas?"

"The very ticket for \$1," and Mr. Jonas drew out from behind the counter a pair of little red kid shoes with

silk tassels, and carefully pulled off the label marked \$1.50. "These fit the little fellow, and you'll have 8 cents left over to divide up between you."

It was wonderful how much that 8 cents bought,—a pencil box for John Henry, and ever so many lollipops for Polly Anne and Sarah Maud.

"Rufus Adolphus will look like a little Puss-in-Boots when he gets on these shoes," Polly Anne said as the two little girls went down the store steps and started home; "and I'm very sure they'll keep him from having croup because they're so high."

"Yes," Sarah acquiesced between rapturous bites of lollipop. "Isn't it strange, Polly Anne, what you can do if you organize into a society?"—Carolyn S. Bailey, in the Continent.



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FOR MEN, WOMEN AND CHILDREN
Made strongest where the wear is hardest

Every pair is strongly reinforced at points of hardest wear. The tops are wide and elastic; legs are full length; sizes are accurately marked; and the soles and toes are smooth, seamless and even. The Durham dyes will not fade.

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You should be able to buy Durable-DURHAM Hosiery at any dealer's. Look for the trade mark ticket attached to each pair. If you cannot find this hosiery, we shall appreciate your writing direct to the Durham Hosiery Mills, Sales Department, 88 Leonard Street, New York, giving us the name of your dealer.

All year wearing stockings. Little finish. Extra fine gauge. Wide elastic tops. Strongly double reinforced heels and toes. Black, white and cordovan.



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You Can Buy An "Inexpensive" Piano Without Buying a "Cheap" One

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Now we do not sell "cheap" pianos, but we do carry a number of "inexpensive" instruments. The prices are within the reach of most every home. These Pianos will render many years of satisfactory service—they are good, substantial values and are worth every dollar asked. We gladly arrange convenient terms of payment.

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Stores also at Vallejo, Portland, Seattle, Tacoma, Spokane.

Market Comment

Almonds Still Advancing.

Independent almond buyers in the Chico district, who opened the season by buying Nonpareils for 21 cents a pound, have closed some sales recently for 30 cents a pound, it is reported. Based on the total State almond crop last year—5,000 tons—Chico will harvest over one-third of the crop this year with a 2,000-ton yield.

Table Grapes Tested Before Sale.

Three hundred boxes of Thompson Seedless grapes were held up in Oakland this week at the request of Horticultural Commissioner Rouillard of Fresno, to be tested before selling. Table grapes must contain 18 per cent sugar before they can be sold for table use, otherwise must be disposed of for jelly or by-products.

California Beans Bounding.

Wholesale bean prices have increased \$1 per hundred pounds in the Sacramento Valley. Twenty carloads a day are being shipped from the State, which supplies 90 per cent of the beans consumed in the United States. High prices are indicated, as Michigan, Colorado and New Mexico have only 60 per cent of a crop.

Ungraded "Sweets" Unmarketable.

The sweet potato growers of Merced district claim they had no knowledge of any new grade laws being passed by the State Horticultural Commissioners at the time of the last Legislature. The first carloads shipped out of the Merced district were inspected and turned back. The growers have combined and are paying an attorney \$2.50 each to go to Sacramento and ask for a change in the grading laws.

Walnuts Above 1918 Figures.

A record walnut crop of 50,000,000 pounds, a yield 12,000,000 lbs. in excess of the 1918 output and 20,000,000 lbs. greater than in 1917, will be produced this year. These extra millions of output will come onto a bare market, and as the quality is of the best, fine prices are anticipated. A few Diamond Brand walnuts, sold by the Association in recent weeks have brought from 2 to 3 cents above the 1918 figures.

Cling Peaches Bring High Prices.

Growers of clings in the Sacramento fruit section are getting as much as \$110 a ton for fancy cling peaches, compared with \$60 last year. The two plants of the California Packing Corporation will do a business of \$3,800,000; the Smith-Frank Company near \$2,000,000; the Joseph Gerstring Company close to \$1,000,000, and the Libby, McNeill and Libby plant about \$7,500,000. The volume of cannery business is double that of last year.

Government Seizes Storage Eggs.

Seizure of 84,000 dozen eggs (1,008,000) in Chicago Wednesday stored for Morris & Co. by the district attorney probably started the downward trend in prices. It was charged that the eggs were unlawfully stored for the purpose of unreasonably increasing prices. This week saw more eggs taken from the local storehouses than were put in them, and at the present time local storage is some 2,000 cases short of a year ago at this time. Nevertheless, storage men are feeling nervous.

Tomato Shortage Boosts Prices.

From every tomato section, including San Benito, San Joaquin, Sacramento and Alameda counties, there is a report of only half a crop. The blight in the Sacramento district was unusually heavy. Late rains prevented preparing the ground for planting in Santa Clara county, and beetles combined with north winds have completed the damage in Sonoma. The average production for all districts is estimated at 8 tons an acre compared with the normal production of 15 to 20 tons. Santa Clara has the nearest to normal crop of canning tomatoes. Most canners have agreed on the minimum of \$15 a ton to growers, but it is likely that the price will rise if they keep their agreement to go higher if the season warranted it.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, August 13, 1919.

WHEAT.

A car shortage is interfering more or less in the shipments of wheat to this market, some dealers reporting a delay of over two weeks in the delivery of wheat from interior points of the State.

Per bushel—	
No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
Early Baart	Nominal
California, per cbl.	\$3.65@3.70

BARLEY.

There were no changes in the quotations for spot barley this week, but futures were stronger. December sold at \$3.26 and May at \$3.25.

Feed	\$3.15@3.20
Shipping	\$3.20@3.30

OATS.

There was no change in the market for oats this week. The demand was light and sales were for small quantities.

Red feed, per cbl.	\$3.00@3.25
Red for seed	Nominal
Black for seed	Nominal
Recleaned Red or Black for seed	Nominal

CORN.

A good demand for California corn this week ran the price up to \$3.90 on some lots. Receipts have been light and shippers are apparently having trouble in getting cars to send their corn to market.

California	\$3.80@3.90
Egyptian, choice	Nominal
Milo	Nominal

HAY.

Receipts of hay for the past week were 2,727 tons compared with 2,655 the previous week, and as in the case of the previous week most of the receipts came in by boat. The car situation seems to be becoming more acute daily, and it is almost impossible to get box cars for hay shipments. As the complaint regarding lack of equipment for moving the crops seems to be quite general, it can hardly be expected that relief can be had in the near future. To make the situation worse the threatened railroad strike, together with the tie-up on the water front is unpromising. Prices have been well maintained and the demand for alfalfa is especially good.

No. 1 Wheat, per ton	\$15.00@17.00
No. 2 Wheat, per ton	12.00@14.00

Choice Tame Oat, per ton	15.00@17.00
Wild Oat, per ton	10.00@13.00
Barley Hay, per ton	12.00@15.00
Alfalfa, per ton	17.00@21.00
do, new, 1st cutting	9.00@11.00
Stock Hay, per ton	50@50
Barley Straw, per bale	50@50

FEEDSTUFFS.

The market for feedstuffs is strong. While the demand is not excessive, receipts in this market are below the normal and prices are being well maintained. Millrun shows an advance in price.

Brn	Not being marketed
Shorts	Not being marketed
Cracked corn	\$79.00@81.00
Rollod barley	\$66.00@67.00
Rollod oats	\$64.00@65.00
Alfalfa meal	\$36.00@37.00
Cocoanut meal	\$48.00
Oil cake meal	\$72.00@73.00
Millmix	\$59.00@61.00
Millrun	\$40.00@50.00

POTATOES, ONIONS, ETC.

Both potatoes and onions are weaker on account of the threatened railroad strike, and labor difficulties at the points of loading on the river and the local waterfront. Practically no shipments are being made out of the State at this time, as cars are scarce, and when available shippers do not care to risk the losses which might come from a railroad strike. River potatoes are becoming more plentiful in this market and will probably dominate it within a couple of weeks. Oregonians are getting very scarce and Idahoans are practically off the market. Bay tomatoes are arriving in good quantities now and sell for a higher price than the river product.

String beans	3@5c
Peas	5@7c
Carrots, per sack	\$1.50@1.75
Rhubarb, Strawberry, box	\$1.50@2.00
Cucumbers, hothouse	50@70c
Eggplant, box	50@65c
Lettuce, per crate	75c@1.25
Celery, crate	Nominal
Tomatoes, River, per large box	\$1.00@1.50
do, Bay	\$1.50@1.75
Sprouts	Nominal
Summer squash, lugs, Alameda	40@60c
Green Corn, Alameda, sack	\$2.00@3.00
Potatoes—Oregon	\$2.00@2.25
do, Garnets, new on street	\$2.40@2.75
do, Idaho	None
do, local whites	\$2.25@2.50
do, Rivers	\$2.00@2.35
do, Sweets, new, lb.	6@7c
Onions, Warehouse Stock—Australian	
do, Brown	Nominal
do, Brown	Nominal
do, Yellow	\$2.00@2.10
do, Green, Alameda	\$1.00@1.50
Garlic	15@18c

The demand for beans which has been

BEANS.

lively for the past two weeks or more showed a decided falling off this week on account of the agitation of the investigation of the High Cost of Living at Washington, and the president's message to Congress on the matter. Buyers of beans seem to think that all food products will be affected, and that Governmental regulations, which slowed up the business so much during the war, may again be put into effect.

Bayos, per cbl.	\$6.25@6.50
Blackeyes	\$5.50@5.75
Cranberry beans	\$6.50@6.75
Lima (south, recleaned)	\$12.00
Pinks	\$6.75@6.95
Mexican Reds	\$2.50@2.75
Tepary beans	\$11.75@12.00
Garbanzos	\$7.25@7.50
Large whites	\$7.75@8.00
Small whites	\$7.75@8.00

POULTRY.

Receipts of poultry have been normal this week from the State, and additional arrivals of colored hens and young roosters from the East caused the prices of these to drop. Other prices, except for old ducks, were well maintained. The demand for jackrabbits this week was exceptionally good, but some of the receipts were not in first-class condition. First-class Jacks in good condition sold as high as \$4.

Turkeys, dressed, young spring, lb.	.45@50c
Broilers, 1½ lbs. and under	33c
do, 1½ to 2 lbs.	33c
Fries, 2 to 3 lbs.	33c@35c
Hens, extra, per lb., colored	36@38c
do, Leghorn	28@32c
Smooth young roosters, per lb.	36@38c
lbs. and over	22@23c
Old roosters, colored, per lb.	22@23c
Geese, young, per lb.	22@23c
do, old, per lb.	48@50c
Squabs, per lb.	26@28c
Ducks, young	26@28c
do, old, per lb.	15@16c
Belgian hares	15@16c
Jack rabbits	\$1.50@3.00

BUTTER.

Butter shows little fluctuation during the week, and quotations on the exchange were unchanged. Little butter is being shipped outside of the State at the present time on account of rail conditions, and local consumption with the movement towards storage has taken care of shipments to this market. Local storage shows but little increase during the past week, though in the big Eastern centers storage shows a gain of over two million pounds.

	Th.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	51½	52	52½	52½	52½	52½
Prime firsts	51½	51	51½	51½	51½	51½
Firsts	50½	50½	50½	50½	50½	50½

EGGS.

The production of eggs is showing a considerable falling off, and prices might be expected to increase at this season. But the fact that shipments have been practically shut off for the present put an element of weakness in the market and prices were lower than last week. A closer sorting of pullet eggs has developed a considerable quantity of smaller eggs which are now being quoted under the name of "Underzards."

	Th.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	56	55	56½	56	54½	53
Firsts	52	52	52	52	52	52
Ex. pullets	51½	51½	52½	52½	50	51½
Underzards	40½	40½	40½	40½	38½	38½

CHEESE.

The market on California cheese eased off for flats and firsts this week, while the Y. A. description maintained last week's quotation. Oregon cheese is not moving well at present prices, which, however, have been maintained unchanged. Receipts of cheese in this market about equal daily demands.

Fancy California, flats, per lb.	32c
do, Firsts	29½c
California Y. A.	34c
Oregon Triplets	33c
Oregon Y. A.	32½c
Monterey cheese	24½c

FRESH FRUITS.

The supply of cantaloupes continues heavy but prices have stiffened somewhat since those of last week. The demand for home-grown melons has apparently ceased, and while there are plenty in the market nothing like a standard quotation can be obtained. The Persian melon, however, is popular and sells readily at 2½ and 3 cents a pound. Apples are steady and in good demand at last week's prices. Strawberries are weaker and receipts higher.

Apples, New Red Astrakhan, boxes	\$1.25@2.00
do, Gravensteins	\$2.00@3.00
do, Alexanders	\$1.25@2.00
Peaches	75c@1.50
Apricots, bulk, lb.	.60
Figs	\$1.00@1.25
Plums, box	75c@1.00
Grapes, Seedless	\$1.25@1.50
do, Malaga	1.50
Strawberries, chest	\$10.00@12.00
Loganberries	\$11.00@13.00
Raspberries	\$13.00@17.00
Blackberries	\$8.00@9.00
Cantaloupes, Standards	\$1.25@1.50
do, Pomes	75c@1.00
do, flats	50@60
do, Honey Dew, lb.	Nominal
do, Persian, lb.	3½
Watermelon, lb.	1½@1.50

CITRUS FRUIT.

Lemons are 50 cents lower on a lack in demand. Grapefruit continues to climb, as more is sold at the higher price than at lower. Oranges are unchanged.

Oranges, Valencia	\$4.25@4.50
Lemons, fancy	\$6.50@7.00
do, choice	\$5.50@6.00
do, standard	\$4.50@5.00
Lemonettes	\$3.50@4.00
Grapefruit	\$4.00@5.00

DRIED FRUITS.

Quotations on dried fruits were not changed this week, but the buyers are making no purchases at these prices. They want to see the result of the agitation over the high cost of living before they resume making contracts at present prices. While there is no indication that lower prices will prevail, it is

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., August 11, 1919.

Prices were somewhat lower this past week on Bartlett's than the week previous, due to a large proportion of the stock arriving ripe, and the markets were somewhat affected by the railroad strike situation, which up to the present has developed an embargo on some of the diverting lines, and the trade in some sections, not caring to buy in heavy supply, are picking rolling cars only when they feel that they can dispose of them without interference. The strike generally, has caused no serious damage to be done to date.

Northwestern pears have likewise affected the California pear market, though this condition will undoubtedly be overcome within the next two weeks.

The shipment of Sacramento River Bartlett's has discontinued and the movement from Suisun and Contra Costa county will be finished within a few days. The only available Bartlett's in any liberal supply will be from Placer and El Dorado counties.

The peach market continues very firm, with an upward tendency. California stock is arriving in good condition and meeting with favor with the trade. Indications are that the balance of the California peaches should clean up at very satisfactory prices.

Plum shipments continue light, the movement confined to a few varieties. The stock is carrying well and selling at the same high level as last week.

Thompson Seedless, where the stock is of good quality and condition is bringing good money, the demand being limited at prevailing prices and the shipments confined to the larger markets.

On account of the scarcity of refrigerator

cars, the shipment of Malaga has not been as heavy as it would be if the cars were freer. The demand is in keeping with the supply and prices satisfactory.

Tokays are coloring rapidly and though a few shipments have been made from the Winters and Vacaville districts, the movement from Florin and the Lodi districts will not begin until the latter part of the month.

Averages for the week:
NEW YORK: Bartlett Pears, \$3.65; Thompson Seedless, \$1.81; Malaga, \$2.26; Crawford Peaches, \$1.23; Elberta, \$1.37; Tuscan, \$1.59; Nectarines, \$1.66; Tragedy Plums, \$1.77; Diamond, \$2.07; Wickson, \$3.07; Sugar, \$2.11; California Red, \$1.80; California Blue, \$2.03; Bradshaw, \$1.42; Grand Duke, \$2.69; Burbank, \$1.72; American Blue, \$1.91; Kelsey, \$3.73; Duane, \$2.15; Giant, \$2.15; Gros, \$2.83; Columbia, \$1.80.

BOSTON: Bartlett Pears, \$3.28; Malaga Grapes, \$3.28; Thompson Seedless, \$2.14; Tuscan Peaches, \$1.69; Crawford, \$1.52; Elberta, \$1.65; California Blue Plums, \$2.37; Duane, \$2.20; Gros, \$2.27; Burbank, \$1.35; Diamond Plums, \$2.39; Wickson, \$3.80; Kelsey, \$4.02; Grand Duke, \$2.63; American Blue, \$2.21; Bradshaw, \$2.43; Tragedy, \$2.30; Giant, \$2.06; California Red, \$1.85.

CHICAGO: Elberta Peaches, \$1.23; Crawford, \$1.42; Tuscan, \$1.65; Malaga Grapes, \$3.05; Thompson Seedless, \$1.62; Bartlett Pears, \$3.96; Nectarines, \$3.00; Grand Duke Plums, \$2.31; Kelsey, \$3.40; Burbank Plums, \$2.65; Tragedy, \$2.12; Diamond, \$2.24; Gros, \$2.80; Giant, \$2.17; California Blue, \$2.45; American Blue, \$2.45; Bradshaw, \$2.15; Duane, \$2.35.

Special Citrus Market Report

Los Angeles, Aug. 12, 1919.

Best stock of Valencias continue to command satisfactory prices in Eastern markets although the demand has fallen off somewhat and sales show lower values in the last few days. Private sales show easier feeling on best grades and a slightly better feeling on lower grades. Shipments of oranges from Southern California total 654 cars for the week, as compared with 875 the week previous. Shipments of from 100 to 125 cars daily are expected for the next few weeks as there is considerable fruit that must be moved promptly. Trading on best stock is reported active on a f. o. b. basis of \$4.25 to \$4.75 per box.

The market on best stock lemons is

strong, the demand exceeding the supply. Poor stock showing decay, is going slowly at low prices. The weather remains favorable in the East for the sale of lemons, and indications show a continued active market for sound fruit. There are 650 cars of lemons in storage now as compared with 550 cars at the same date last season. F. o. b. quotations are on a basis of \$6 per box on best lemons. Indications show a crop of 10,000 car loads which will be the heaviest shipment in the history of the industry. Pickings are exceptionally light in all districts at present.

Total shipments of oranges for season from November 1, 29,634 cars; last year to date, 12,723. Total shipments of lemons to date, 8,494 cars, as compared with 4,715 cars last year to date.

a fact that the buyers were practically out of the market this week.

Apples \$23@23½c
Pears 20@21½c
Peaches 19@20c
Apricots 26@33c
Prunes 13@15c
Figs, Adriatic 14@20c
do, Calmyrna 16@23c

RICE.

A \$25,000,000 rice crop from Sacramento Valley is predicted this year. President J. H. Stephens of the Pacific Rice Growers' Association expects a yield of 4,500,000 sacks and says statistics covering every district on acreage and condition of crop are now compiled and that the yield will not be far from \$25,000,000.

HONEY.

There were no developments in the honey situation this week. The market is strong for honey for shipment, but locally there is practically no demand at present prices. Water-white orange blossom 18@20c
White to water-white sage (subject to production) 18@20c
Light Amber Mountain (Sage-Buck-wheat) 14@16c
Light Amber Alfalfa 12@14c

WOOL.

While this is the quiet season of the year in the wool-buying business, there is a strong undertone to the market, both in the East and on the coast. Stocks of wool are very low. Total amounts of wool used during June, 1919, by condition, in pounds, were: grease, 40,332,664; scoured, 6,064,243; pulled, 2,452,985.

Humboldt Nominal
Mendocino Nominal
Sacramento 47@52½c
San Joaquin 45@50c

HIDES.

The market for both packer and country hides is strong, and the tendency is still further upward. Supplies are not plentiful and are in strong demand.

Wet Salted:

Steer 37½@42½c
Kip 60@67½c
Cow 35@37½c
Calfskin 65@75c

Horse, Wet Salted:

Large \$10.00@13.00
Medium \$ 7.00@ 9.00
Small \$ 3.00@ 3.50
Colts 50c@ 1.00

LOS ANGELES.

Los Angeles, August 12, 1919.

BUTTER.

This market is off 2c since quoted last week. Price held at 59c till August 8th, then slumped to 57c. The demand still continues good. Receipts are lighter, for the week being 335,700 lbs.

California extra creamery 57c
do, prime first 55c
do, first 54c

EGGS.

Case count and pullets advanced 1c since last week's report. Eggs continue good sale and receipts are light—for the week, 767.

Fresh ranch, extra 56c
do, case count 55c
do, pullets 53c

POULTRY.

This market reports demand only fair. Broilers and friers still coming in freely, with only fair demand. Heavy hens still scarce and demand good. Ducks and geese dull. Nothing doing in turkeys.

Broilers, 1 to 1½ lbs. 27c
Broilers, 1½ to 1¾ lbs. 27c
Friers, 2 to 3 lbs. 25c
Roosters (soft bone) 3lbs. and up 29c
Stags and old roosters, per lb. 16c
Turkeys 34@40c
Hens 24@33c
Ducks 27@34c
Geese 27c

FRUITS.

Strawberries reported slow of sale, but higher under light offerings. Blackberries and raspberries also slow of sale. Plums in good demand and steady. Peaches and pears are selling well. Bartlett pears are now quoted and selling at 5c and 6c. All good, fresh stuff in demand.

Peaches 4@5c
Strawberries—
30 basket crates, fancy \$4.50@4.75
Poor to choice \$4.00@4.25
Blackberries, case 30 boxes \$4.00@4.25
Raspberries, case 30 boxes \$3.50@3.75
Loganberries, case 30 boxes \$4.00@4.50
Plums, Santa Rosa 6@7c
do, Tragedy 6@7c
do, Satsuma, lb. 6@6½c
do, Burbank, lb. 4@5c
do, Sugar, lb. 5@6c
do, Nectarines, lb. 7@8c
Apples, White and Red Astrakhan, lb. 4@5c
Grapes, Thompson Seedless, lb. 5@7c
do, Malaga, lb. 7@8c
Grapes, lb. 5@6c
Pears, Bartlett, lb. 5@6c

VEGETABLES.

Potatoes steady under light receipts. More onions coming in and the price lower. All fresh vegetables steady and in good demand. Cantaloupes reported very dull. Watermelons coming on the market freely and quoted lower and meeting with good sales. Receipts good in this market.

potatoes, local, per cwt. \$2.00@2.50
do, Northern Burbank \$3.00
onions, New Red, per cwt. \$2.25@2.35
do, Stockton yellows, per cwt. \$2.25@2.35
do, White Globe, cwt. \$2.40@2.50
cabbage, per 100 lbs. 75c@1.00
hubarb, per 30-lb. box 75c@1.25
summer squash, lug 20@30c
egg, per lb. 7@8c
string Beans, wax 3@4c
do, Green 3@4c
tomatoes, lug box 40@60c
cucumbers, local, lug box 15@25c
m. Beans, local, lb. 2½@4c
cantaloupes, shipped in, Stand. & Pony crates 50c@1.00
do, home-grown, pony crate 50c@1.00

Watermelons, 100 lbs. 75c@1.00
Lettuce, crate \$1.00@1.10
Corn, lug box 35@40c
Peppers, Bell, lb. 3½@4½c
do, Chile, lb. 2@3c
Casabas, lb. 2@2½c

DRIED CHILE PEPPERS.

This market remains the same as quoted last week. Very little doing.

California 12@14c
do, Mexican 20@22c

BEANS.

This market is very dull. Prices are a little higher under prospect of short crop.

Limas, per cwt. \$10.00
Large white, per cwt. \$6.25
Pink, per cwt. \$8.50
Small white, per cwt. \$6.25
Blackeyes, per cwt. \$4.00@5.00
Tepary, per cwt. \$3.00@3.25

ALFALFA MARKET.

The Alfalfa Growers of California, Incorporated.

porated, 525 Central Building, Los Angeles, furnish the following quotations on Alfalfa Hay, which are selling prices to purchasers of carload lots 1. o. b. Los Angeles.

The grower, to arrive at his selling prices, f. o. b. his station, should deduct the carload rate of freight from below quotations.

ALFALFA HAY.

No. 1 Dairy \$27.00@29.00
Standard Dairy \$25.00@26.00
Standard Alfalfa \$23.00@24.00
Stock Alfalfa \$17.00@20.00

HAY.

Choice alfalfa is in good demand but grain hay is still dull. Prices remain the same as quoted last week. Receipts good.

Barley hay, per ton \$18.50@21.50
Oat hay, per ton \$22.00@25.00
Alfalfa, Northern, per ton \$21.00@23.00
Alfalfa, local, per ton \$23.00@25.00
Straw, per ton 9.00@10.00

Special Livestock Market Report

San Francisco, Aug. 12, 1919.

CATTLE—There is a conservative feeling in the cattle market due to the high price of feeds and the government's action in offering foodstuffs to the public at cost. Cattle growers in common with producers generally, are in a state of uncertainty as to the future and are not forcing cattle on the market. The supply is therefore short, especially on the better grades of stock, and although there is no advance in quotations announced, the price trend is upward. Prices rule higher for calves.

Steers—
Grass steers, No. 1 weighing 1200@1400 lbs. 9½@10c
Grass Steers, thin. 6@7c
Grass Cows & Heifers, No. 1. 8@8½c
Grass Cows & Heifers No. 2. 6½@7½c
Grass Cows & Heifers, thin. 4@5½c
Bulls & Stags, good 4½@5½c
do, fair 4@4½c
do, thin 3@3½c
Calves, light weight 12½@13c
do, heavy 10@11c

SHEEP—Good mutton sheep are scarce, high wool prices figuring as a prominent factor in keeping supplies off the slaughter market. The recent sag in the Eastern market has been overcome by lighter receipts later on. The lamb market is active, and high prices prevail. Locally there is a slight decline this week in wethers and ewes.

Lambs, yearling 10@10½c
do, milk 13@13½c
Sheep, wethers 9½@9½c
do, ewes 7@7½c

HOGS—The hog market this week is very unsettled both here and in the East. The action of the Government in throwing large stores of bacon on the market much below market quotations the disturbances in the labor situation at packing plants and the railroad troubles all contribute to accentuate complications. We note this week a fractional recession in prices.

Hard, grain-fed, 100-150 lbs. 19½c
do, 150-250 lbs. 20 c
do, 250-300 lbs. 19½c
do, 300-40 lbs. 19 c

DRESSED MEATS.

Steers—
No. 1 14½@ 15c
No. 2 14 @14½c
Cows and Heifers 12@14c
Calves, as to size 20@25c
Lambs—

WEEKLY EGG AVERAGES.

		Cents per dozen for Extras.			
		San Francisco		Los Angeles	
Week Ending		1918	1919	1918	1919
Jan.	2...	52.80	75.60	48.16	69.50
"	9...	60.91	69.91	50.66	66.66
"	16...	65.66	58.70	55.00	62.41
"	23...	65.68	52.58	58.00	54.66
"	30...	61.25	48.75	54.00	52.33
Feb.	6...	58.50	42.00	51.66	43.00
"	13...	44.40	40.90	44.83	37.80
"	20...	44.75	36.41	40.83	39.33
"	27...	42.40	37.40	39.58	33.80
March	6...	36.83	37.58	35.00	37.00
"	13...	37.91	37.16	38.00	37.00
"	20...	40.66	38.16	39.63	42.00
"	27...	39.50	40.41	40.00	42.00
April	3...	38.19	42.41	38.33	45.00
"	10...	37.58	42.91	36.33	45.00
"	17...	33.16	45.10	36.33	46.00
"	24...	40.80	45.00	39.33	46.00
May	1...	41.66	45.00	39.33	42.00
"	8...	40.08	46.50	37.00	42.00
"	15...	39.16	47.91	39.00	50.00
"	22...	40.50	49.16	39.00	51.00
"	29...	38.66	47.58	37.41	49.00
June	5...	40.80	45.50	38.83	46.00
"	12...	48.30	47.60	45.00	47.00
"	19...	41.00	45.91	33.75	47.00
"	26...	44.32	49.66	39.08	50.00
July	5...	44.91	43.97	41.75	51.00
"	12...	48.30	47.60	45.00	51.00
"	19...	47.66	47.66	45.50	51.00
"	26...	47.91	49.33	45.16	51.00
"	31...	48.83	53.16	46.56	52.00
August	7...	49.50	55.50	48.58	58.00
"	14...	52.08	55.00	48.00	58.00
"	21...	56.33	...	50.17	...
"	28...	59.20	...	53.00	...
Sept.	4...	62.40	...	56.33	...
"	11...	63.70	...	58.67	...
"	18...	61.30	...	59.00	...
"	25...	60.17	...	55.67	...
Oct.	2...	65.42	...	59.75	...
"	9...	65.08	...	60.00	...
"	16...	71.30	...	62.66	...
"	23...	78.38	...	70.33	...
"	30...	86.41	...	79.33	...
Nov.	6...	87.90	...	78.00	...
"	13...	86.00	...	78.00	...
"	20...	77.25	...	72.00	...
"	27...	79.80	...	72.33	...
Dec.	4...	82.00	...	73.00	...
"	11...	82.08	...	74.33	...
"	18...	79.65	...	72.33	...
"	25...	82.00	...	71.66	...

Suckling 23@25c
Yearling 20c
Sheep—
Wethers 17 @19c
Ewes 14½@16c
Hogs 28@30c

Los Angeles, August 12, 1919.

CATTLE—A slight advance will be noted on cows and heifers. Steers still dull. Cows selling little better, but not so many coming in.

Per cwt. f. o. b. Los Angeles:
Beef, steers, 1000@1100 lbs. \$9.00@10.50
Prime cows and heifers \$8.00@9.00
Good cows and heifers \$7.50@8.00
Canners 5.00@ 5.50

HOGS—No change will be noted in prices in this market. A fair demand is reported with prices firm.

Per cwt. f. o. b. Los Angeles:
Heavy average 275@350 lbs. \$16.00@17.00
Heavy average 225@275 lbs. 18.00@18.50
Light 19.50@20.50
Rough docked 20 lbs. piggy sows 40 per cent.

SHEEP—Lambs and ewes reported in good demand. Wethers slow sale. All quotations the same as last week.

Prime wethers \$8.50@ 9.50
Prime ewes 8.00@ 8.50
Yearlings 8.50@ 9.50
Lambs 12.50@13.50

Portland, Ore., August 12, 1919.

CATTLE—Steady; receipts, 273. Steers, best, \$10.00@11.50; good to choice, \$9.00@9.50; medium to good, \$8.50@9.00; fair to good, \$7.75@8.25; common to fair, \$7.00@7.50; good to choice, cows and heifers, \$8.00@9.00; medium to good, \$7.00@7.25; fair to medium, \$4.50@5.50; canners, \$3.00@4.00; bulls, \$5.00@7.50; calves, \$9.00@15.00.
HOGS—Slow; no receipts. Prime mixed, \$20.00@20.50; medium, \$19.50@20.00; rough heavies, \$19.00@19.50; pigs, \$18.25@18.75.
SHEEP—Steady; receipts, 764. East Oregon lambs, \$12.00@12.50; valley lambs, \$11.00@11.50; fair to medium, \$9.00@10.00; yearlings, \$6.00@8.50; wethers, \$7.00@7.50; ewes, \$6.00@7.50.

EASTERN LIVESTOCK

Chicago, August 12, 1919.

HOGS—17,000; estimated tomorrow, 10,000; unsettled, mostly 25@40c higher; top, \$23.40. Heavy-weight, \$21.25@23.25; medium weight, \$21.40@23.30; lightweight, \$21.25@23.25; light light, \$19.25@22; heavy packing sows, smooth, \$20.25@21.15; packing sows, rough, \$19@20.25; pigs, \$17.50@19.50.

WEEKLY BUTTER AVERAGES.

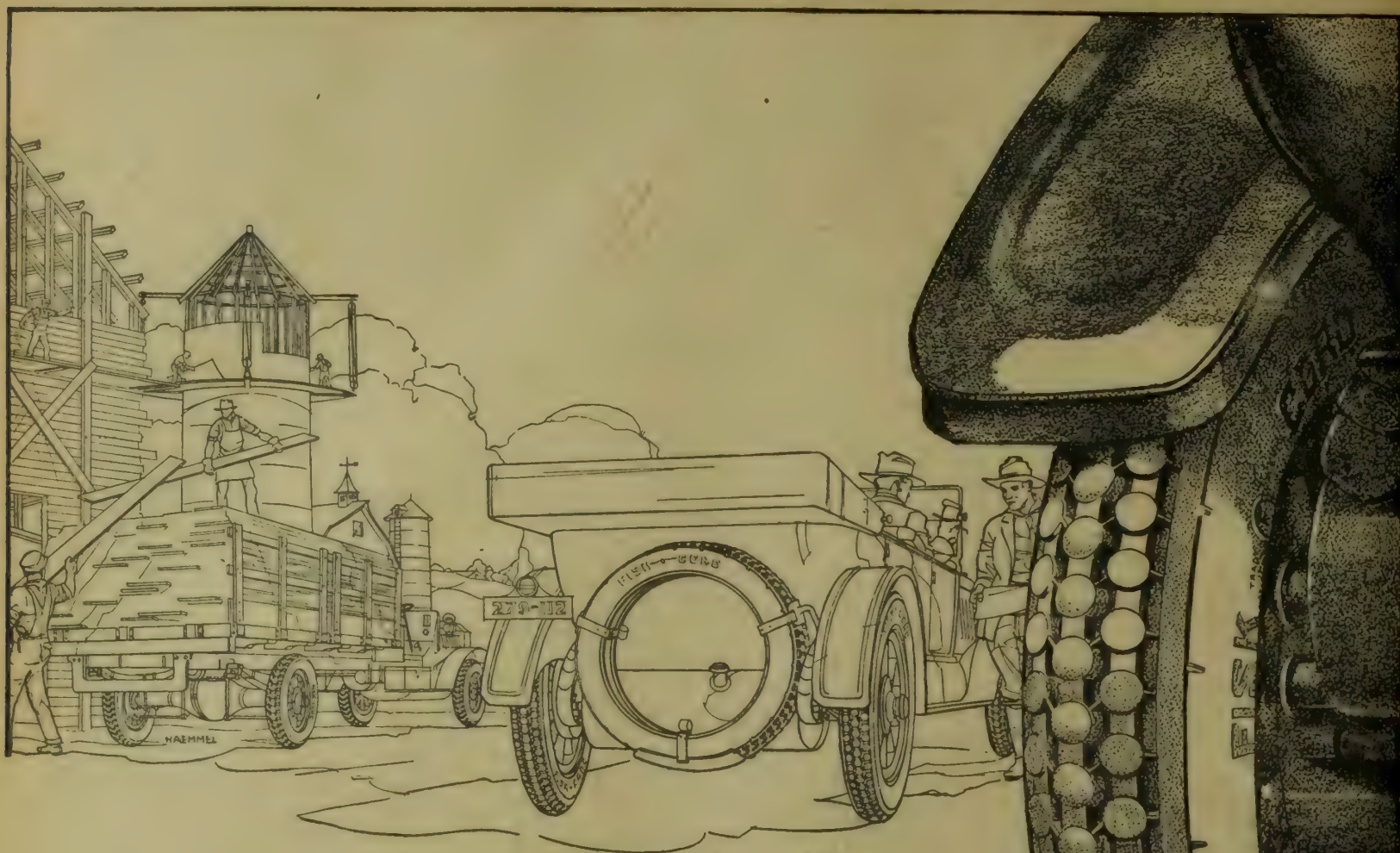
		Cents per pound for Extras.			
		San Francisco		Los Angeles	
Week Ending		1918	1919	1918	1919
Jan.	2...	58.40	66.19	50.16	63.16
"	9...	51.08	61.00	50.00	64.00
"	16...	52.33	61.70	50.50	64.16
"	23...	52.50	55.83	52.0	62.16
"	30...	53.80	44.91	51.83	49.00
Feb.	6...	50.80	43.58	49.66	47.33
"	13...	52.00	46.80	48.00	47.60
"	20...	51.41	51.58	48.00	53.16
"	27...	50.66	53.90	49.33	55.00
March	6...	50.66	56.16	50.00	59.00
"	13...	51.16	55.58	49.50	58.00
"	20...	47.83	54.41	47.00	56.00
"	27...	46.30	56.41	43.30	58.00
April	3...	43.16	54.23	42.16	55.50
"	10...	39.25	57.16	39.50	56.00
"	17...	40.50	52.41	37.16	54.00
"	24...	40.50	52.41	38.16	54.00
May	1...	40.83	52.41	39.00	54.00
"	8...	40.66	52.91	39.00	54.00
"	15...	40.46	55.16	41.00	58.00
"	22...	40.33	57.91	41.00	59.00
"	29...	42.30	57.91	39.00	59.00
June	5...	43.90	54.12	41.58	57.00
"	12...	44.92	53.58	40.58	57.00
"	19...	46.50	53.16	41.75	57.00
"	26...	47.42	52.83	53.00	55.00
July	5...	48.08	52.37	46.00	55.00
"	12...	48.90	52.12	47.50	54.00
"	19...	50.83	52.71	48.66	56.00
"	26...	52.66	54.24	45.16	57.00
"	31...	52.16	55.08	51.00	57.00
August	7...	52.16	55.50	50.83	59.00
"	14...	51.66	52.33	49.00	57.00
"	21...	52.25	...	49.58	...
"	28...	53.00	...	50.00	...
Sept.	4...	53.00	...	50.00	...
"	11...	54.90	...	50.33	...
"	18...	57.80	...	51.67	...
"	25...	61.33	...	56.17	...
Oct.	2...	64.75	...	58.00	...
"	9...	64.50	...	59.33	...
"	16...	62.50	...	60.00	...
"	23...	61.75	...	60.00	...
"	30...	63.50	...	59.50	...
Nov.	6...	59.80	...	58.83	...
"	13...	60.00	...	57.00	...
"	20...	61.00	...	57.25	...
"	27...	61.60	...	58.75	...
Dec.	4...	62.60	...	60.00	...
"	11...	63.00	...	60.10	...
"	18...	63.50	...	61.01	...
"	25...	64.60	...	62.16	...

CATTLE—17,000; estimated tomorrow, 11,000; weak. Beef Steers—Medium and heavy-weight; choice and prime, \$17.50@19.35; medium and good, \$13.25@17.50; common, \$10.50@13.25; lightweight, good and choice, \$15@18.75; common and medium, \$9.75@15; butcher cattle, heifers, \$7.75@15.25; cows, \$7.50@14.50; canners and cutters, \$6.25@7.50; veal calves, light and heavyweight, \$20@21; feeder steers, \$8.35@13.75; stocker steers, \$7@11.25; Western range, beef steers, \$9.75@17; cows and heifers, \$8@13.50.

SHEEP—26,000; estimated tomorrow, 28,000; strong; lambs, 84 pounds down, \$14.25@17.25; culls and common, \$10@13.75; yearling wethers, \$10.25@13; ewes, medium, good and choice, \$7.50@9; culls and common, \$3@7.

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THE PACIFIC RURAL PRESS

SAN FRANCISCO

AUGUST 23, 1924

LOS ANGELES

Purpose and Scope of the State Fair.

An Interview with Geo. C. Roeding, President of the State Board of Agriculture.

THE STATE FAIR, held annually in Sacramento under the auspices of the State Board of Agriculture, is now recognized as one of the institutions that has a very important bearing on the development of all the natural resources of the State. The growing interest now manifested by the agriculturalists and horticulturists, by the dairy and livestock men, and by the great institutions which manufacture, process and find markets for our products, is a proof of that.

What Is Its Purpose?

The main purpose of the State Fair today is to educate in matters pertaining to Horticulture, Agriculture, Dairying and Live Stock in all their branches; to demonstrate the best materials and cultural methods of obtaining given results in these industries; to show modern methods of marketing our wares and what the world's markets and our own markets demand.

Another purpose is to promote friendly rivalry by exhibits from various counties as well as to widen the knowledge of what those counties stand for.

Some 20 counties are making great central exhibits this year. All of these things help our producing industries in a measure that is hard to calculate. They help to disseminate information that can not be spread in any other way. Only by such a grand aggregation of products is it possible to compare results—to see, weigh and handle them.

An Instance in Point.

Suppose some one has a Tuscan Cling peach with a smaller pit and more meat. It is brought here, its origin and habitat noted, and its merits discussed. Prunes from the different sections are shown. Their size, shape and quality are compared, their habits and bearing capacity discussed together with one hundred and one things in connection with the industry. Such comparisons must result in advancing the industry by the application of lore picked up at the Fair. It is only by concentrating at one place and having the objects at hand that these things can be brought out.

The above are a few of the details presented in answer to our first question—"Purpose." We asked Mr. Roeding about the Future. He said:

Business Demands a Definite Plan.

"Let us pause for a moment and formulate in our minds what a State Fair should be. Having decided, we proceed to outline a definite plan to work on. For nothing is done that is not based on a system. In the first they must be built on model lines. At the same time they must be models of efficiency, thus providing examples for our country fairs. They must be built on model lines. At the same time they must be models of efficiency, thus providing examples for our county fairs. In the construction of a cow barn, dairy building, hog barn and the many other buildings, they must serve to educate those who see them and be of such a character and design that interested parties may obtain ideas from the examples set before them that they will be proud to follow."

"The only buildings which appeal to the directors as serving a purpose

today are the Women's Building, erected in 1916, and costing \$30,000, and the new Horticultural and Agricultural building, completed a few months ago at a cost of \$30,000—the nucleus of what promises to be a new era in the history of the State Fair. There is no other State building that will compare with this for exhibition purposes."

The First Attraction.

"Now the first thing that attracts us on entering the Exhibition Grounds is the buildings and their grouping or their setting. We admire their beauty and outward appearance, and are anxious to see the attractions which they house. Good buildings are necessary to provide a setting for exhibits and to induce exhibitors to come and spend the large sums necessary to show off their wares to advantage."

"We must therefore work for a concrete plan and build to it if our Exhibition Grounds are to present a homogenous grouping. To stick up a building with the idea of adding makeshift lean-tos is not good enough. Our producing industries for one State are already the greatest in the world, and this great fair will be "the" feature that represents them as a whole. Our fair grounds and buildings must be adequate in dignity and area to the vast rich State they represent. We want every exhibitor to be proud of the possession of his space and every grower or business man to be proud of attending an annual function and festivity he helped to create.

How Can We Enlarge Its Scope.

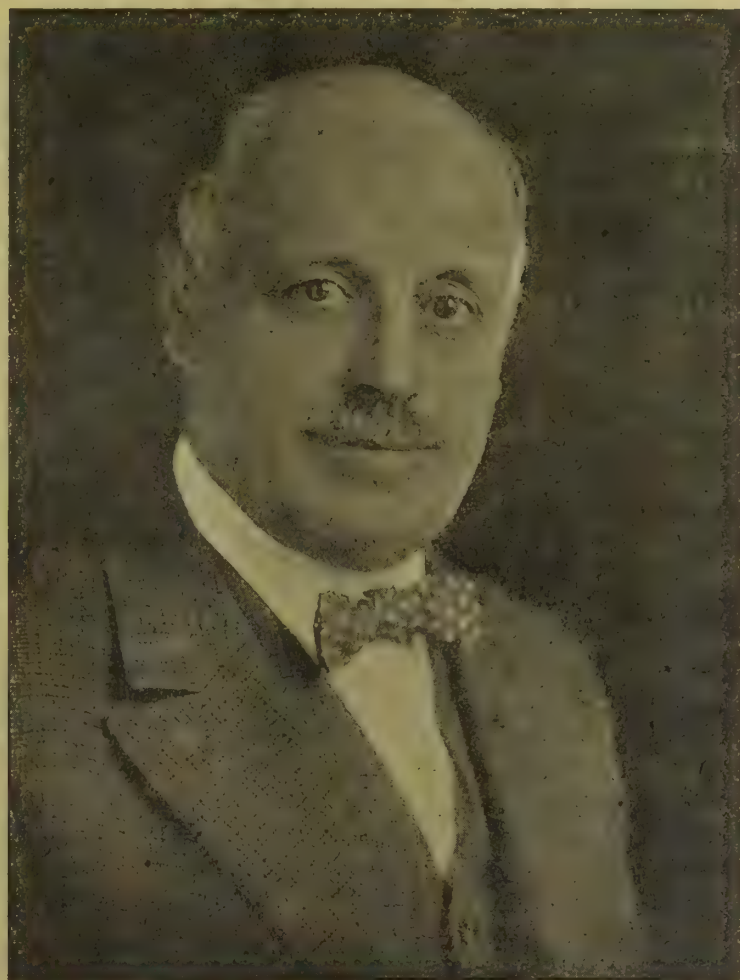
"The farmers, growers and business men must first remember that this is THEIR Fair. They must learn to extend their interest in the exhibitors themselves as well as in that which is shown. They must offer suggestions and ask for them, too. The Board of Directors can only do so much work as the annual appropriations will reach. That is their job. The members of the Board receive no pay—only their expenses. They work solely for the advancement of the producing industries in the State of California.

The time has arrived when the scope of the Fair should be widened and more buildings provided to meet our enormously increased

production. Californians must see that funds are available to carry this out. The annual appropriation of \$30,000 for premiums and funds for the maintenance of the buildings and grounds are the only moneys that the Board of Directors have at their disposal.

The plans are ready to complete a definitely formulated "entity" as fast as funds are provided to carry them out. Every citizen of the State of California is interested in the fulfillment of these plans—not only from the civic standpoint, but because it is good, profitable business.

All exhibitors are represented here by men who want you to ask questions—you need not buy, just ask questions and learn. These men are here to answer those questions, and they want you to do it. The State Fair is a business proposition that is also made as attractive and entertaining as possible. As San Francisco is the metropolis of the Pacific so must our State Fair become the Mecca of visiting investors.



GEORGE C. ROEDING,
President California State Board of Agriculture.
"The State Fair can be the greatest educative and promotive agency in California development, and it is the duty of every Californian to help realize its benefits."

PACIFIC RURAL PRESS

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JNO. J. FOX - - - - Horticulture
R. H. WHITTEN - - - - Livestock

EDITORIAL.

THE STATE FAIR.

WE ARE giving this issue largely to things culminating at the State Fair which will open at Sacramento on Saturday, August 30, and continue until the evening of Tuesday, September 9. It will be the biggest thing of the year in the industrial sky of California. It is primarily agricultural—as it ought to be, because our wonderfully varied agriculture is our greatest industry—but remember it is our State Fair and therefore the exposition of all the interests which make California great and deserving to be greater. We hammered on our skull a little in the effort to wake up an idea of what should appear on our first page this week as the exponent of California's most promising and potential line of production and we have a firm conviction that we have hit it off right. We thought of the mountains Whitney and Shasta which lift us highest into the blue canopy in both actual attainment and inspiration; we thought of the great waterfalls of our Sierra ranges which not only pour the beneficence of the sky upon our productive plains, but will be the source of living waters for our great cities during all coming generations; we thought of our record-breaking animals which are winning places for us in the livestock industries of the world; we thought of our beautiful trees and vines which constitute ours the world's greatest fruit-producing commonwealth—and then we thought some more! Whence come all these things to make us happy, prosperous and proud of our earthly inheritance? They came from God. And what is the greatest thing God ever made in the world; was it the glistening snowcap of a mountain, or the sheen and shimmer of a cataract; was it a lordly quadruped, with all its power to acquire and transmit traits of incalculable industrial value, or a tree "pleasant to the sight and good for food"? No; the greatest thing God ever made in the world is Man—to "have dominion over every living thing that moveth upon the earth"; Man "to multiply and replenish the earth," from the marriage in Eden to the League of Nations!

And so it came to pass that our frontispiece presents what is, beyond peradventure, the greatest thing in California—a Californian! He is a son of our soil, a product of our environment, a leader in our enterprises. He is charged with the California spirit and holds the California point of view as to what constitutes real greatness and the most promising approaches to it. California enters as her leading exhibit at the State Fair of 1919 the man who has inspired and helped all others to work together to ensure the success of it!

GREAT FORCE TO PUSH CALIFORNIA.

The coming State Fair is a great opportunity. Californians themselves are the great force and that is why we try to exalt the human factor in the exposition and urge its full representation in the affairs of it. Men and women should rally to its support and patronage. It will be by making our institutional agriculture strong and truly representative that our individual farming will become

more confident, efficient and prosperous. California has no second in her institutional agriculture, whether it be measured in educational, co-operative or other institutions or in all of them, and yet California is now only a marker of what California will be—but she is on the way. In speaking to an assembly of agricultural teachers at the University Farm the other day, Dean Hunt of the University of California is reported as saying: "Farmers are soon to occupy a position of importance that they have not held before. A new day for the farmer is coming, if it has not already arrived, and some of the keenest minds in the world are today being used in California for the production of food." This is a perfectly true statement; go to the State Fair and see the demonstration of it!

THE COMBAT THICKENS.

Since our last issue the movement against food prices and profiteers has proceeded from Washington, as then indicated, and has localized itself in all parts of the country. The matter, so far as agriculture is most directly concerned, still clings to the national capital and is most expressive in the line of governmental policies related to production as a whole. Insistence is becoming stiffer against all efforts at arbitrary regulation and price fixing, which were endured patriotically and patiently as war-measures but which are now held to be of questionable value even as such. On August 16 there was realized, under the leadership of the National Grange, the nearest approach to co-operative cordiality, among representatives of farmers' organizations at Washington, in making their purposes known to Congress. So far as these relate to direct operations of farmers, the following are noted:

Ending of wheat price regulation and all price fixing on primary food or clothing material at the end of the present crop season. Removal of all restrictions and regulations based on war powers of congress, including the food administration activities.

Immediate termination of the powers of the war trade board.

Removal of all internal revenue taxes on food products.

Immediate revision of discount and grading rules, especially on wheat, and adequate representation of actual producing farmers in the formation of grades and discounts to be adopted in the future.

Enactment of laws to define legality of collective bargaining among agricultural people.

Recognition of organizations of producing farmers in making up the personnel of committees, boards or commissions to direct enforcement of existing laws or proposed laws.

Most of these contentions seem to have been prompted by the experience of producers during the last two years. Whether greater hardship has been inflicted upon them by arbitrary policies of price-regulation or by the ways in which these policies have been administered, seems to be in doubt among the farmers. As both phases of the subject are obscure, the first being hidden in the mazes of economic science and the second carefully covered by secrecy in administrative methods, the farmers naturally desire escape from both things which they cannot understand. They only know that they have been very hard hit in the dark and they insist upon sunrise and blue sky for doing farming.

THE FARMER'S RELATION TO THINGS.

The contentions cited above are such as we have repeatedly emphasized and the simple suggestion of them is enough for this time. There is fortunately coming out in the Washington conferences quite clear assurance that the farmers are finding their voices and that they propose the general public shall more fully understand their relation to other groups of people whose encroachments are limiting the capacity and efficiency of this industry. Take for instance the declarations of J. R. Howard, president of the Iowa Farm Bureau Federation, who appeared on Saturday last before the Committee on Agriculture of the House of Representatives as spokesman for a conference of farmers from Iowa, Nebraska, Indiana, Ohio and Illinois. Denying that the farmers were responsible for present conditions, Mr. Howard said:

The high cost of living is not due to the lack of desire or effort on the part of the farmers to produce to the limit of their physical ability. The farmer has not struck, walked out, or otherwise slackened in production.

The high cost of living is due to a stagnation in production of manufactured goods and prepared food-stuffs. Every labor strike that shuts down any plant engaged in the preparation of foods or the making of clothing, that shuts down mine or mill, adds to the high cost of living. If capitalistic monopoly wants enough food produced that it may be regularly fed, if the do-nothing dawdlers want enough food produced so that they may occasionally eat, let them stand forth now and declare by deeds that they will co-operate with the farmers! Let them cut out profiteering in goods and wages, and go honestly to the business of preparing and purveying the necessities of life, going honestly to the job of doing a full day's work for a full day's pay.

Such declarations in the public ear at the national capital will rarely do something to awaken the public mind to the real causes of the troubles which we are now facing in this country.

WHERE IS THE HIGH COST OF LIVING?

In connection with the foregoing and emphasizing the truth of the contention of Mr. Howard as representative of the farmers of the middle west, is the result of a recent inquiry into the relative advance of the various necessities of life by the Secretary of Commerce and Labor made public in Washington on Saturday last. It was shown that there was a general increase of about 80 per cent in the cost of living during the period from December, 1914, to June, 1919, based on investigations in various representative cities over the country. In every instance greatest increases were recorded in the prices of clothing and house furnishings. Food advances were of third importance. Figures for the period December, 1917, to June, 1919, show general averages of about 20 per cent in the cost of food supplies.

It seems very clear that the higher cost of living is chargeable to manufacturing or to profiteering in manufactured materials. Though there have been greater increases in certain lines of food products, for 20 per cent is the general average, the surprise must be not that it is so great but that it is not greater and that the food producers have been able in spite of the way all other interests have encroached upon the farmer's will and ability to reduce his cost of production, he has been able to do so much to keep the consumers' expenditure for staple foods down to such a moderate increase. The fact is that the farmer has been up against it all along and that he will keep up against it just as long as he can, for he is built that way. It was however clearly told the Congressional committees by Charles A. Lyman, secretary of the National Board of Farm Organizations, that: "The effect of legislation which may reduce the price the farmer receives for his grain, livestock and dairy produce will be to decrease production. The farmer will simply quit producing except to support his family. We feel it our patriotic duty to fully advise Congress as to the effect of such laws." And the reason why the farmers may do as Mr. Lyman describes will not be because they will to do it but because they cannot do otherwise.

SENATORS MAKE DECLARATION.

It does not yet appear what effects will follow the coming together of farmers' representatives at Washington. They seemed to be strongly opposed to the government's policy of food regulation and administration, and they took the chance to object to the President's second veto of the proposed law to make the clock tell the right time after October next. They seem to have scored a hit in the Senate Committee on Agriculture, for the majority thereof, including both republicans and democrats, issued a signed statement which is rather a sharp arraignment of the way in which the fixed price is administered to the detriment of the wheat-grower. The statement is forcible and specific, thus:

The farmers' interests must be safeguarded. Hundreds of millions of bushels of wheat have been shriveled by heat this season, and under present grading rules cannot sell for more than \$1.50 a bushel. Millers, however, plan to gather up this grain and make it into high grade flour to sell at prices based on No. 1 wheat. At this time we shall insist on a change in the wheat standards so as not to penalize every grower of wheat. The producers are defrauded and the consumers receive no benefit.

We do not know enough about milling to decide whether the millers can make high grade flour from heat-struck wheat or not, nor what it means.

cost to do it, but they can be trusted to make their own points if they desire. The chief significance to us at the moment is that the farmers are being heard and heeded at Washington and that both political parties are sitting up and taking notice! Farmers must keep sowing the seed of such doctrine. In due time they will reap if they faint not. They may even get to be thought to be politically as much worth while as federated labor!

WHO OWNS THE FARM SKY?

But we ought, perhaps, to rise above the politics and profiteering which we have suggested and here seems to be a chance to get up! The question is: Granted that the farmer is being batted about on the surface of the earth, has he a chance to get his own in the sky? We have read that Frederick Hoenemann, a farmer living near Kansas City, has obtained a temporary injunction forbidding aviators to fly in the air over his farm. He has been much annoyed by the planes. They scare the horses, and one of them dodging the shadow of a plane, jumped into a ditch and broke its leg. The throbbing of the engines disturbs the animals so that they will not leave the barn when there is a plane overhead. The plaintiff's attorney contended, on the basis of common law, that the owner of land owns everything beneath it to the center of the earth, and everything above it to the zenith. Thus any aviator cruising overhead, no matter how high, is literally trespassing on his atmosphere, and can be ordered out of it just as a pedestrian can be ordered out of a field. The local judge has therefore issued a temporary injunction against planing over Mr. Hoenemann's farm and the constable is wondering how he can get the trespassers! We remember that the same question came up in France just before the war broke out but since then the planes have been sailing as war measures. It looks very much as though a new law question had appeared under the sun. It is possible that it may be necessary to give the land owners only a league of air, just as nations have only a league of ocean, for their very own, and to have height cops hiding behind the clouds just as we have speed cops behind the bushes along limited highways. It promises to be a very interesting matter.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Pigs and Green Fruit.

To the Editor: How much is gained by feeding green plums, peaches, etc., to pigs and hogs? It seems to be an established fact that for people the acid of green fruit is very undesirable. Is it like the case of the man who bought a pig and kept it a year and sold it for what it cost him, but claimed that he had the satisfaction of having the pig for company and to eat swill for him?—G. L., Auburn.

Yes, it is very much that way. Green fruit, except perhaps in very limited way as a tonic in connection with other foods, is of no advantage to a pig. He may not squeal about it as much as a small boy is known to do, but he probably feels that way. Of course, as fruit approaches ripeness, it becomes better for both of them.

Flat-Headed Borer in Walnut.

To the Editor: I am enclosing some kind of borer that has killed and damaged some of my walnut trees that I set out last spring. What I have caught so far seems to start boring above the ground about a foot, and they seem to start at a bud and work up the stalk of the tree until the top dies. It works under the skin and cuts a bigger channel the further it goes.—H. B., Modesto.

It is the common flat-headed borer which infests early all kinds of fruit trees—generally after the bark has been injured by sunburn. Open any dark spot you see on the bark, and if you find a burrow, either push a piece of pliable wire to the end of it, or cut along until you get the worm. Keep your trees whitewashed and you will have little trouble from this worm.

Horse Beans.

To the Editor: Are horse beans suitable for hog feed, and when should they be planted on dry as well as on irrigated land?—D. G., Redlands.

Dry beans are suitable for hog feeding to the same extent as other beans are. They should be sown with corn or sorghum grains because they are

over-rich in protein. Green horse beans are nutritious forage. Horse beans are hardy against ordinary frosts and are therefore adapted to winter-growing and to use rainfall. They can, in fact, be planted whenever the soil has moisture enough to keep them growing—either from rainfall or irrigation.

Peach on Almond.

To the Editor: I intend planting peaches this fall and find it almost impossible to get the amount of young trees I desire on the peach root, but can get them on the almond root. I know nothing about the almond root, but am told that while it makes a larger tree it is more subject to root-knot, so would appreciate what you will give me on the subject.—Subscriber, Mountain View.

We should take the almond root if we were sure the soil to be planted is not likely to be waterlogged. That does not mean merely that it is on a slope, because slopes water-log if the soil is too heavy and shallow. As for the root-knots the almond is somewhat more subject to them, but that need not be an objection if you are sure not to accept any trees which show them or signs of their having been neatly whittled off. Get clean almond roots and then watch for the development of them while the tree is young and you need not apprehend trouble afterwards.

Will Cucurbits Mix?

To the Editor: It is the general belief that melons, cucumbers, squashes, etc., will mix if grown close together, but I have never found any one who will say how it is done and how to avoid it. Please enlighten us on the subject.—G. L., Auburn.

So far as we know you have gone about as far as Darwin did for in one of his books, he says: "In the United States, where the cucurbitaceae are largely cultivated, it is the popular belief that the fruit is directly affected by foreign pollen, and I have received a similar statement with respect to the cucumber in England." That is that the growing squash, melon, cucumber, etc., is itself liable to be changed as the effect of cross-pollination—not that the potentiality of the seed it will bear will be changed. If we remember correctly, Mr. Burbank has had many observations to prove that the growing receptacle of the seed may be changed as well as its contents. We have no idea that Darwin or Burbank, or any other man can tell how it is done. To avoid it is easier, viz.: to lessen the chance of it by keeping the plants as far apart as possible. Why it is likely to be done is due to the fact that all the plants named have a mechanical structure of the blossom which makes it easier to take pollen from an intruding insect than from its own supply—therefore it may be said to be waiting for intrusion and the intruder is likely to blow in from some other plant.

Dancing Galls of the Oak.

To the Editor: I am sending some seeds which I found under an oak tree in front of a reformed road house, where they sell soft drinks, nothing stronger than 2.75 per cent beer. When I saw the seed jumping around I rubbed my eyes and wondered if I was seeing things. The ground was covered with them and the earth seemed to be in motion. Are they "jag" seed or shades of departed sprees? What are they? Do they really jump or are my eyes wrong?—E. L., Ceres.

Our correspondent sends roundish, seed-like bodies about as large as a turnip seed which really do jump about as he seems to see them and when they are abundant as he found them the whole surface of the earth seems to be restless. It does not require 2% per cent beer to see them; they will be just as clear with ½ per cent beer, which promises to be all that Congress will allow us to have. But they are not seeds at all—they are the dried galls or swellings which a very minute hymenopter or four-winged fly caused to grow on the surface of an oak leaf by stinging the tissue. In the swelling thus formed the fly's egg grows into a tiny grub and when the leaf dries as the summer advances the gall detaches itself and with the grub still enclosed falls to the ground. That is what you find and when the grub decides to flop and stretch inside he makes his house jump or dance around, and that is the reason why his proper name is cynips quercus-soltatrix—the dancing gall-fly of the oak.

In connection with this, one always thinks of the Mexican jumping bean. In that case however the body is really a seed, which has a grub inside—not a real bean but a bean-like seed—which is

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made to dance and jump as the grub takes his exercise therein.

Too Much Water or Too Much Pruning?

To the Editor: I have some peach and plum trees in my back yard (which is also used for a vegetable garden) that put out an immense growth of new wood every year. Some of the new wood is 10 feet long (one year's growth). The trees blossom very little and bear less. They are six years old and have been pruned back short every year, and they grow until late in the fall, with green leaves on some of them at Christmas. I have blamed the fault to too much irrigation. There are 12 varieties—apricots, plums and peaches, all act the same way. Will pruning them early in September bring any more fruit, or what can I do to get more fruit.—T. B. E., Oakland.

Probably your trees are over-irrigated as you suggest, but if they had not been so over-pruned and thus forced to excessive wood growth they might perhaps have made better use of the water by turning it into large fruit. It is possible, with growth now so rank and likely to continue as late as you mention, a good repressing effect might be exerted by pruning now—but for such effect it is usually necessary to curtail the foliage earlier in the summer. Try pruning a tree of each kind now—not cutting back any branch or shoot, but wholly removing all suckers or rank new growth, starting from the largest branches and thinning out the branches by removing those which interfere with others or parallel them too closely. Do not cut back any small shoots, but remove some if they crowd very closely. Allow most of the trees to go unpruned, both now and next winter. If they set too much fruit next spring, as may be the case, thin out the fruit and remove the excess branches also at that time.

Rather Hard Row for Cherry Trees.

To the Editor: Last spring I took out 200 gum trees and this coming season want to plant cherry trees in the space. It is on a side hill, southwest exposure, and gets a good bit of wind. Do you think they would do all right? Also, do you think it a good plan to dynamite the holes early this fall to let them stand open until planting time; I didn't know if it would wash too much. The hill is fairly steep, but the ground is pretty well packed as it has never been cultivated.—T. W., Sebastopol.

You can get good cherries on Sonoma hillsides if the soil is deep enough and fine enough to hold moisture to finish the summer's growth. If the soil is hard and shallow, you run the chance of losing the trees in winter by soursap and in the fall by drying out. If you do not use too large charges of dynamite and put them three or four feet deep, you ought to make the soil take and hold water better and not increase the danger of washing. Do not use enough to blow holes, unless you have stumps to get out. But we should seriously doubt the wisdom of putting a fresh gum tree clearing into fruit trees. It should be manured well and farmed for grain or hay to get the soil aerated and mellowed, and we would particularly doubt suitability to cherries in such a piece as you describe. Study the case a little before deciding and look over the district and see if you can find good cherry trees on such soil and such situation as you have. Cherry trees are rather finicky and have to be humored a good deal to be profitable—unless you wish to grow pie or sour cherries. They will stand much hardship.

California Weather Record.

The following rainfall and temperature record is furnished Agriculture Weather Bureau at San Francisco for the week the Pacific Rural Press by the United States Department of ending August 19, 1919.

Stations—	Past Week	Rainfall		Temperature	
		Seasonal To Date	Normal To Date	Highest	Lowest
Eureka .....	.00	.02	.14	64	50
Red Bluff .....	.00	.00	.00	108	60
Sacramento .....	.00	.00	.00	106	56
San Francisco ....	.00	.01	.01	68	51
San Jose .....	.00	.00	.02	82	46
Fresno .....	.00	.00	.00	106	64
San Luis Obispo ...	.00	.00	.03	84	50
Los Angeles .....	.00	.00	.00	86	56
San Diego .....	.00	.00	.00	76	64
Winnemucca .....	.00	.00	.27	86	52
Reno .....	.00	.00	.27	96	52
Tonopah .....	.00	.34	.53	90	64

Horticulture and the State Fair.

Written for Pacific Rural Press by John J. Fox.

Why do we go to the State Fair? What is it going to do for us this year?

What do we get out of it? We go every year for a very feminine reason—"Because." This means simply that there are various reasons of which we are very conscious, but we have never bothered to outline or embody them in definite thoughts. There is no necessity to, because we are going anyway.

Some of us are going to view our own exhibits or make definite purchases, and have to be on hand. But the majority of us go primarily to be instructed and entertained. Instruction and entertainment are running mates: it is necessary to be interested to gather profit from either. Some of us want to see the trotting stock or the best pure-blood of any domestic animal or bird in the State. Here it is.

Others are stirred by watching some practised individual pawing the air and ramping about nothing in particular so long as he gives vent to plenty of "fury and sound." Here he is, in front of every side show. We really like him because he is so human, yet wonder how he learned to get that way.

The foregoing is by way of straightening out the bewilderment so many of us feel at first contact with the multitude of holiday-makers—just as we get inside the gate.

This year the State Fair is going to do more for the fruit grower than ever before. Because the fruit grower has suddenly leaped up into the lead, and because this year he has a good solid bank-roll. When the farmer of fruit grower has a surplus, the first thing he thinks about is improvements—new tools, a new tractor, new pumping machinery—anything to simplify work, improve results, increase production, and lower the labor bill. All the "improvements," having remotely anything to do with the orchard or its product are here.

Let's Look at the Fruit.

Here are the various packs of apples put up to comply with the new laws. The advantages of standardization are demonstrated. For apples

compete in the world's markets and competitors are making their standardization laws very strict so as to capture the trade on merit. The demand for ours is in competition with Canada and Australia as well as our own States. There are 53 varieties displayed here—a full pack.

There are also "quantity" exhibits, consisting of ten boxes to the exhibit.

Demonstration of Extent.

These "quantity" exhibits of ten boxes each are also a feature in the competitive displays of pears, peaches, plums, apricots and grapes, and are grouped to show the volume and value of the fruit industry in the State.

There are 34 varieties of pears and 50 varieties of peaches, and each variety of all the "commercials" provides a premium for both single standard packs and quantity exhibits.

All have to be labelled correctly, and everyone can compete—counties, growers, packers, or shippers.

Here are standard packs of oranges, lemons, pines and pomelos, semi-tropical fruit and berries in standard packages and a gold medal offered for olives.

The best commercial varieties of walnuts and almonds are shown processed and put up for the marketing. Chestnuts, pecans, hazelnuts and even the humble "goober pea" are in this exhibit. The special attendant in this department carries a nutcracker and is decorated with a star you will notice.

Dried Fruit Featured.

The large displays of dried fruits this year and the premiums offered were compelled by the vastness of the industry and what it means to California. It is a new feature. It attracts as much attention as a piece of specimen rock from high-grade ore would among a bunch of prospectors. The exhibit here is, so far as space allows, commensurate with the magnitude of the various dried fruit industries.

Not only are standard packed boxes of cured fruits of all kinds shown, but premiums are given for the best individual exhibit. And here are large assortments of retail packages that

go direct to the consumer. You learn where they go and perhaps why the public wants just that kind of package.

Educational Exhibits.

Here is an educational exhibit showing the curing and packing of peaches. You can see how they are served—taste this peeled peach out of the carton. Now you know why it is no trouble to sell them. The fuzz is gone and the process has been perfected. They taste better than when you pick them off the tree—same as a date. The Fair Management hung up a \$100 premium to induce worthy exhibits for public education, as well as diplomas for factory exhibits of merchandised fruit.

Here we have magnificent exhibits of canned and preserved fruits and jellies, sauces and pickles by packers and canners who have been competing for the various gold medals to proclaim the excellence of their packs. Through these exhibits we can learn to some extent the enormous world demand for our canned fruit that has been so promptly met by our men of the business-world.

Ever since last fall they have been building new canneries, extending old ones, and going after business. These new home markets have "lapped up" our record crop before we knew it and have aided in our golden harvest—incidentally gleaning a bit for themselves by the way.

From Orchard to Home.

You may learn through these exhibits how your fruit goes from the lug box to the home. What it looks like when it is merchandised in various ways, who buys it and how they serve it. You will perceive why so many of our good housewives are going out of the canning business entirely and buying the stuff. They can't compete with the canneries. Glass costs too much, sugar is high and the canneries buy the best quality of fruit and put it in tins. If your good wife wants to move into a new flat it is easier to move tin than glass. Consequently, a large home trade has grown up among our American housewives for factory-canned stuff, who

formerly put up all their own fruit. What Shall I Plant?

Here is a big competitive display of nursery stock, flowers, ornamental trees, and shrubbery, bulbs and seeds, with gold medals hung up for the most meritorious display. You have learned already the many uses to which our fruits are put—the many different ways of preparing them for the table, the new markets and demands made by pushing our trade. Now you will ask yourself, "What shall I plant that will be in best demand seven years from now and that will secure the best returns?" "Where shall I go for my trees?" You will learn the economic value of bees apart from their productive value. You can see them at work from a safe point of vantage.

Wine Eliminated.

For the first time the displays of our one-time great wine industry have been eliminated. The products of the wine vineyards are still displayed, however, in the shape of grape-juice, grape syrup, vinegar and all kinds of non-alcoholic drinks.

This is a particularly interesting department to visit because of its demonstration that wine grapes can still be profitably grown in quantity, for the legal manufacture of beverages. A number of wine men and grape growers will foregather here every day, and much is learned in these discussions. A good "guessing match" is easy to find these days. The present high prices have given rise to a general feeling of elation among growers not unmixed with apprehension.

Among the men you meet are men who are enjoying the sun while it shines. This happy bunch is in the majority. There are those, however, who are vaguely uneasy about prices in general, and a number are frankly distressed when the cost of labor, transport and commodities are considered.

With all the food for reflection to be seen and heard at the great State Fair, one feels like the old sailor's parrot, which, the owner explained, "couldn't exactly talk, but he was a regular devil to think."

How Our Peaches are Processed.

Written for Pacific Rural Press by D. J. Whitney.

Things are different in the dried peach business since the Peach Growers' Association took hold of things, and since "practically peeled" peaches came on the market. This outlines the operations of the fine packing house built by the Association at Selma.

When the trucks or wagons of the grower-member come to the door the peaches are unloaded, weighed and hoisted by an elevator into a grader, one of these standing at each side of the doorway.

Passing through the grader, first the dirt and litter is shaken off, the standards fall through the next screen, the choice through the next, then the fancy, and last the extra fancy peaches. Peaches of these two large sizes fall upon belts before they reach the weighing trucks, and all slabs, discolored, or otherwise unsatisfactory peaches are removed by the girls. To secure a thorough job of grading, these two large sizes are run through the grader a second time. Each grower's fruit is kept separate all this time and is weighed by grades as it finally leaves the grader and every man is given credit according to the size of his marketable fruit. When the fruit goes from the scales to the bins it loses its identity and is mixed with other fruits. Muirs and Lovells are graded separately; the less important and inferior drying varieties are stored and shipped together.

From the immense bins the peaches

are delivered by a traveling conveyor to the processing department, almost the whole output of the largest houses being practically peeled. This process was devised by H. A. Beekhuis, manufacturing manager for the Association, and was sold by him to the Association for a moderate sum. Measured by its worth to the growers and to the company, a million dollars would be a small estimate of its value. It has been of the utmost worth in developing new markets and increasing the selling price of the processed fruit.

The peaches now go into a solution of soda in boiling water, which loosens the skins and incidentally removes any dirt on them. Then they go through cold water, which removes the soda, and into the peeler. Rotating brushes force the peaches along wire cylinders, which scrapes off the skin. Muirs peel best. Lovell skins stick much tighter, but a great deal of it is removed and under all circumstances the fuzz is all taken off, which is a great thing, and it only remains to dry, resulphur and pack the fruit.

There are 30 sulphuring houses, holding altogether 65 tons of fruit, the daily packing capacity of the plant. The fruit is held in the houses over night. Before being packed girls pick out all poor fruit.

Although most fruit is shipped in boxes, a carton trade started last season, is rapidly developing and twice last year's output will be sold this

year. These cartons contain 11 ounces, two pounds and five pounds of fruit. They provide an extremely convenient, simple and clean way of supplying family trade, and indicate one of the ways that co-operative marketing benefits both producer and consumer.

A new thing for the San Joaquin valley in the dried fruit line is dried whole clings. This proposition developed in the northern part of the State and was tried in the Fresno district only on a small scale last season. This year quite a few cling producers are going to try it on a larger scale. Only the small clings that the canneries will not take are handled in this way. Two slits are made around the peach, quartering it, but not removing it from the pit, and it is then sulphured and dried. These slits allow the moisture to escape. Whether clings are pitted or dried whole, a man with fruit that cannot be canned, cannot allow his fruit to spoil or even to go for hog feed while prices for fruit are so high, even if the cutting wages are high also and peach made pork higher than pork has ever been before.

Peaches Larger When Irrigated.

Lack of irrigation supplies and hot weather has reduced the prospective dried peach output of the San Joaquin valley 5,000 tons in the last half of July, according to Sales Manager Sturtevant of the California Peach Growers' Company. There are more

peaches on the trees than there ever have been, and the loss will come in reduced size. Naturally, growers with good pumping plants did not suffer at all and are in luck.

The crop has been so well sold that no more orders will be booked until it is certain that the fruit will be available, and Sturtevant says he could sell twice as many if he had them—thanks to co-operative marketing. Several years ago, when peach men sold through middlemen, no peaches were shipped to Europe. Now Europe is buying heavily and will do so every year.

The peeling process controlled by the company is responsible for much of the increased demand for peaches and more are going that way every year. This season approximately 60% of the crop will be sold in that condition.

John J. Gerdes of Terra Bella sold ten tons of Royal apricots from one and a quarter acres of six-year-old trees. The price paid was \$55 a ton at Porterville Cannery. At this price the fruit brought \$450 an acre. Tilton's are \$60 a ton at the same cannery.

The Oliver Chilled Plow Works has undertaken to handle the Thomas Crown mowers and rakes and Thomas grain drills in California since Baker & Hamilton have relinquished these along with their other lines of farm implements.

City Has No Charms for Tractor Farmer

Written for Pacific Rural Press by R. E. Hodges.

When Frank Critchett went to farming last fall at a time which seemed to be our country's greatest need, it was 25 years since he had done any farming, and at least 100 years since he had handled a tractor. But he had farmed in Vermont and Colorado and California before his quarter century of city business be-

gan. He had learned about as much as the ordinary man does about quadrupeds. With this knowledge, he took a trip last summer looking into the farming methods of the Pacific Coast States. His observations convinced him that the folks who were making the most out of farming were doing it with fire and steel rather than with blood and muscle.

Operated with Practically No Troubles.

He plowed and seeded about 400 acres of grain with that tractor, driv-

way at certain hours of any day, there was some of Mrs. Critchett's good cooking to entice them in. Then Mr. Critchett pumped them about the tractor.

Tractor Permits Double Cropping.

The traveler through Mr. Critchett's neighborhood sees only grain stubble or summer fallow at this season of the year, with semi-occasional alfalfa fields started since water became available a year ago. Mr. Critchett's 110 acres of bean fields are rather lonely in that part of the coun-

cret of good bean growing. But it couldn't have been done without the tractor, and wasn't done by other people here.

Not a Hoof on the Place Next Year.

But bean planting for horse or mule cultivation has to be in rows 32 inches apart, and even then the best-trained animals hoof down too many of the plants. A specialist in bean planting and cultivation was hired for these operations at \$1 per hour for the man, two mules, and the implement. This land is good enough to grow beans in rows 26 inches apart, and there is plenty of irrigation for the purpose.

"Not a hoof will I have on the place next year," says Mr. Critchett. "I will have a motor cultivator with various implements to use on it, and will take care of a bigger bean crop with less help. I probably won't grow much grain next year; but if I do, I will hitch the motor cultivator to a binder to harvest it. This winter I will have 80 acres of peas and probably a great deal more. These will be planted in November by motor power, checked for irrigation, and mowed at the proper time to make dried peas, for which there is a ready market. Pea straw makes first rate forage for livestock, including milk cows. The peas will enrich the land and will be off in time for beans to follow them."

The big tractor will prepare the seedbed in fine shape and on time. The motor cultivator will do all the lighter jobs and the automobile will do all the road work except hauling crops to town.

Some Pointers from Experience.

A man who is alert enough to plow (Continued on page 237.)



This big, simple, willing tractor enabled F. C. Critchett to put in 400 acres of grain last fall, though he had never used a tractor before. It plowed 200 acres during the heat of this summer without having sparkplug removed. Mr. Critchett expects to sell off all of his horses and farm with this 18-36 tractor and a motor cultivator, growing a great acreage of beans and peas.

gan. He had learned about as much as the ordinary man does about quadrupeds. With this knowledge, he took a trip last summer looking into the farming methods of the Pacific Coast States. His observations convinced him that the folks who were making the most out of farming were doing it with fire and steel rather than with blood and muscle.

Fortunately Ignorant.

But his ignorance of tractors was fortunately so vast that he was aware of it. That means that he was willing to learn. There are some folks who already have all the knowledge that is required to make them happy.

Mr. Critchett bought an 18-36 tractor from a firm which kept service men available. He was willing to learn all that they could teach him. He found them to be gentlemen and treated them as such. They soon learned that if they were passing that

ing it himself, and had only one or two minor delays. He pulled a dozen eight-inch Stockton plows—what he considers a good load for twenty 1300-pound horses. He used horses on an ordinary wagon broadcaster, and followed them with the tractor, pulling 60 feet width of extra-heavy wooden harrows spiked with nine teeth per bar and with fifteen-inch teeth following the wheels. No wheel tracks were visible when the job was done, and Mr. Critchett's stand of grain equalled the best in the country around.

The grain ripened unevenly, so it was harvested with a binder this summer while the tractor plowed 200 acres at the rate of sixteen acres every ten hours. The sparkplugs were never taken out, for they did not get dirty. The machine used 26 gallons of distillate every ten hours and three gallons of oil every 40 hours.

try, but they are making a good crop while surrounding fields bake in the sun. The soil is adobe loam. It was plowed dry after the grain was harvested, then irrigated and plowed again. The more you plow this soil the finer it crumbles, and that is a se-

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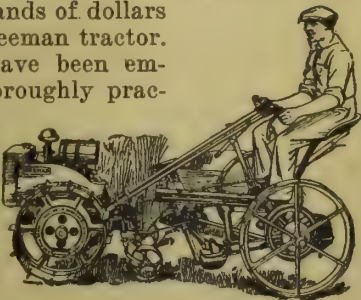
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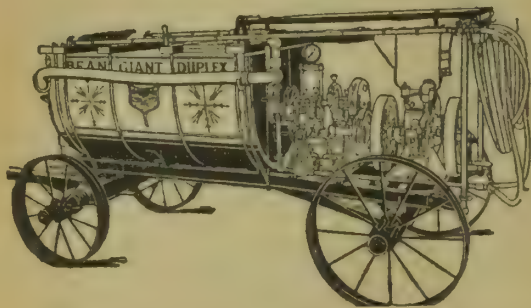
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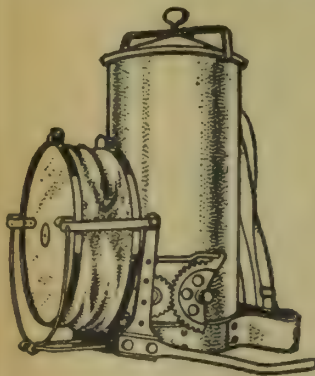
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New Grape Syrup Manufacture

(Written for Pacific Rural Press by E. W. Cruess and G. W. Christie.)

The manufacture of a dark amber colored syrup for table use is described in Bulletin No. 303 of the University of California Agricultural Experiment Station. Since the publication of this bulletin we have made very great progress in our grape syrup investigations and have been able to produce repeatedly a syrup which we and many others as well consider far superior to grape syrups previously described.

The new syrup is deep red in color and possesses a rich jelly-like flavor. It makes an excellent table syrup, is suitable, when diluted with water, for fruit punches; diluted with carbonated water, it is a very pleasing beverage and may be used successfully for sherbets and other frozen dishes. In addition to the uses just mentioned it is suitable for export to Japan, South America, Mexico or other foreign countries for use in wine making, one gallon of syrup being the equivalent of about 3.05 gallons of fresh juice.

This syrup may be manufactured in large wineries, canneries, or other establishments suited to the handling of fruit. In addition to the crusher, press, tanks, and filter already on hand in wineries, a vacuum pan and steam plant are necessary. The manufacture of a vacuum pan requires about forty days' time; therefore anyone desiring to undertake the manufacture of syrup during the coming season must act at once.

To concentrate 5000 gallons of juice to syrup per 24 hours will require, according to an estimate made by one manufacturer a vacuum at \$2250, a pump at \$500, and a 30 H. P. boiler at \$1200, and a continuous pasteurizer at \$750. The cost of installation must be added to this and would probably bring the total to about \$5,000. Such an equipment would produce about 1400 gallons of syrup per 24 hours or concentrate the juice from about 30 tons of grapes.

The cost of manufacture from an estimate based upon the cost of manufacturing other syrups would probably be about 15c. per gallon of syrup to which would be added cost of container at 15 to 25c. per gallon, depending upon whether barrels, cans or glass bottles are used as final containers. One ton of grapes will yield

45 to 50 gallons of syrup. With grapes at \$30 per ton the cost of raw material bottles are used as final containers. would be 60c. to 65c. per gallon of syrup. Or the total cost per gallon for the finished syrup in the final market package would be from 90c. to \$1.05 per gallon.

Process of Manufacture.

The process followed in our experiments was as follows:

Use thoroughly ripe red wine grapes. To these may be added 25 per cent white wine grapes if desired. Crush and drain off free run juice and press the crushed grapes lightly. Transfer the pressed grapes to clean vats.

Heat the juice to 150 degrees F. and return it to the skins in a clean vat. Stir well to mix hot juice and skins. Allow to stand about 8 hours. This is to extract the color and to produce a deep red juice. Then press. It will be found that the hot juice has destroyed the sliminess of the skins and that pressing proceeds very easily.

Heat the juice to 150 degrees F. and allow to stand in a clean tank, 24 hours to settle. This is to clear the juice. Draw off settled juice from sediment and filter. Filter sediment separately. Now transfer to a vacuum pan and concentrate to 70 per cent Balling (70 per cent sugar) under a vacuum of 26 inches (or higher.) Each run must not exceed one and one-half hours because long heating destroys the color and flavor.

Store the syrup in clean tanks for six weeks to two months, to permit cream of tartar to separate. This may be recovered later. Draw off settled syrup into cans, bottles, or barrels, filling the containers completely full. Seal and ship. A bulk syrup for export may be made by running the syrup directly from the vacuum pan into barrels.

The use of the vacuum pan will be the only part of the process that is new to the wine maker. Vacuum pans or vacuum stills are usually rather complicated in construction, but they are installed by the manufacturer who also demonstrates the method of operation. Tin-lined copper pans or glass lined steel are best. Plain copper may be used but does not produce a syrup of as good color or flavor as glass or tin lined outfits.

WALNUTS ON CHAPARRAL LAND.

Mr. W. E. Reichart and Dr. N. B. Glasgow of Lower Lake are the first men in Lake County to plant walnuts upon the chemise and manzanita covered mountain sides of that region. For many years this red mountain land has grown a luxuriant crop of brush. It has been passed up by the old settlers as being unproductive of anything save woodticks. These men made their main plantings about five years ago, about 60 acres, and today these trees appear to be seven year olds judged by valley standards. The trees lie on a steep northern slope and the soil is a deep rocky loam. They are irrigated by wells high above the orchard and no pumping is necessary. This single experiment has raised land values on thousands of acres of similar land surrounding Lower Lake, which now are too thickly covered for good range. The local cattleman as a result is thinking more favorably of horticulture as the big money maker for his land, which up till now has been nearly useless to him.

THE RESULTS OF HIGH PRICES?

We learn from Consular Reports that Spain shows an increase in the area devoted to raisin grapes owing to the demand, at high prices, for dried Muscats during the past three years. In addition to the increased acreage, the Spanish growers are practicing irrigation where artificial water supply was never used before. They are also paying far more attention to food cultural methods. There's money in it.

Armenians even from this country, are said to be flocking to Mesopotamia

the garden spot of the world for centuries—now that the British are reviving old irrigation systems and developing new ones. The best conditions there are similar to the best conditions in the San Joaquin Valley. They can grow figs and raisins to compete with us. If Syria comes under Greek influence they will not forget to exploit her resources. The Levantine Greeks always have an eye to the main chance and are the most astute people in the world. 'Astute' is a good charitable word.

VITICULTURE NEWS DIRECT FROM FRANCE.

Professor L. O. Bonnet, Viticulturist, who served for four years in France with the French and American armies, returned to this country the end of July and has resumed his duties with the University of California. He says that the French are rehabilitating their vineyards as rapidly as possible, though it will be several years before the same area is at its best as existed before the war. A great deal of damage was done by a devastating frost last March on the plains of Gard, Herault and the Aude Department, much nursery stock being destroyed and the damage extending to the two-year-old wood on old vines. He noticed whole vineyards with shoots of from 8 to 10 inches long, where the whole area looked as if a fire had swept it when the frost took place. Above Lyons there was no spring frost and the crop outlook is good.

Mr. Bonnet says that there is a tendency just now in France to increase vineyard planting on account of the high prices obtainable for grapes and wine.



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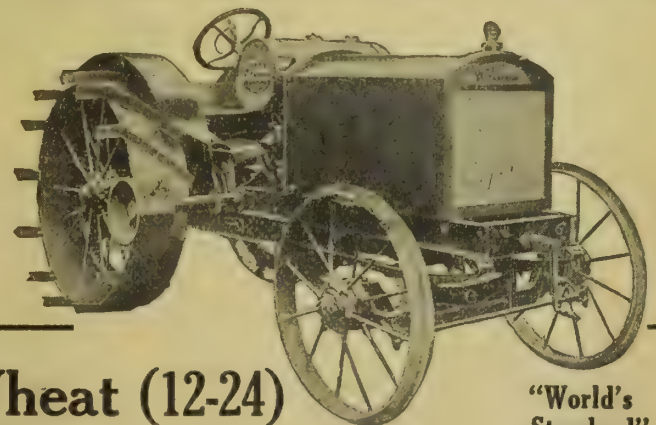
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This same WHEAT Tractor will be entered in the annual tractor demonstration at Los Angeles, Sept. 16th to 21st. See this tractor—investigate what the WHEAT has done—then you will know what it can do for you. The WHEAT—a practical tractor for practical farmers—and a tractor most farmers will want to own. Write for our new book today. A postcard will do—then watch for the WHEAT—"we're on our way."

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You can haul your crops to market by changing in a few minutes to these rubber-tired road wheels. This is an EXCLUSIVE "Wheat" feature.

Careful Sulphuring of Peaches Important

(Written for the Pacific Rural Press.)

More peaches are likely to be spoiled this season in sulphuring than usual in the Fresno district, according to one of the leading growers of Selma, on account of the lack of moisture in those orchards where there are no pumping plants. The peaches will run smaller and drier and unless moisture is added just before they are put into the sulphur house they are not likely to get a good treatment.

Some peach men advise sprinkling water over the cut surfaces of nearly all peaches before sulphuring, but one of the best men in the business never adds moisture unless the peaches have stood too long before going into the house. The fault is not with the natural dryness of the flesh, but with the exposed surface. If that is newly cut, the sulphur will take; if it is dried enough to form kind of a crust, it will not take and will have to be moistened; and this is the rule he works by.

This grower considers sulphuring so important that he always attends to it himself, for it is too hard to get a man with sufficient interest to care for all details. The only load of peaches he ever lost was when a hired man did the work, and that was because too little sulphur was used. When this

orchardist opened the house after a proper period, he found that all the sulphur had been burned a considerable time before and brown spots had begun to form. He tried re-sulphuring, but nothing could be done. When a peach starts to go bad in that particular nothing can stop it. The amount of sulphur he uses per load depends upon the number of peaches used; 20 trays will take approximately one-fifth less sulphur than 25 trays. A good job of sulphuring is shown when the juice gathers well in the pit cup. Few hired men will pay attention to little details like that. Their lack of interest is shown by the fact that peach pickers, whom it is understood must help unload the trays after sulphuring, never show any desire to learn the slightest fact about the way that the sulphur house is built or operated.

According to this peach grower more air than is usually allowed in a house is an advantage and because it is a great help in making clear peaches. Too much air is bad, but the amount that will leak through the unstopped cracks in a well-built house is all right. He usually leaves his peaches in the house from four to five hours.

SELMA APRICOTS.

Selma boasts of being the home of the peach, but apricots are highly thought of too. A. J. Otis of Los Angeles has 10 acres of young apricot trees, which, owing to alkali and other troubles, have enough misses to make only approximately six acres solid. After the frosts of 1918 John Peak, who superintends the care of the place, wrote that the crop would be an utter failure, but changed his mind before long and harvested 26 tons of fruit. This was the first year of full age for bearing. In 1919 there were no hard frosts and 126,673 pounds of fruit were sold from the ten acres. The trees are Tiltons, summer pruned.

Although this is a cultivated orchard, the belief in the Selma district is that although alfalfa in peach or-

chards is not a success, in apricot orchards it is an advantage to the trees and a profit on its own account.

OF INTEREST TO ALMOND GROWERS.

(Written for Pacific Rural Press.)

"Almonds are looking well and the yield promises to exceed that of last year by one-third," said T. C. Tucker, manager of the California Almond Growers' Exchange. Continuing he said: "We hear from our intelligence agent in Spain that the Spanish crop will be rather limited in anticipation of the opening up of markets, which were closed during the war, including Germany and Austria. So the bright outlook for the marketing of almonds remains unclouded by heavy competitive yields."

Price-Determining Conditions.

"No, prices on this year's crop have not yet been named—cannot be named yet. Your own guess on a possible price today would be as good as our own. If we set and guaranteed prices today, and then, owing to any legislative measure or economic crisis, those prices were depressed before the crop was harvested, you can see where we'd be."

"On the other hand, a price set today might, by reason of a strong demand, harden considerably before harvest, the result of which would obviously be to our disadvantage for the time being. I am going East soon and the market will be gauged and the prices warranted will be determined by the time we can get delivery of the first almonds and the exact extent of the crop is known."

Cultivating the Eastern Market.

"By the way, a feature of our present extensive advertising campaign in the East consists in prizes offered for the best displays of 'Associated' almonds, particularly the best window displays. Observe that this does not mean just 'California almonds.' They must be from the California Almond Growers' Exchange—clean, bright, graded nuts. We are making this competition widely known in Eastern cities, even circularizing all the salesmen to get the crop moved quickly. For the trade buys early for its holiday needs."

Nut Specialist for Northern California.

"One other matter of interest to nut growers is that Professor C. A. Reid, Nut Culturist of the U. S. Department of Agriculture, is to be stationed in Northern California to investigate and help us with our many problems; determining the best commercial varieties from all angles; the adaptability of soils and localities for producing them, and the best methods of handling, harvesting, and processing—in fact, the whole nut curriculum.



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"I use **GIANT**
It gets them out
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Professional blasters know explosives. They have tried all the different makes. Many of them say "Giant gets the stumps out cleaner." John Zurr of Santa Rosa, Cal., writes:

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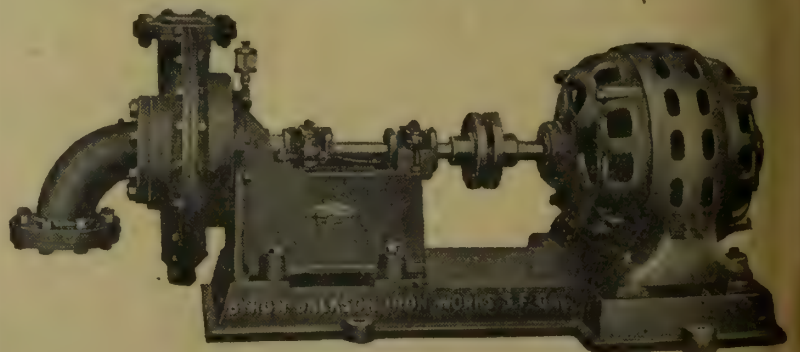
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"Pacific new and re-newed pipe saves me money."
Renewed screw casing costs from one-half to two-thirds less than standard pipe. Large savings on standard pipe, fittings and valves; special fittings made to order. Pacific Pipe is thoroughly tested and guaranteed for 150 pounds working pressure; asphaltum dipped; serves every purpose. Let us save you money. Write!
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A ton of ARCADIAN Sulphate of Ammonia carries more plant food than a ton of any other nitrogenous fertilizer.

ARCADIAN Sulphate of Ammonia is for sale by: CALIFORNIA: San Francisco; Hawaiian Fertilizer Co., Pacific Bone Coal & Fertilizing Co., Pacific Guano & Fertilizer Co., Western Meat Co., California Fertilizer Works. Los Angeles; Pacific Guano & Fertilizer Co., Pacific Bone Coal & Fertilizing Co., Agricultural Chemical Works, Hauser Packing Co. OREGON: North Portland; Union Meat Co.

For information as to application, write

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BUILT FOR

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Send for Booklet, "Fertilizer Efficiency"

—Tells You Why

HAUSER PACKING CO.

Los Angeles, California

ENCOURAGING TO WINE GRAPE GROWERS.

(Written for the Pacific Rural Press.)

Growers of wine grapes, especially those in the hill districts who only have a few inches or a foot of land over the clay—land that is practically unfit for anything else but vines—will be encouraged to hear that there is a prospect in sight of retaining their beloved vineyards. Of their continued use for beneficent purposes and the prospect of reasonable remuneration for their labors.

SULPHUR



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 6 times they will not be affected by MILDW or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also E A G L E Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for

bleaching purposes, LEAVING NO ASH. VENTILATED Sublimed Sulphur—Impalpable Powder, 100% pure, in double sacks, for Dry Dusting and making Paste—(Atomic Sulphur).

For LIME-SULPHUR SOLUTION, use our DIAMOND "S" BRAND REFINED FLOUR SULPHUR. We can furnish you this Sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out in labor for spraying your orchard, even if you pay your men \$4 per day for making the solution and applying same.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre DIAMOND "S" BRAND POWDERED SULPHUR, 100% pure. This has increased various crops up to 500%.

Also PREPARED DRY DUSTING MATERIALS, Tobacco Dust, Dry Bordeaux, Dusting Sulphur Mixture, etc. And "Anchor" Brand Standard LIME-SULPHUR SOLUTION 33 deg. Be., Sulphur Paste, Nicotine, Black Leaf 40, etc. Fungicides and insecticides. Carried in stock and mixed to order.

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We are equipped to make immediate shipments. Send for "ILLUSTRATED BOOKLET"; also booklet "NEW USES FOR SULPHUR." Price-list, and Samples.

Please state for what purpose you use the sulphur, quantity needed, and date of shipment preferred.

TELEPHONE KEARNY 871.

We wrote in our issue of August 9 of experiments that had been carried out by John H. Wheeler at St. Helena with the Zante currant. While the assembly was there Mr. Wheeler incidentally told us of other experiments which he had been carrying out with regard to the production and keeping of grape juice, which appealed to us as far more promising and encouraging than the Zante currant. For if the world's markets for our grape juice and syrup can be captured and extended, not only can our beautiful vineyards still remain to adorn our hillsides and provide a living for their many votaries, but our wineries may even remain intact though their product will be non-intoxicating.

The Making of Grape Juice.

Mr. Wheeler brought out several glass demijohns of white grape juice for the assembly to sample. It was as clear and bright in color as a well-kept Chablis and just as inviting to the eye. It had been "lengthened" with about 20 per cent of water, obliterating the over-sweet taste so often preferred against grape juice. The flavor of the grape remained. No trace of sulphur was distinguishable though we were told that it was perceptible in the undiluted juice. For, in preparing the barrels for grape juice, they are thoroughly cleansed by sulphuring before being filled. No preservative whatever is used in the preparation of the juice. It is the simon-pure article as expressed from the fresh grapes, but is kept in the cellar at a temperature not to exceed 60 degrees F.

The grapes used were green Hungarians, but any wine grapes will do.

Will Crush This Year's Vintage.

Mr. Wheeler says it is his intention to crush his own grapes this fall and make further experiments. He hopes and suggests that a plan may be worked out before another season by which a large part of our vintage could be crushed and saved and then shipped all over the country during the winter and put into cold storage warehouses there to be used as needed. He will endeavor to demonstrate with his own goods this winter. He may have to make vinegar of some or perhaps induce others to reduce it to a syrup and concentrate it so as to save in the cost of transportation. The juice has to be reduced in vacuum pans to retain the color and avoid the cooked taste produced by open pans. If any of the material he handles in detail starts to ferment, he is prepared to turn it into vinegar or suffer the loss.

The grape juice under proper manipulation in the making can be shipped abroad and could be made into wine if correctly handled in its first stages. This may provide us with an added export market.

Cost of Evaporation.

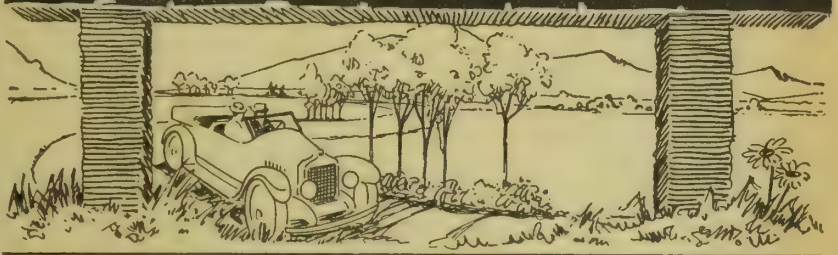
W. V. Cruess of the University of California followed Mr. Wheeler on the platform and told us that the practice of evaporation for turning grape juice into syrup was thoroughly practical and practicable and would warrant the expenditure necessary for plants to carry out the operation. In a separate article is the meat of his remarks written by himself.

Applications for licenses for the exportation of wheat to all destinations in the western hemisphere and the east coast of Asia to which flour shipments are now licensed will be received for consideration at the New York office of Julius H. Barnes, United States wheat director now. The order is effective August 15 and until further orders. Applications must be made in duplicate.

Flour milled from the new 1919 wheat is quoted at \$1.25 per barrel lower in Minneapolis than that of the old crop.

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INDICA
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In Western Canada Grain Growing is a profit maker. Raising Cattle, Sheep and Hogs brings certain success. It's easy to prosper where you can raise 20 to 45 bu. of wheat to the acre and buy on easy terms.

Land at \$15 to \$30 Per Acre
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Railway and Land Co's. are offering unusual inducements to home-seekers to settle in Western Canada and enjoy her prosperity. Loans made for the purchase of stock or other farming requirements can be had at low interest.

The Governments of the Dominion and Provinces of Manitoba, Saskatchewan and Alberta extend every encouragement to the farmer and ranchman.

You can obtain excellent land at low prices on easy terms, and get high prices for your grain, cattle, sheep and hogs—low taxes (none on improvements), good markets and shipping facilities, free schools, churches, splendid climate and sure crops.

For illustrated literature, maps, description of lands for sale in Manitoba, Saskatchewan and Alberta, reduced railroad rates, etc., apply to Superintendent of Immigration, Ottawa, Canada, or

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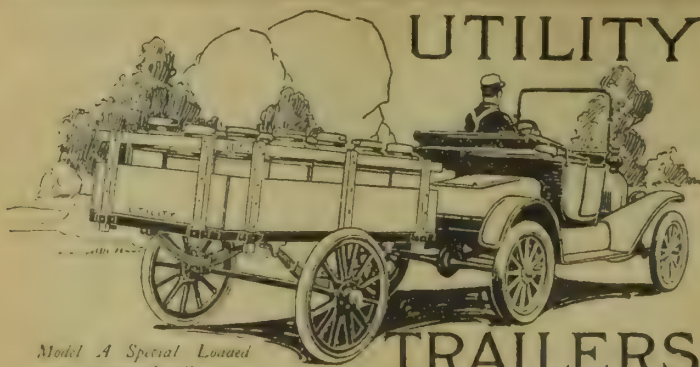
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Model A Special Loaded
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CAPACITIES:

2-wheel trailers, 12 sizes, 800 pounds to 1½ tons.

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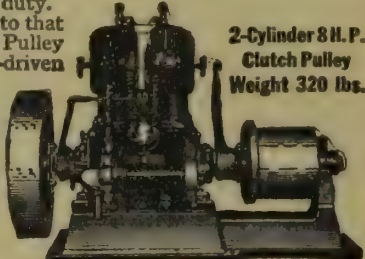
2-Cylinder Cushman Engines Very Steady Power

These are the only light-weight farm engines. High speed and throttle governor, with perfect balance give smooth continuous flow of power and uniform speed, instead of violent, irregular explosions and fast and slow speeds of old-style engines. This explains why Cushman engines are so light in weight, yet more steady-running and more durable than engines weighing four or five times as much.

Only All-Purpose Farm Engines

Besides doing all regular jobs, Cushman Engines may be used for so many jobs heavy engines cannot do. 4 H. P. is original binder engine, also used on corn binders and potato diggers. 8 H. P. used on hay balers, corn pickers, etc. 15 H. P. weighs 780 lbs.; 20 H. P. only 1200 lbs., for heavy duty.

Cushman equipment is much superior to that of ordinary farm engines. Friction Clutch Pulley and Schebler Carburetor. 20 H. P. has gear-driven high tension magneto. Cooled by forced water circulating system, permitting all-day run. Moving parts enclosed and run in bath of oil. Run at any speed—speed changed while running. If you want a real farm engine to run without trouble and do all your work, come in and look at the Cushman. Not a cheap engine, but cheap in the long run.



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The Cushman has a decided advantage over all other types for it can be more readily adapted to other work after pumping is over. It can also be easily moved about. It pays to have a Cushman.

For Corn Shellers, Bean Threshers, Etc.

Use the Cushman and get satisfaction from steady running.

Sold by Dealers and

Thomas R. Browne

Factory Representative.

STOCKTON, CAL.

Here and There in the Fruit Business

(Written for the Pacific Rural Press.)

Prune Picking Prices.

These vary with the crop and conditions. F. B. Smith of Saratoga is paying \$6.50 a ton for picking up prunes. The contract includes shaking the trees at the last and cleaning up the entire crop. He has a heavy yield of large prunes, the ground is in good shape, and he has tent accommodations for his extra help.

African Oranges on English Markets.

Our Agricultural Trade Commissioner in London says: "For the time being, the season for American oranges in Great Britain will be closed as oranges from the Cape of Good Hope have begun to arrive in quantities. Until freight rates are lowered it will be impossible for American oranges to compete with this source of supply."

El Dorado County Water District.

At a meeting of Farm Bureau members in Placerville last week a resolution was passed favoring the immediate organization of an irrigation district covering 30,000 acres of irrigable land. A committee was appointed to take the necessary initiatory steps and was also asked to obtain options for the purchase of the El Dorado Water Company and the Diamond Ridge Ditch Company, systems whose supplies would furnish the proposed district with water.

Plum-duff Is Popular.

The California Raisin Association has been compelled to refuse new orders till the exact amount of this year's tonnage of raisins has been determined. The demand is unprecedented. The crop estimate of varieties is: Muscats, 125,000 tons; Sultanias, 10,000 tons; Thompson Seedless, 60,000 tons; Malagas, etc., 5,000 tons. The packing houses will open early in September. The fruit looks fine and it is hoped it will be allowed to sugar up well before harvesting so as to get all the weight as well as quality possible.

Prune Harvest Is Early.

The prunes are coming down pretty fast now, and large quantities are exposed in the drying yards. A peculiarity of the season is the fact of so many sound prunes coming off in an immature condition. This may result in the fruit not weighing up to grade, as was the case about four years ago. The quality of the fruit, from its appearance as it hangs on the tree, has probably never been surpassed for so large and general a crop. The weather everywhere is fine for drying so far. The early drop needs it. It

pays to move the prunes on the tray as soon as possible.

A \$3,000,000 Almond Crop.

The first carload of new crop almonds was shipped from the warehouse of the California Almond Growers' Exchange, Chico, on August 13. It consisted of 500 bags of Nonpareil almonds and was sold to a New York purchaser. The Exchange expects to move almond carloads from now on.

The California almond crop for 1919 is estimated at about \$3,000,000, according to T. C. Tucker, Manager of the Exchange, who says that the quality this season is exceptionally fine, due to the favorable climatic conditions. The State Department of Agriculture, in co-operation with E. E. Kaufman, of the Bureau of Crop Estimates, reports 75% of a crop for the state.

200 Cars a Day.

When the grape season is in full swing 150 to 200 carloads a day are expected to be shipped from Lodi. It is estimated that if all the wine grapes which would have been made into wine were shipped it would take 28,088 cars from this one point—not counting the table grapes. It is, however, figured that half the amount will be dried or processed, which will still leave a demand for 15,000 extra cars this year. A big problem is the shortage of ice and the huge extra amount needed. Shippers will have to load their cars to their utmost capacity, and the railroad people intend to move heaven and earth to furnish ice and cars to save the crop. Shippers and railroad men have met and adopted their plan of campaign and so things ought to run smoothly.

Why We Must Shell Almonds.

During a single month—that of April, 1919, almonds imported by the United States amounted to 115,119 pounds not shelled, worth \$16,550, and 2,948,127 pounds of shelled almonds worth \$1,036,336, according to the California Almond Growers' Exchange. The protective tariff is three cents a pound on unshelled nuts and only four cents a pound on those that are shelled. The disparity of these amounts is very clearly demonstrated on the relative values of the two imports—a condition of which European growers are not slow to avail themselves. Of course we can't expect our labor to sit up and crack almonds with a mallet on a stove-lid, but with an adequate tariff our own growers will be able to furnish that million dollars worth of almonds.

Horticultural News Notes

Written for Pacific Rural Press.

A good crop of olives is reported for the season in Spain.

90 per cent of California's peach crop will be either canned or dried.

Don't forget! The State Fair at Sacramento takes place from August 30 to September 9.

Brown rot damaged the Elberta peach crop in Georgia during the latter part of the shipping season.

1200 tons of cots are said to have been turned off in the Oakley (Contra Costa County) district this year.

Less than 10 years ago 20-30 prunes were sold for 6-7 cents flat, says the Sunsweet Standard, and now we are selling 120s up for 7½ cents!

1200 tons more cherries were canned in the State in 1919 than last year, according to E. E. Kaufman of the Bureau of Crop Estimates.

Ten thousand acres of land have been brought under irrigation in Tulare County this year with pumping plants as their sources of supply. The power used is chiefly electrical.

Australia produces about 30,000,000 pounds of raisins and currants, and about 4,500,000 gallons of wine. It is suggested that the wine business will grow as her raisin output diminishes.

"The best figs I have ever eaten were growing on Catalina Island," said George C. Roeding recently. "They seem to be very successful in a coolish temperate climate such as this is. They were Kadotas—a fig with several aliases."

The California Packing Corporation, one of the largest fruit packers in the world, has purchased 4,000 acres just south of Merced at \$125 per acre, and will have the tract set out to figs and peaches.

Girls who joined the Central California fruit workers' union demurred to giving in their ages when they signed up. But the union rules require it, "so they all gave some more or less reasonable figure."

The Frel Brothers, who have 320 acres in fruit at Graton (Sonoma County) may net \$75,000 from it this year. They have a good crop of prunes and apples and a medium crop of pears.

"Ever notice that you have fewer codling-moths where you keep the ground wet up," said a pear grower to the writer last week. "I don't know whether the irrigated pears and apples give Mr. Worm the belly-ache or not, but they leave me alone and attack the neighbors' unirrigated fruit."

Sutton and Young of Red Bluff expect to harvest nine tons of dried prunes from one and a half acres. They credit this extraordinary yield to thorough irrigation.

The Yakima Valley (Washington) now promises to ship about 2400 carloads of pears, or 25% more than last year, according to the U. S. Bureau of Crop Estimates.

J. Johnson, his wife and three children of Bend (Tehama County) will pick, cut and cure nine tons of peaches (dry weight) from their ten acres, without outside help.

The Freemyers ranches near Red Bluff, owned by the father and four sons, will produce 5,000 packed boxes of peaches (Elbertas) from 40 acres this year, it is said on the young trees.

At a meeting of growers in Sutter County, it was decided to pay \$3.25 a ton for picking grapes and \$5 a ton for picking prunes. It was stated that 30 cents a box was being paid for picking figs.

Charles F. Shaw, Professor of Soil Technology in the University of California, has been named examiner of all lands offered for sale by the State Land Settlement Board.

Over 1500 applications for farms or allotments have been filed with the Land Settlement Board, of which one-third are from soldiers.

MARKET FOR AMERICAN APPLES IN ENGLAND.

(Written for Pacific Rural Press.)

Our apples are popular on British markets. From the Department of Agriculture we get the following reports: "In the early part of this year over 1,000,000 barrels of apples were imported from the United States. Much of this produce sold at or near the control price of \$13.61 per 112 pounds or nearly \$1.05 cents a pound. This is still the fixed price for imported apples which will remain till September 1, when it may be modified." The home grown apple will therefore be marketed as rapidly as possible to avoid a chance of the control price being lowered. The Australian and Tasmanian fruit crops have already been disposed of.

"In England the apple is regarded as a necessity for health purposes as well as for food. The Food Controller has extended the license for the importation of apples and oranges from September 1, 1919 to March 1, 1920. Ocean tonnage for the transportation of produce is scarce and its movement erratic." The British market in apples favors barrels rather than boxes. The pack has to be firm.

Graded Fruit Demanded.
With the heavy freight charges

only good fruit will bring a profit to the grower. Over 80 per cent of the fruit sent to Great Britain is on consignment and is sold at auction after a thorough inspection. This means that all the fruit must be correctly graded. Ungraded fruit will surely go to the huckster, and the shipper will have merely a freight bill to pay instead of making a profit at the end of the transaction.

Apples Should be Inspected.

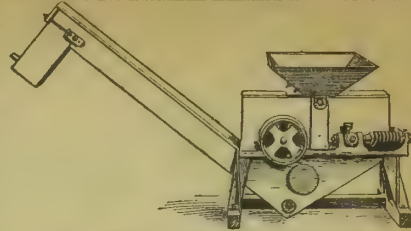
Equal in importance to grading is condition on arrival. Shippers at a distance from the Atlantic seaboard should have a representative at the seaboard to inspect their product. A sea trip is hard on produce, and if any signs of deterioration are noticed the fruit should be sold on the home markets.

The largest crop of almonds in years is being harvested at Oakdale (Stanislaus County). This will be her most successful year.

WANTED

5,000 to 10,000 Royal Anne, Tartarian and Bing **CHERRY TREES** for Spring planting. Will take smaller lots, if necessary.

STANISLAUS NURSERY CO.



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Write for Catalog on
CARLEY ROLLER MILLS

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Handles Barley, Oats, Corn, Etc.
Write for information

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Elephant Grass

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by simple method of sugar-cane propagation. 1000 joints, \$25. 500 joints, \$15. 100 joints at \$5 smallest order filled.

H. L. WAGNER

Descanso, San Diego Co., Calif.

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"My **IDEAL GREEN FEED SILO** is the biggest money-maker on my farm, and I wouldn't be without it for ten times its cost. My saving on feed bills the first year has more than paid for it." So writes a man who has learned by experience that the "IDEAL" silo return big dividends.

Before buying a silo, investigate the "IDEAL." Get acquainted with its superior features. Learn why it is more economical, lasts longer and makes better ensilage than any other.

Only the choicest lumber goes into the construction of the

"IDEAL" silo. The staves are of selected California Redwood, tongued, grooved, bevelled and splined by special machinery.

Refrigerator doors with "three point contact" make the "IDEAL" absolutely leakproof. They come flush with the inside walls of silo, thus preventing air pockets and spoiled silage. The ladder is securely fastened to the silo at one side of the doors. This permits easy access.

Heavy, soft-steel hoops, placed thirty inches apart, bind the silo into a true circle. Malleable iron lugs and long upset threads allow easy adjustment. Self-supporting roof — airtight, watertight foundation joint and other features too numerous to mention here — put the "IDEAL" in a class by itself.

Fill out and mail the coupon. It will bring you, free of obligation, a valuable booklet on silos.

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The best way to maintain a constant, never-failing supply of water is by means of a Pacific Redwood Tank.

Pacific tanks have the everlasting qualities of the redwood of which they are built. As everyone knows, water preserves instead of deteriorating this wood. The patent non-shrinking system with which our tanks are fitted absolutely prevents leakage under all conditions.

Pacific Machine—Banded Wood Stave Pipe is the best and most economical for irrigation systems and pipe lines on the farm. Made in all sizes from 2 inches to 30 inches in diameter. Write for wood pipe circular and specifications.

Cut Out and Use This Coupon

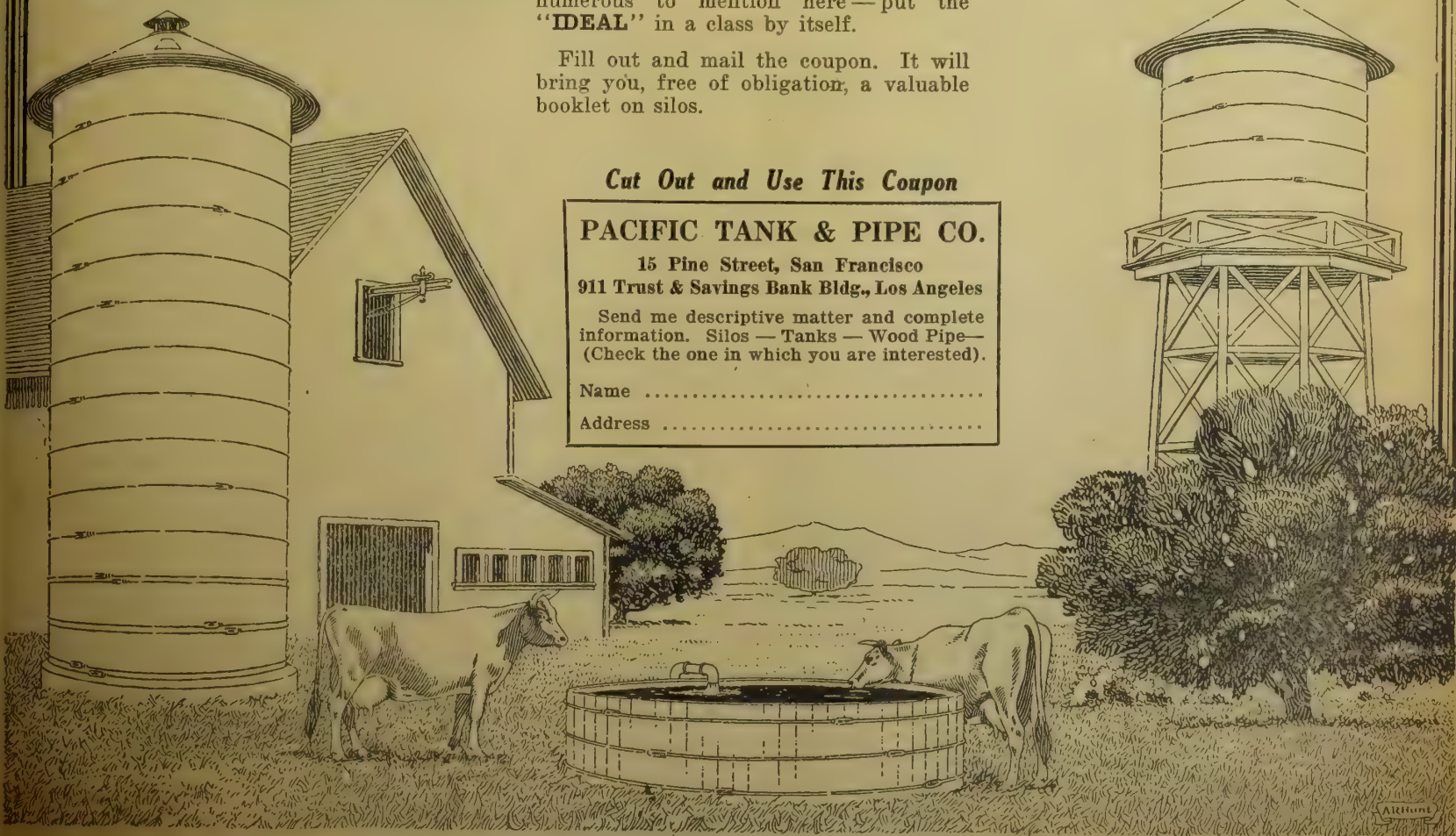
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So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

A GREAT ROAD MACHINE

Every road district should own one of these machines for constructing roads. They will cut down the high places and make fills quicker and cheaper than by any other known method.

YOU SHOULD

send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

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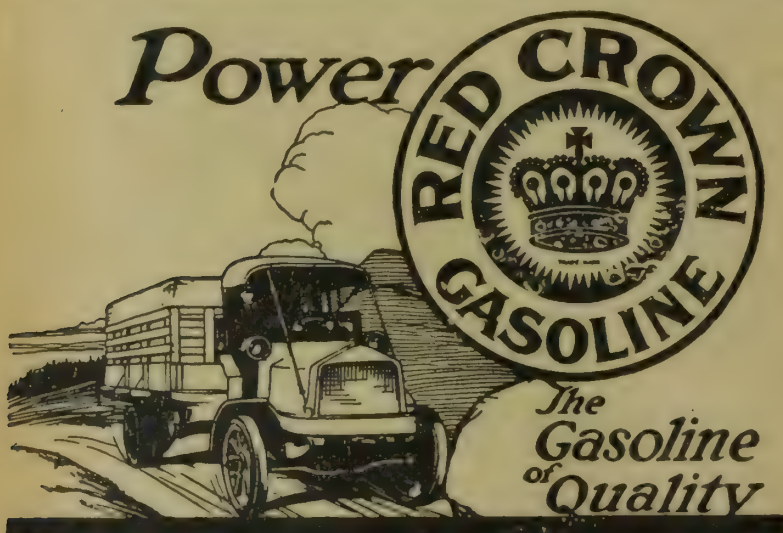
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Every drop of "Red Crown" is straight-distilled, full powered, dependable. Look for the Red Crown sign before you fill.

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Single Stage Motor Driven Pump

KROGH PUMPS absolutely hydraulically and automatically water balanced. No end thrust whatsoever. Also DEEP WELL TURBINE PUMPS for bored wells 10-inch diameter and up. Write for Bulletin.

KROGH PUMP & MACHINERY CO.

149 Beale St., San Francisco, Cal.
Branch Sales Office at Los Angeles.

Suggestive Agricultural Pointers

Written for Pacific Rural Press.

Fresno Commissioner Busy.

This is one of the many busy seasons of Fred Rouillard, Horticultural Commissioner of Fresno county. The squirrel control work has been re-organized with the county divided into districts, and vigorous, systematic killing is being done in each.

The opening of the grape shipping season necessitated the organization of a staff of inspectors, whose work quickly proved of value. For some reason unripe grapes that would have greatly injured later markets were started in great abundance, by growers that should have known better, but were caught in time and held up. The office is also starting an insectary to raise parasites for the mealy bug, which has gradually increased in importance on grapes until steps have had to be taken to control it.

Model Tent Housing.

Do you want a model tent house at moderate cost, either for temporary farm help, or for other purposes? Here is the design of a tent adopted for the Valley Fruit Growers' Association, for its first community camp at Fowler. This is the fifth tent house designed by the Association, and the best. The others were too large, or too expensive, or otherwise not exactly right.

This tent is 8 by 10 in floor space. The floor and each of the sides is separate and entire from the rest of the frame, so five sides, a ridge pole and the canvas are all there is to it. Everything is tied together with bolts or lag screws, so that it can be taken down quickly and easily without injury and set up quickly when needed.

The frame proper is composed of 2 by 3's, or 2 by 4's. The sides are bolted to one another, but tied to the floor by lag screws. The walls are wainscoted 2½ feet up from the floor, then there comes 2 feet open space screened to keep out flies and mosquitoes. In front is a screened door, with springs to keep it closed. The walls stand about 4½ feet above the floor and the roof has a three-quarter pitch, making ridge pole about eight feet high.

The canvas is stretched tight over the roof and the sides can be rolled up or let down to meet the wainscoting, whichever is best.

Similar tents can be erected of any desirable size and the wire screen omitted whenever flies and mosquitoes make it seem unnecessary. At present prices for labor and materials a structure of the size described costs from fifty to sixty dollars.

Alfalfa Prices.

In the Rural Press of August 2 alfalfa hay was quoted from \$16 to \$20 in San Francisco, baled of course. In Los Angeles it was from \$20 to \$24 with Alfalfa Association prices still higher, and evidently correct. Fresno newspapers at about that time were quoting loose hay in town for \$22 and baled at \$25, while it was selling in the shock a few miles from town for not less than \$18 per ton. At the same time the writer knows of a large stack of first-class alfalfa hay sold in the citrus district of Tulare county for \$12 a ton, and other hay for \$10 a ton in the shock. The running price for the summer seems to have been about \$12 a ton in the field, in the district where the writer resides. Such variations seem queer and worth eradicating. The general idea is that prices will be upward from now on. Good crops of grain hay, good wild feed in the hills, and the replacing of horses by tractors have been responsible for much reduction in the alfalfa demand in many sections.

Irrigation Pays.

A Selma fruit grower last spring purchased a peach orchard that was rented on a share basis on such terms that he only gets 15% of the crop this season. Figuring that a pumping plant was needed to help out the supply of ditch water for irrigation he was wondering whether to put it in right away, or to wait until he could get all the crop, and decided that the sooner the water was there the better, in spite of the fact that the orchard

was a heavy producer as it was. He now feels that the increase in his 15%, added to the benefit present irrigation will do to his 1920 crop, has more than justified the investment.

Cantaloupe Growers Will Learn.

Cantaloupe growers in the Porterville and Exeter districts, who tried their hand at that crop this season for the first time in a number of years, feel that the crop has come to stay and that they can do even better in the future than they did this season. The object of cantaloupe growing in the Tulare thermal belt is to get an early melon on the market, right after Imperial melons have been shipped and before Turlock competition can be felt, and the section has proved its ability to get an excellent yield of high class melons early enough to insure very high prices.

As in the first trial everywhere, there were a number of failures, mostly on account of insufficient irrigation. A number of the most successful growers likewise, being advised to hold off the water a little before picking commenced, in order to hurry ripening, lost most of their second-crop melons and it is doubtful if they gained enough in early ripening to amount to much after all. The general conviction is that abundant moisture supplies all the way along is the thing to bring both crop and price.

One of the advantages of melon growing in a district where few are grown is shown by a packing company who contracted for melons at 85 cents a crate and were able to sell locally most of the good melons that were too ripe to ship East at \$2.00 per crate, which is not a bad profit, even for a middleman.

Concrete Lined Reservoirs.

Fence wire in concrete makes a fine, cheap, durable lining for ranch reservoirs, according to Ed. Poulsen, of Selma. He has a reservoir in sandy land so lined, 70 by 110 feet in area and 5 feet deep, and has no trouble with it. The wire is laid on 45 degree slope banks and over the bottom, the corners of the reservoir being rounded, and a two-inch layer of cement, sand and fine gravel spread over it. Although this dressing would be too thin to be of use alone, it is extremely durable when held by the fence wire. The concrete is faced with a rich mixture of cement and sand. This was the only lining that the Fresno Canal & Irrigation Company could get to last on some very weak places in their canal banks.

Tulare County Squirrel Campaign.

In the two years ending July 1, 1919, Tulare county used in squirrel killing work 142½ tons of poisoned barley, valued at \$37,000, all of which was handled by the office of the horticultural commissioner, and 21,550 gallons of carbon bisulphide, valued at \$21,981. With the bisulphide nearly one and a quarter million jute balls were used, costing \$4,080. As a result the squirrel population in the county is extremely small. Horticultural Commissioner C. F. Collins advises the poison for a general clean-up, but bisulphide to eradicate any squirrels escaping the poison. Contrary to a common idea, bisulphide is fully as killing in summer as in winter, except on adobe soil where the gas will escape through cracks, but a little more per hole has to be used than in winter. In winter the sulphide is used on jute balls and fired. In summer it is usually applied with jute balls, but is not fired.

Big San Joaquin Cotton Field.

One thousand acres of short staple cotton is being grown by J. W. Eldridge of Los Angeles on land leased from the Tagus ranch near Tulare, and present prospects are for a half a bale per acre. The planting on such a large scale was based upon the conviction that the Tulare country was admirably suited for this crop. If the cotton pans out according to prospects it is figured that many farmers will plant next year and a gin will be started. J. A. Knight of Tipton had good success with cotton last year and has increased his acreage this year.

What can a man Learn from Looking at a Tractor in a Tent

IF you have ever been to a tractor demonstration, you probably know the earnest way some salesmen have of taking you into a tent and pointing out all the fine points of the tractor they are trying to sell.

They will show you its engine and its wheels and its gears and its clutches, and tell you why they are better than those of any other tractor on the market.

Now, the intelligent farmer, when he goes to look at a tractor, wants to be shown by the tractor itself.

For eight years the G O Tractor has been showing farmers all over the country just what they wanted to know. It has shown them that it can do anything they want it to, and do it economically, and keep on doing it.

There is nothing "eye-filling" about the G O Tractor. It is a four-wheel, four-cylinder tractor—the simplest and most practical construction known. There is no loss of traction

due to the shifting of weight to the wheels of the implement. Its pull increases as the traction increases, because the drawbar is free-swaying—not rigid—eliminating all side draft and making it safe on hills.

The G O driving mechanism is the biggest advance in tractor engineering which the industry has seen. It gives six speeds forward and six reverse—a right speed for plowing in any sort of soil; a right speed at the belt pulley for any kind of machine. It is so easily controlled that even a child can operate it. All gears are enclosed in a dust-proof oil bath, adding years to their life.

The facts about the G O Tractor are open to anyone who is looking for sound, common horse-sense—not features or talking points. You may be interested, also, in knowing more about the company behind the G O Tractor—its guarantee and its idea of what constitutes real service. A post card today will put you under no obligation.



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ham Seeders, Woodbar Harrows.

THE H. C. SHAW CO.

STOCKTON,

CALIFORNIA

Farm Owners' and Operators' Association

Written for Pacific Rural Press.

The Farm Owners and Operators' National Association has placed an order in Chicago for a moisture tester. It is being hastened by express, and will be installed on arrival in the Stockton headquarters.

The tester is to be placed at the service of the corn and rice growers, and of all others who have products that are sold on the moisture test. The wheat grader established by the Association has been a great success, and has been patronized without cost to the farmers. Not alone have they had their wheat graded, but the net returns they were entitled to demand at the terminal points were figured out and given to them.

One fact brought out is that the wheat yield in this immediate section is not as large as the first estimates. On the "West Side," and in other sections the harvest fell below expectations.

The organization work of the Association is to be resumed early in September. The date for the big mass meeting has not been definitely set, owing to the fact that it is desired to fix one when the farmers are fully through their harvest work. Responses have come from all over the state assuring the presence of prominent farmers.

The Association is now pursuing some independent lines of inquiry into the "high cost of living," with particular reference to the charge that the farmer is gathering undue profits. In due time the result of these investigations will be given to the public.

Middlemen Officially Control H. C. L. "The people are crying for more and cheaper food," says Chairman Albert Lindley of the Association. "The President is urging Congress to give more money and power to the

Government with which to uncover profiteering. Yet the control of production and distribution of foodstuffs continues to be placed by the Government in the hands of dealers in foodstuffs.

"The Government under the Grain Standards Act has placed licensed graders in Los Angeles and San Francisco only, both far removed from wheat growing centers.

"The San Francisco 'Licensed Grader' is the 'Chief Inspector of the San Francisco Chamber of Commerce Grain Trade Association.' To this gentleman for courtesies extended and information given, the Farm Owners and Operators National Association is under lasting obligations. We farmers approve of him personally. But we do feel that we should not be compelled by the Government to look to the San Francisco Chamber of Commerce nor to its Grain Trade Association for the grading of wheat that is sold largely to that Association's members.

"It is unfortunate that the Government cannot find a responsible party to inspect and pass on the farmers' wheat, other than a man employed by the buyers of wheat.

"This same practice holds good in nearly every Government official having to do with farm products or farm regulations.

"It would seem reasonable, surely, for the Government to place a licensed grader with his comparatively inexpensive equipment in important grain producing centers of the State where the farmers and the dealers could together take a sample of wheat and have it tested officially in the presence of both.

"What chance is there for more or cheaper food when the middleman officially regulates and controls food from the farmer to the consumer?"

Wheat Seed Ranch for New Varieties

Written for Pacific Rural Press.

As the next logical step in its extensive experimental work to improve the quality and extend the acreage of wheat in California, the Sperry Flour Co. has leased the J. O. Robison ranch of 680 acres, 11 miles east of Stockton, half mile south of the Sonora road and adjoining the Griffin Ranch. Among grain farms of three counties this property is known as one of the best wheat ranches in California. Its soil is sedimentary adobe and is situated on the ridges of Little John Creek. The improvements are of the best and the property is fenced and cross-fenced. This season the ranch averaged 18 bags to the acre of Early Baart, Bunyip (Sperry No. 1) and Bayah (Sperry No. 2). The ranch will be operated by the Agricultural Department of the Company under the direction of George R. McLeod, its head.

"In our work with wheat which was begun in 1915 when the Company purchased the Australian wheat exhibit at the Panama-Pacific International Exposition," said Mr. McLeod, "we have passed the experimental stage. Our first problem was to get a variety of wheat thoroughly adapted to California conditions. How careful our work in this direction was done the grain farmers of the state well know. We have now decided on two varieties, Early Baart and Bunyip, which have been tried out under varied conditions and they have absolutely demonstrated their worth from the standpoints of yielding and milling qualities.

"The next step for us is to develop these wheats and by selection to get them absolutely true to type and hold them true. We have now acquired a good sized acreage of the best grain land and will carry out extensive work in selection, growing wheat for sowing purposes on a comparatively big scale. By selecting the strongest and best stooling plants, as well as the best headed wheat, it will be a matter of only a few years until

wheat true to type and also one much harder than ordinary varieties will be developed. The strong and healthy plants are immune to many diseases that attack weak and immature plants. This in itself will mean better yielding and milling qualities. We shall follow out a system similar to that practiced by the commercial seed grower. Selection is the only way to keep wheat true to type, and wheat that is not true to type will not produce a maximum crop. Unless constant effort is made in this direction the tendency is for the variety to run down until in the course of eight or ten years it is practically worthless.

Over and above its interest in carrying its experimental work forward this important step, the Company regards it as an excellent business proposition and the high rental it is paying thoroughly justified, for at present the prices of wheat—and according to every indication they will continue to be attractive to the wheat grower—handsome profits can be realized. The ranch just acquired is but a mile and a half from the Stanley ranch, known as Sperry Experimental Farm No. 2. The two ranches give the Company 1000 acres of high grade grain land, fully 600 or 700 of which will be sowed to wheat this fall.

EARLY DELTA POTATOES MOSTLY GONE.

British Queen, Gold Coin, and American Wonder potatoes from the Delta are practically all marketed and the early planted Burbanks are coming in. The yield was light, probably 50 to 100 sacks per acre generally. Long continued cold weather in the spring rotted a great deal of seed in the ground. The early crop planted from January to April. The main crop is of Burbanks planted in June and July for harvest from October to January. These are looking fine now.

THE
"W-W"
(Hammer)
(Principle)

ALL PURPOSE

FEED GRINDER

"The proper place to mix feed for stock is outside, not inside the stomach."

THE proper, practical, principle to employ is the hammer process.

W-W Grinders are constructed on an entirely original principle. Hay, grain—any kind of feed, is reduced to any degree of fineness by a beating process.

Nails, stones and other hard substances do not injure the mill.

The square-faced hammer while pulverizing the feed, throws out the nails, bolts or other materials that might get into the mill in the feed.

The W-W is an ALL PURPOSE Feed Grinder, practically indestructible, easy of operation and

—You can't beat the "W-W."
The "W-W" can "beat it"

with greater capacities for smaller horse power than any machine offered. It will successfully grind anything fed to stock in California. Is also used to pulverize fertilizers.

W-W mills are built in a wide range of sizes and types having capacities from 500 pounds to 8 tons per hour—a size for every feed. Write for a list of California and Arizona feeders who are using W-W Grinders, also book of letters of what they say. It will pay for itself.

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WHEN YOU WRITE, ASK FOR BULLETIN 25

125-7-9 No. Los Angeles Street,

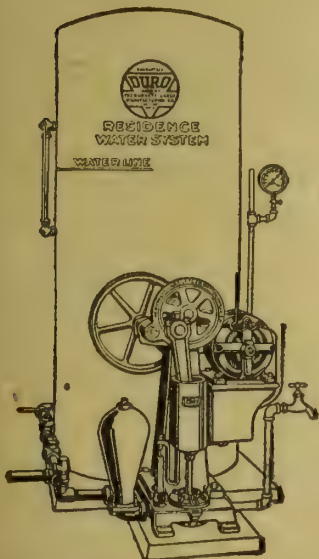
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For Farm and Dairy

Modern farm and dairy equipment pays. It pays in dollars and cents. It pays in labor saved. It pays in more comfortable living. It pays in many ways. Power machinery and the substitution of mechanical methods for hand labor have revolutionized modern farming, freeing the farmer and dairymen from the long tedious routine daylight-to-dark labor and giving him his share of the good things of life.

We specialize in modern farm and dairy equipment and handle more lines of farm and dairy ranch machinery than any other farm equipment house on the coast. The California Hydraulic Engineering and Supply Co. is known throughout the State for its activity in behalf of more efficiently equipped farms and dairy ranches. If you contemplate the purchase of modern equipment of any description, write to us. Years of experience are at your command. Every inquiry answered promptly and fully.



"DURO"

Deep Well Systems

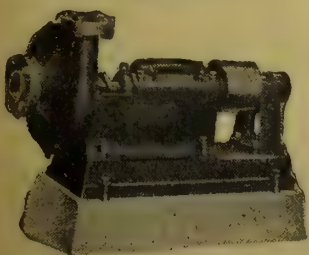
JUST the thing to bring suburban or country home right up to date.

Pumps water from wells, where depth to water level ranges from 22 to 150 feet, and supply it under pressure for all purposes about the house or grounds.

"Built like a battleship," economical and entirely automatic in operation.

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AMERICAN PUMPS



We are distributors for American Standard Horizontal and Vertical Pumps—and Turbine Centrifugals.

They're the best pumps on the market. They cost a little more—but last longer and are decidedly cheaper in the long run.

American Pumps are famous for their large capacity and high efficiency.

We also have special pumps for direct connection to motors.

Write for Pump Catalog.



Which Way do You Make Hay

Hay harvest usually catches you in rush season—and often short handed. Come in and let us help you figure out a way to handle your hay better and quicker. **LOUDON HAY TOOLS** have been standard since 1867, and are used in every civilized country. Most of the modern hay tool ideas have originated in the Loudon factory at Fairfield, Iowa, and we want to tell you about some of the Best. The Loudon Hay Slings, Forks, Fork and Sling Carrier, and Power Hoist are unequalled. Whether you have 10 acres or 1000, Loudon Hay Tools will pay for themselves quickly.



SEND FOR FREE BOOK OF BARN PLANS AND COMPLETE LOUDON CATALOG.



UNIVERSAL Milking Machines

With a Universal Outfit, one man can do the work of three—thus actually eliminating the work and expense of two men. Solves the labor problem. Gets your milking done better and cheaper. Write for catalog.

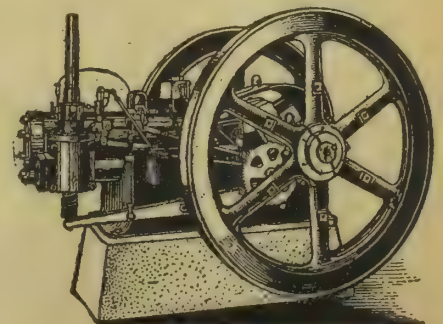


Loudon Barn Equipment

Healthier cows, more milk, purer milk, less feed, and less labor—if your barn is Loudon equipped. The Loudon line includes Steel Stalls and Stanchions, Feed and Litter Carriers, and everything needed for the dairy rancher. Write for catalog.

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We have engines in every type and size—from 2½ H. P. to 100 H. P., operating on distillate or low grade fuel oil. Our lines include Western, Faultless, and Muncie Oil Engines. We'll show you how to get the most power and the best results at least cost—and that's what you want.



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Come and see these various machines in operation. Ask questions. Talk your needs over with us. The suggestions we make may save you dollars—and trouble, as well.

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Summer Comfort

Don't Be Tied to Your Work
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Equip your farm with Delco-Light, and take advantage of the real pleasures of summer. Delco-Light does the tiresome tasks and chores in a quick, simple, easy manner, with expense that 60,000 progressive farmers are enjoying its help this summer.

More Time For Work and Pleasure
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Send today for the free booklet describing the simplicity, the economy of having Delco-Light made a part of your home life. Make your family happy; let them have a good time in the good weather. Discard old-fashioned methods of farming and housekeeping; save time for pleasures and for the important work with Delco-Light.

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Lighten the Labor of the Farm and Home With Delco-Light

Delco-Light is a great help in the dairy. It provides cheap power for milking cows, separating cream and churning butter. It carries cool, fresh water everywhere on the farm. It runs the corn sheller, cream separator, fanning mill, and the tool shop machines with uniform ease and efficiency. It lights all buildings with a steady light, free from fire risk.

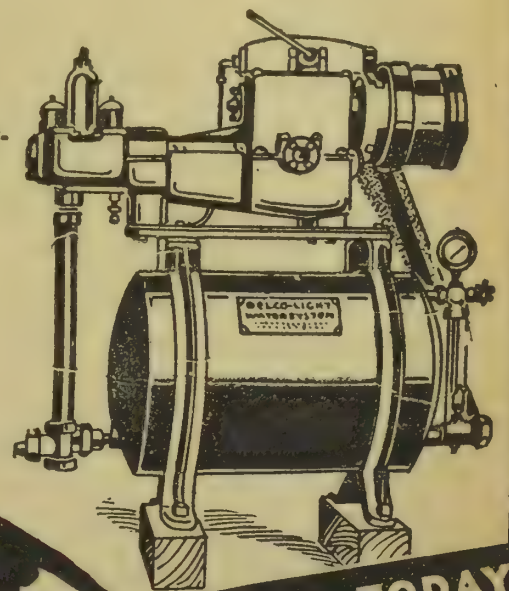
Delco-Light Takes the Backache Out of Housework

It makes woman's work less tiring—gives her more time for rest and recreation, more time for taking care of the poultry and gardens. It brings electricity for cleaning, washing and ironing. It puts a cooling breeze in any room, with an electric fan. The modern kitchen is Delco-Light equipped; with it cooking is made easier, cleaner and better. It lights every room in the house. It brings running water for kitchen and bathroom, and for the gardens. It is the modern servant of the farm and home.

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G. E. EGLESTON, 715 Eye St., Fresno, Calif.
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W. R. DODGE, P. O. Box No. 684, Lompoc, Calif.
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System is the great-
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farm since Delco-
Light arrived.



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Delco-Light booklet, "It Pays For Itself," and
other literature.

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Address

P.R.P.

Power Farming Makes New Opportunities

(Written for Pacific Rural Press by E. E. Hodges.)

Fifty dollars a day earnings on an investment of less than \$2,000, paid the man who made it and tickled the man who paid it. Purviance Bros. and A. Schmitt of San Joaquin County are the men who were so mutually fortunate. Mr. Schmitt had succeeded very poorly at much expense and after long efforts in getting some of his fields leveled enough to lead him into the mistake of trying to grow alfalfa on it. Certainly the alfalfa could not be irrigated satisfactorily and it has rebelled. But other fields comprising 26 acres contain a beautiful stand of corn and alfalfa on checks as smooth as water in the reservoir. That is because Mr. Schmitt paid one of the Purviance Bros. \$5 an hour to level and check it right with a 15-27 tractor and leveler designed by themselves for use on their own ranch. It used to take Mr. Schmitt four days to irrigate seven acres of the 26 rather indifferently; but now he can irrigate the whole 26 acres in three days. His seven-inch pump does not run enough water to keep a man busy irrigating alfalfa on properly leveled checks; so a reservoir of 6,000,000 gallons capacity was built for Mr. Schmitt by Mr. Purviance with his tractor and scraper. Now the pump runs night and day. So the reservoir delivers a good head of water all day long and irrigation labor is efficiently employed.

Mr. Schmitt claims that his reservoir has much better banks than horses and scrapers would have made. It overflowed in two places, but did not wash out as such a new reservoir made with horses might have done. There is no seepage, although no special treatment was given.

Speedy Leveling Required.

The situation was getting critical last May when the leveling was done. Mr. Schmitt had been trying to get the reservoir and fields in shape, but couldn't. He had a herd of high-producing dairy cows. They had to have feed, but he couldn't get the fields in shape for corn and alfalfa in time. The tractor leveling at \$5 per hour cost him less than horse leveling would have cost if he could have got it done at all, but the great difference was that the tractor did it in time.

One Man Better Than Two.

One reason assigned for the greater speed and better job done by Mr. Purviance was that when the driver looks ahead, he can spot the low places and can dump there, while if another man were operating the scraper he would find it more difficult to place the dirt right or to scrape off the high places at the right spots. Two men's brains do not work alike.

Leveler Instantly Responsive.

Another reason is that the new scraper is so instantly responsive to the touch of the long lever which is in the grasp of the tractor driver. He guides the tractor and operates the lever at the same time, raising the scraper an inch if desirable, or gouging it deep into the earth and gathering up a yard at once. The tractor travels 3½ miles per hour with this leveler, which moves the earth speedily and well.

How Leveler Is Built

The back of the scraper built for the 15-27 tractor is of heavy iron, a foot high and eight feet long, with a shoe about eight inches wide angling forward from the lower edge of the back. Wings on the sides keep dirt out of the wheels at the ends. The back is supported by a two-inch axle which bends upward and backward at right angles as it comes out of each wheel, bending again at right angles to support the back of the scraper. Levers are cleverly, but simply, arranged to work this eccentric axle with but little effort. The wheels are about two feet in diameter and four inches wide.

Power-Farming Idea Grew Rapidly.

Purviance Bros. are credited with the statement that they never made a cent of money farming until they began to burn distillate, and that was

not so very long ago. They told the writer that they lost more than the price of a tractor last year by not getting their crops planted in time, though they hired extra horses.

That they are completely converted to motorized farming seeming evident when the writer found them in their Sierra foothill home, enthused at the end of their sixtieth day of threshing with a 15-27 tractor. This was the first day they had threshed any of their own grain. The powerful little tractor had pulled the 26-46 threshing machine among the neighboring hills, and at each stopping place had quickly hooked up to operate it.

The brothers had a smaller tractor previously. It had provided power to plow 200 acres. But one man could do so much more with a bigger machine that the small one was swapped off and the 15-27 was bought last May. It has been used for disking, harrowing, threshing, land leveling, and other farm work. It pulled a nine-foot weed cutter followed by a nine-foot heavy roller ¾ miles per hour on soft ground. When automobiles and motor trucks got stuck on the roads nearby, the tractor pulled them out. Soft ground seemed no hindrance to this wheel machine, and there was no objectionable packing, for it would sink only to the rims of the wheels and the lugs would kick up the surface as they turned over.

Horses Usually Idle Now.

There are four horses on the Purviance ranch—usually kept on pasture. They have to be fed whenever they are worked and that costs too much. They were used in cultivating row crops but not for much else.

The motor idea was developed in another direction by remodeling an old automobile into a truck which saved time and horseflesh on the road. The horses stay at home.

Simple Farm Forge Shop.

The tool shop is not elaborate, but it supplied the means for working out the land leveler invention. It contains a fan-forged, anvil, workbench and vice, and drill. It will soon contain a six-horsepower gas engine which will furnish power for machinery to lighten the work, and especially to be belted through a wall to run a barley crusher. Barley for about 200 hogs is crushed right at home. It couldn't be hauled to a commercial crusher and back at any rational cost.

Leveler Built to Fit Power Farming.

Having the tractor and the forge shop and a lot of land which needed leveling so summer crops could be irrigated to feed the hogs, the brothers cast about last winter for a satisfactory leveler. Previously they had a man with horses level one twelve-acre field, but he left it so the water had to run up hill in some places. The corn crop didn't do much, and barley was put on this piece.

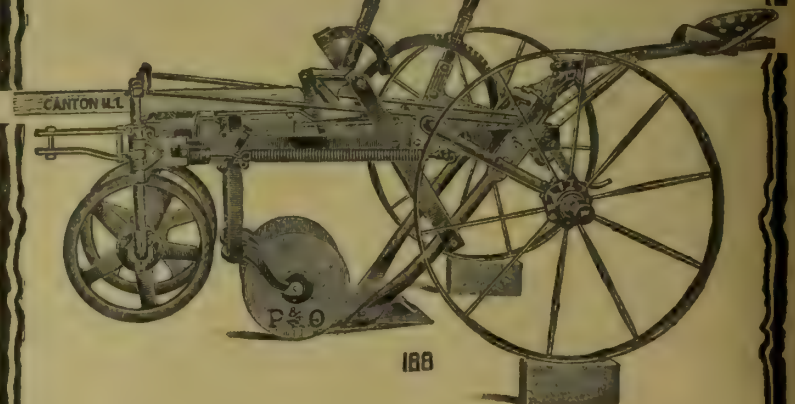
Finding no leveler which could be operated by the tractor driver with quickness and precision, they set about in their forge shop to make one to suit themselves. The first one was ready in February—six feet wide for use with the small tractor. It didn't suit themselves then in several features which were gradually improved as new ideas came. There was plenty of opportunity to try it out at home; and in the process the up-hill irrigation on the 12-acre field was so corrected after the barley was taken off that it now has a beautiful stand of corn almost automatically irrigated.

Another field of eight acres had been plowed toward the fence so many times that it was in no shape for irrigation. Four horses worked fourteen hours trying to level this and the tractor did the same amount of work in 2½ hours, finishing the job.

Leveler Makes Money on the Side.

Looking around for some ready money, they found a rancher who wanted twelve acres leveled. A contractor using draft stock had offered to do the job at \$40 per acre. Mr. Purviance offered to do it with his

P.O. Riding Beet Puller



Gets Every Beet - Whole and Unbruised Saves Money, Beets and Labor

A FOUR-WHEEL Beet Puller that can be easily drawn by two horses under ordinary conditions, but with a hitch that can be set for two, three or four horses. Adjustable for width of rows.

When in operation the seat and tongue pivot—easy to guide. When lifters are raised the tongue is rigid for transporting. The lifting bars can be swung in or out for small or large beets, or to suit soil conditions. The lifters raise the beets, running at a shallow depth, reducing draft to a minimum.

The front wheels hold the puller to the row and assist in cutting foliage. Ample clearance for foliage—clogging is eliminated. Equipment includes rolling coulters, three-horse eveners and neckyoke.

This mere outline of a few features of the P.O. No. 2 Beet Puller does not by any means convey an idea of its worth. That it is made right—in design, construction, strength, and all those other things that a beet grower has a right to expect, is further evidenced by the fact that it bears the famous P.O. trade-mark. It is now a product of the Harvester Company.

Ask the International dealer for a folder fully describing and illustrating the P.O. Beet Puller.

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REMEMBER THE DATES AND BE SURE TO BE THERE

six-foot leveler and small tractor for \$3 per hour. That looked to the other fellow like too good pay so he contracted with Purviance Bros. to do it



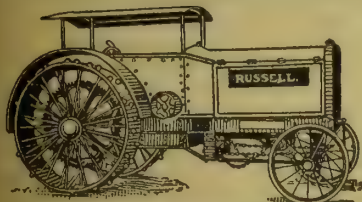
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at \$25 per acre. They made \$6 an hour on that job. Mr. Schmitt's work was done about the same time, and he has yet more for them to do.

Bigger Leveler for Bigger Tractor.

It was thought at first that a six-foot leveler was the biggest that one man could handle easily. But with the bigger tractor, they needed a bigger leveler and they made one eight feet wide which surprised them by working as easily as the small one. In loading the scraper there is little or no weight on the wheels. When the weight is put on them by the lever, the eccentric axle seems to lift itself and the scraper so it dumps without a lot of hard work and just as gradually or as suddenly as desired. This feature make it efficient in building and finishing the check levees or ditches or any embankments. Mr. Schmitt says one man does more work with this outfit and does it better than five men could do with teams and scrapers.

AGRICULTURAL NOTES.

California potatoes are being shipped to Arizona, New Mexico, Texas, Utah, Colorado, and Oregon.

Lima beans cannot make half of the tonnage this year as last according to the U. S. Bureau of Crop Estimates.

No flies and no fly screens are necessary when fly traps are kept handy. Good fly traps and fly baits are on the market.

California onions are being shipped to New Mexico, Texas, Colorado, Louisiana, Utah, Nebraska and Illinois, among other States.

Barley is still piling up on the levees of the Delta district on account of the bargemen's strike.

Onions are being imported to New York from Spain but greater quantities are being exported from New York to the West Indies.

Ladybugs are being brought by the sack from Tuolumne County to eat up the aphids in Stanislaus County beans. A sackful costs \$2.75 and is generally enough to clear up 3 acres.

Cabbage acreage in the ten principal producing States is much lower than was harvested in 1918, which was about ten per cent less than in 1917. This may indicate better prices for California winter cabbage.

Tomatoes are showing rather poor, spotted, diseased conditions in various parts of the State as reported by the U. S. Bureau of Crop Estimates. But as a whole, the August 1 report shows better condition than a year ago and better than the average for the past three years.

Cantaloupe shipments from Turlock have been running over 60 carloads per day. They go to Boston, Baltimore, New York, Chicago, Cleveland, Cincinnati, Detroit, Kansas City, St. Louis, Omaha, Minneapolis, Pittsburg, Denver, Ogden, Salt Lake City, Butte, Montana, Eugene, Ore., Seattle, and various other points, mostly north of the Mason & Dixon line.

WHEAT VARIETY EXHIBIT AT STATE FAIR.

Labeled sheaves and grain samples of the various kinds of wheat obtained from the Australian exhibit at the Panama-Pacific Exposition by the Sperry Flour Co. and tested out in a big way since then will be mighty interesting to State Fair visitors. Baart and Bunyip will be emphasized in the Sperry exhibit and competent people will be in charge to tell about the conditions required for the different varieties in California. The bulletins on wheat which were mentioned in our issue of Aug. 16 will be distributed to Fair visitors.



INSURANCE AGAINST ACCIDENT

THE **MONEY-MAKER** SILAGE CUTTER

—will enable you to put up your silage without accident to man or machine. The PATENTED SAFETY YOKER reverses the feed rollers automatically when the hands get too close and protects the operator; the PATENTED CUSHION DRIVE absorbs the shocks of operation on gears, traveling apron and rolls, and protects the machine.



We Can Ship Your

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immediately on receipt of your rush order.

Ask for the Free Book on SILOS

Written for Pacific coast conditions.

Simply and Strongly Made

The cutting and blowing is all done by one semi-steel disc to which the straight, easily sharpened and adjusted knives are attached. The shearing cut of the MONEY-MAKER is fast and positive; it makes silage that packs tight and close. Ample fan capacity for the highest silo. Light draft; easy to move.

Send for catalogue and prices now and make money with your MONEY-MAKER this season. Shipment made immediately.

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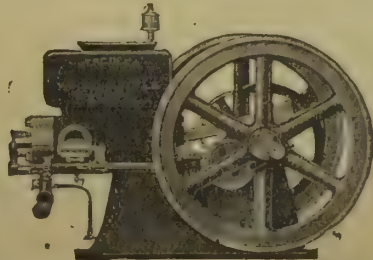
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Pyramid Pumps



Hercules Gas Engines—1½ to 12 H. P.



Centrifugal Pumps

YOUR CHANCE TO SEE THE LATEST IN TRACTORS.

WHAT ARE THE LATEST improvement in tractors? There is just one way to find out for yourself—that is at the State Fair. The California Tractor and Implement Association has its plans all made, and the State Fair management is co-operating more fully than ever before to make the tractor and implement tents contain all that is best and latest in power farming—aside from automobiles, gas engines, motors, and motor trucks, which will be on exhibition elsewhere. Arrangements are in the hands of a committee of which Prof. L. J. Fletcher, of University Farm, is chairman.

Visitors will be handed a complete catalogue showing specifications of all the tractors, threshing machines and tractor plows available in California. It will have about 200 pages, and will contain articles written by authorities on lubrication, deep tillage, threshing, steel products, motor cultivators, etc., but no advertising.

Tractors will not operate under their own power on account of noise, fumes, and dust. Many will be operated by electric motors and their insides will be exposed in working order with attendants always glad to go into details.

A rest room for wives and families will be included, so if the women and children do not feel like looking at the machinery, they can rest awhile. Ice water will be handy and rice hulls will carpet the tents to keep the dust down. Uniform signs and decorations will make the whole place attractive. A restaurant will be handy. An aisle will lead into the motor truck tent. You are invited to come and see how you can motorize your own farm to best advantage. Ask questions of attendants about all the tractors that might fit your ranch.

Tractor exhibitors entered up to this writing are:

Lauson, Cleveland, Bates Steel Mule, Sandusky, La Crosse, Victory, Monarch, Fitch Four-Drive, Trundaar, Caterpillar, Moline, E-B, Bean, Wallis, Best, Huber, Twin City, Avery, Case, Yuba, Wisconsin, Beeman, Fageol, Fordson, Waterloo Boy, I. H. C., R. & F., Hart-Parr.

Implement and accessory exhibitors are the Killefer Mfg. Co., New York Lubricating Co., Pacific Implement Co., Weinstock-Nichols, Union Oil Co., Splittorf, Oliver Chilled Plow Works, John Deer, H. C. Shaw Co., and Harris Mfg. Co.

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Distance between centers of Pulleys	
Rev. per minute of Driving Pulley	
Kind of Machinery Driven	
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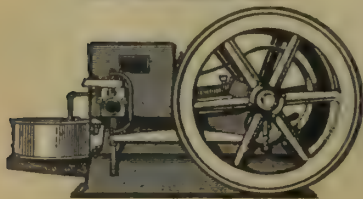
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Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

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IRRIGATING FROM SURFACE PIPE.

In the Tulare thermal district underground concrete pipe is the standard and practically universal method of irrigation. In the alfalfa, dairying districts around Tulare open ditches and surface irrigation pipe is common. This is in part due to sandier soil, taking water rapidly, and to raising alfalfa more than fruit. A big head of water and quick irrigation is desired instead of a small head and slow irrigation.

Out of many Tulare ranches irrigated with pipe that of J. D. Soultz will show conditions. He irrigates 120 acres from a 6-inch pump, driven by a 15 horse-power electric motor. From the pumping plant the water is delivered into an underground concrete pipe line with outlets to which the surface irrigation pipe is connected. He has 1000 feet of this, 9 inches in diameter, leading to almost all parts of the ranch, and would not go back to open ditches for any sum of money. The waste of water in open ditches is enormous and the work of holding back the water, opening checks and all the rest of it takes lots of time, to say nothing about the labor of cleaning the ditches. Johnson grass is a pest in that section and dairymen have to be very careful not to poison their cattle on alfalfa fields infested with the grass. Open ditches are a terrible thing to spread weed seeds, but none ever come from a pump and pipe line.

The pipe can be laid out in about two and a half hours. After the water is started all that is necessary is to remove enough joints to bring the pipe back to the check nearest the beginning of the pipe line. This is done at half-hour intervals and takes only a minute. The rest of the time can be put in at other work. At night the stream is delivered from one check to another by cutting the banks. This is the standard system on ranches irrigated by surface pipe and the results explain the popularity of the method.

The Victory tractor is a new one on the California market, Grissell Bros. of Stockton having undertaken its distribution in California about two months ago. It is a three-wheel type of 9-18 horsepower, worm drive, ball and roller bearings throughout, and all working parts enclosed.

A friend of ours found he could get a tractor several weeks before he needed it. He got it while the getting was good. Otherwise he might have waited a month when he ought to be working.

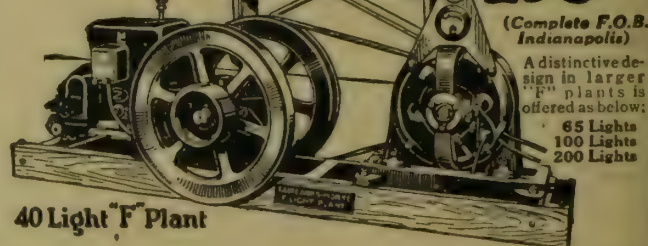
It is poor economy to use lubricating oil too long in a tractor, yet many people hate to throw it away soon enough. We recently found a farmer who uses it to kill lice on his hogs. It works fine.

At Last—A Complete Plant for Farm Light and Power

Fairbanks-Morse quality is built into every part of this 40-light "F" plant—mounted complete on one base. Instrument board is conveniently placed over dynamo—power is our famous "Z" engine which successfully operates on kerosene. Can also be used to run a washing machine, churn, cream separator.

The entire construction is extremely simple—workmanship and materials the best possible. A touch of a button starts the plant—simply touch another button to stop it. Your nearby dealer will tell you you all about the "F" plant and will show you what it will do for you.

40 LIGHT "F" PLANT \$295



40 Light "F" Plant

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AS STEADY AS THE
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It works all day—every day

The Mill Wheel turns as long as there is water in the chute. You must know that your tractor will "go" as long as there is fuel in the tank.

12 H. P. on
Draw Bar
25 H. P. on
Belt Pulley

THE
HUBER
Light Four

Draws three
bottoms
Turns an acre
an hour

is known for its dependable service. A steady stream of power flows from its mighty motor through all spur gear direct to the draw bar. Light tractor weight combined with great traction power; high wheels that roll easier and increase the amount of surface "grip"; center draft on all loads, preventing loss of power from side pull. The combination of all these—with a dozen other Huber features—makes the Light Four the last word in tractor dependability—and fuel economy, too.

Write for "The Tractor in the Making", an interesting story of the development of the tractor as reflected in the successive models of the Huber for more than twenty years.

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Weight 5,000 pounds; pulls three 14" bottom plows; 12 h. p. delivered to the draw bar; 25 h. p. at the belt; Waukesha, four-cylinder motor; Perfect Radiator; Hyatt Roller Bearings; burns gasoline, kerosene or distillate; center draft; two speeds, 2 1/2 and 4 miles per hour.

(Continued from page 221.)

1,000 acres with a tractor in one season as Mr. Critchett did (including the double cropping and double plowing) is certain to observe some features of tractor operation that are worth passing on. His ways of handling the machine will be suggestive to many another tractor driver.

New Oil Every 40 Hours.

One of the most uncommon practices is claimed to have yielded remarkable results. The reason that 200 acres could be plowed without removing a spark plug is that every 40 hours of work saw all of the oil drained from the crank case while it was hot. The crankcase was then washed out with a couple of quarts of coal oil and drained all night. In the morning three gallons of new oil were put in. Part of the old oil was used on exposed gears and the rest was invariably dumped out.

The remarkable feature was stated by the man who sold the oil for this tractor. He said that Mr. Critchett used the least oil per day's operation of all the tractor users supplied by him! This oil is the lowest priced on the market and is tabooed by many tractor men.

"It is not the kind of oil you use, so much as how you use it," says Mr. Critchett. "People who think they can't afford to throw away the crankcase oil every 40 hours really can't afford to do anything else."

This seems proved by the fact that after plowing 1,000 acres and harrowing it down, the compression in the cylinders shows that they are not scored badly enough to justify replacing the cylinder linings at a cost of about \$3.50 each.

Heavy Load but Not Overloaded.

And it must be remembered that the tractor, which is still in such good condition, was loaded above its rated horsepower against the protests of the tractor sales company. This brings us to one of the three important factors in successful tractor operation named by Mr. Critchett. You must know the draft of the implements you are pulling.

"But," said the writer, "that varies in each kind of soil at different seasons of the year. How can you tell when the tractor is pulling too much?"

"It happens," said he, "that this tractor has only two forward speeds, two and four miles per hour, both being on direct drive. We generally work it in low gear. Whenever we think perhaps it is overloaded, we make a test by shifting to high gear. If she can keep moving then, we know that the load is safe on low gear. We have never pulled a load continuously that could not be pulled on high without opening the throttle wider."

"One reason we get all the power there is in the distillate is that we use an extra long sparkplug, which projects nearer to the center of the combustion chamber than common plugs. That gives the explosion more even and instantaneous force."

"Another reason is that we have a water feed which mixes hot water with the explosive mixture, and when the explosion comes it generates steam, which gives the piston a little extra shove—steam helping the gas engine! It also helps to keep the engine free from carbon. We adjust the amount of water frequently by gradually giving it more as long as the engine keeps picking up. It takes a steady stream in hot weather."

Easily Started on Cold Mornings.

"We had weather here last winter when we drained the radiator at night for fear of freezing. Yet we never had any trouble starting the tractor next morning. The chief reason it started so easily on cold mornings was that we used a priming mixture of one-fourth commercial ether and three-fourths gasoline. About a teaspoonful of this into each priming up was usually all that was necessary. A pint can of ether lasted a month."

"The operator of a tractor must pay careful attention to bearings. He must tighten them before they become too loose, but if he makes them too tight they would burn out quick. He must also be able to clean the inner and reassemble it properly. It doesn't take long to learn that."

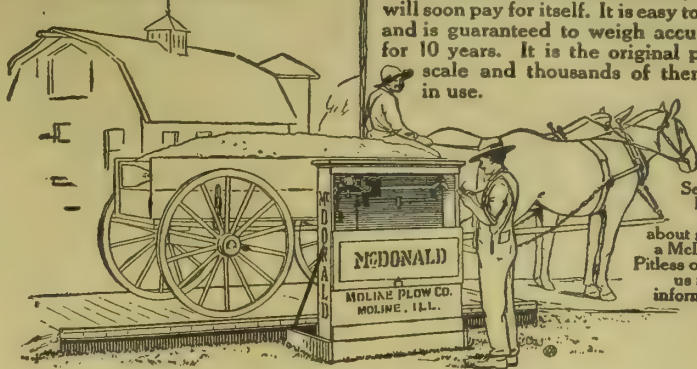
More Satisfactory Hired Men.

A marked advantage in power farming over the use of stock is the class of men who work for you as Mr. Critchett has found out. During the spring and summer, he had two tractioneers, both real gentlemen and fit to have around a man's home, whether the women folks were there or not. Thus was avoided the class of men who are personally annoying.

The tractioneer frequently has more intelligence than many mule drivers and he uses his time to better advantage with less waste motion. The tractioneers were paid 65 cents per hour plus eats and sleeps—probably more than some of the neighbors paid. But it enabled Mr. Critchett to get the best men, and the best men are the cheapest, as he says. He pays only by the hour. This eliminates dissatisfaction in rush times when a day's work is often twelve to fifteen hours.

The bonding house for whom Mr. Critchett worked so long before he went back to farming wants him to come back. But he says, "Never again. I get too much satisfaction from power farming, to ever return to city work."

McDONALD PITLESS SCALE



Whenever you receive change in a business transaction you always count it. Of course you do! Well then, there is more reason why you weigh everything you buy or sell.

Get a McDonald Pitless Scale, and it will soon pay for itself. It is easy to erect and is guaranteed to weigh accurately for 10 years. It is the original pitless scale and thousands of them are in use.

See your Moline Dealer about getting a McDonald Pitless or write us for full information.

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MANUFACTURERS OF QUALITY FARM IMPLEMENTS SINCE 1865



Our Victory Model

A TWO-YEAR REVISION—OVER 100 IMPROVEMENTS

After 16 Years

This new Mitchell Six comes out in our 16th year of car building.

We have built and watched tens of thousands of Light Sixes. They have given the Mitchell a world-wide fame.

Now our engineers and specialists have worked two years on this new model, to embody all we have learned. There are more than 100 important improvements, based on vast experience.

You should measure up these new-day standards before you buy a fine car now.

Lasting Newness

The object of this new Six is to give you lasting newness.

Most cars satisfy when new. In this new Mitchell that newness will endure.

Part by part we have added strength. We are using better materials, new heat treatments, 123 drop forgings.

New and radical tests are now applied to every vital part. Inspection is carried to extremes.

Reducing Wear

There is finer workmanship. We have spent over \$300,000 on new machinery and equipment to attain this.

There is utter smoothness in the motor, less waste of power. The crankshafts are twice balanced on two new-type machines.

Gears are perfectly mated. Transmissions are tested in a sound-proof room. Engines are tested, and for hours, with electric dynamometers.

The bodies are extra-staunch. The top will stay new. The luster of the finish is enduring. The rear springs have been proved unbreakable.

A thermosat on the motor controls temperature. The gasoline is perfectly vaporized. Thus we cut down fuel cost.

These things mean much to owners. They mean less wear, less upkeep, less operating cost. And they mean much extra service.

Learn the Facts

Ask for our catalog and learn all the improvements, or see our nearest dealer. These are qualities every car owner wants. Now so many know them that Mitchell sales are breaking all our records.

A Six like this at the Mitchell price is due to our factory efficiency. We build the complete car—motor, chassis and body—under scientific cost-reducing methods. This model plant has long been famous for them.

When you know the facts this car will be your first choice in this class. Write us today.

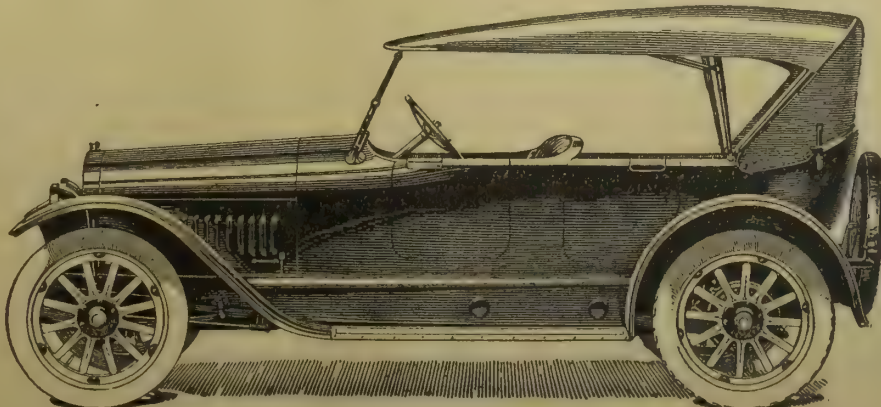
5-Passenger Touring Car

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Also built as Sedan and Coupe

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MITCHELL MOTORS COMPANY, Inc.
Racine, Wisconsin



Alfalfa Seed Situation Is Firm

[Written for Pacific Rural Press by R. E. Hodges.]

"Will the price of alfalfa seed go up?" we asked L. V. Richardson, dean of the alfalfa seed growers in the Byron district of San Joaquin county whose seed has an enviable reputation and insistent demand as far east as the Mississippi river.

Higher Price Reasonable.

"I hope it will go to 35 cents," said Mr. Richardson. "It would be very reasonable at that. Our seed consumers are dairymen. Dairy products have advanced more in price than alfalfa seed would be at 35 cents. After all, at that price, seed-

ing would cost very little more than seeding with grain. And the advantage of several years' crops from one seeding would bring the annual cost per acre to a very low figure. Alfalfa seed ought to go up in proportion to other products and in proportion to labor. Even then there is more risk in growing alfalfa seed than most any other crop. Out here I have 26 acres going to seed. There are streaks where you can see at a distance that the blooms have fallen without setting. There are other streaks where the pods have set without seed and where seed have set but are blighted. You might expect bees to pollinate all the blooms, but my field is surrounded by bees and is full of them. Still I have those unpollinated streaks.

"We know that irrigation prevents seed setting, but we don't know much more than that about controlling our crops. Eight hundred pounds per acre has been known, but 300 pounds is considerably above the average crop of seed here.

Seed or Hay?

"If we didn't attempt to grow seed we would get five cuttings; otherwise we get only two cuttings with possibly a little pasture or a light late cutting, after the crop is off.

"Straw from the thresher or 'clover huller' that threshes the seed is not good hay, though sheep will eat it. So we must get enough for the seed to make up for the value of three crops of hay (less the cost of handling it) and in addition we must recover the cost of threshing, cleaning, and marketing the seed. We must also assume the risk of rain such as discolored our crop last year. Our taxes are going to be higher too, on account of so many bonds to pay interest on, and that is part of the cost of production."

Alfalfa Supply and Demand.

Besides being right to expect higher prices on the basis of increased cost of production, all conditions seem to justify them on the basis of supply and demand.

Lots of alfalfa has been plowed up to raise field crops, and not much has been replanted. Many fields are so old that they will be plowed out this fall. We saw some being plowed out last week.

August 1 crop reports of the U. S. Bureau of Crop Estimates indicate a shortage of hay in California and the U. S. This has already boosted the price of hay and added that much to be required on seed prices to balance what seed growers missed by not cutting hay.

The month of July saw a reduction of 182,000 tons in the prospective total California hay crop. Since grain hay was off before July 1, the decrease is due almost entirely to lowered condition of alfalfa. Lack of customary irrigation water is a chief reason. Acreage of tame hay was estimated to be the same this year as last in this State, but the acreage of wild grass cut for hay is shorter and wild pasturage conditions are generally poor except in the northern coast and mountain counties and in those counties with a great deal of lowland pasture.

Hay prospects for the entire U. S. fell off 5,000,000 tons during July. That is more than the whole California crop.

With a short crop, alfalfa planting this fall and next spring will in all probability be very extensive in order to supply forage for livestock next season. This will naturally boost the price of seed.

Dairymen are going into their business stronger and they will require additional acreage. At the same time, we are a little independent of outside markets here, said Mr. Richardson, because several new irrigation and subdivision projects are getting under way close around us and we can sell our whole crop locally. Anyhow several outside buyers and the Farm Adviser have been trying to buy our crop this season for shipment east.

On the other hand, it may well be remembered that just now there is a demand from the East for fall planting. This demand will fall off as soon as eastern seed is mature. It will be too late to plant in the East then anyway. So our growers may well unload before Eastern seed is ripe or else expect to compete with it. The country east of the Rockies produces a great deal more seed than we do, but due to the climate it is not generally so bright colored and clean. We have this advantage to balance our handicap of distance. Our seed is bright, viable and clean due to our dry summer. The Byron crop is claimed generally to germinate over 90 per cent, and even some of the rain-damaged seed last fall germinated 83 per cent.

Byron Seed Growing Started.

Alfalfa seed growing in the Byron district was started by Mr. Richardson in 1911 when he fixed up a grain thresher to hull it for the neighborhood. He has grown seed on various fields ever since then, and neighbors have taken it up. All but one other was planted with locally grown seed so no noxious weed seeds or pests have been imported. The area left for seed in this district this season is only around 250 acres. It will average 200 to 250 pounds per acre, so there will be but little if any more than a carload of seed to sell. Two years ago this district produced over 40 tons; but last fall the early rains hurt the crop and most people prefer the sure crops of hay rather than uncertain crops of seed.

Mr. Richardson's seed field is next to the oldest alfalfa in the Byron district. It was planted ten years ago, was never irrigated until two years and never seeded until this year.

Harvesting Alfalfa Seed.

Alfalfa is cut for seed when most of the pods have turned brown in mid-September, though the stalks are still green and carrying some blooms. Spikes in full bloom the middle of August will have ripened by cutting time. The crop is cut with a regular hay mower equipped with winnowing rods which roll it into a winrow as it is cut. Winrows are bunched at once by hand-forks into piles which can be pitched onto a wagon without pulling them to pieces. They cure out in the shocks without shattering much. Mr. Richardson's remodeled thresher has long since been superseded by regular clover hullers which do a better job, especially on partially dried pods. He still has the only cleaner in the country however, so is in best position to know of the crop.

Imperial county and Modoc, Lassen, and other northern mountain counties produce most of the California alfalfa seed. A great deal is produced in Arizona, but more is grown in the central west.

Alfalfa Seed Don't's.

There are only a few don't's. Don't try to grow alfalfa seed under irrigation. Don't try to grow it on rich land which produces rank growth. Don't even thresh alfalfa in which dodder has been growing. Don't put seed on the market with any amount of noxious weed seed in it. Don't try to get a setting without bees. Don't be too sure that you want to retail it yourself.

A DOZEN PROGRESS POINTERS.

1. Feeding balanced rations.
2. Learning to judge livestock.
3. Joining a cow-testing association.
4. Keeping a complete set of farm account books.
5. Providing better sanitary surroundings for livestock.
6. Joining co-operative livestock marketing associations.
7. A holiday to visit your most successful neighbors.
8. Selling scrub sires and purchasing registered ones.
9. Community ownership of a good stallion, and perhaps a jack.
10. Growing crops especially suited to produce feed for your livestock.
11. Making the boys partners in the farm by giving them a lamb, calf or pig.
12. An hour a day spent in figuring out methods to save steps, make the work more efficient and more profitable.

SAFETY FIRST

"You can't keep a good thing down"—that's why we're here. We've had our troubles, but the war is over.

Give our Aluminum pail and **PAL TEAT CUP**

The Once Over at the State Fair.

Workmanship and material fully guaranteed.

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Purebred Stock Sales a Specialty

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Blatchford's Calf Meal

has been known since the year 1860 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data See actual figures showing you how to increase your calf profits. **COULSON CO.** - Petaluma, Cal.

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Sell your livestock, farm equipment or real estate at public auction. I can get big prices for you. Have cried successful sales in all parts of the State. Customers always satisfied. Purebred sales a specialty.

Write or wire for terms and dates.

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IS A CALF WORTH 23 CENTS?

For 23 cents per animal you can insure your calves against loss from Blackleg by having them vaccinated with **PURITY BLACKLEG AGGRESSIN** (Germ-Free Vaccine made by the Kansas process). **ONE TREATMENT** immunizes calves for **LIFE**, and there is no danger of introducing blackleg into healthy herds. We also have **PURITY ANTI-HOG CHOLERA SERUM**, **PURITY MIXED VACCINE** for swine, and **PURITY HEMORRHAGE SEPTICEMIA VACCINES** for cattle and for sheep. For service that counts and does not end with selling, write, phone, or wire

PURITY SERUM CO., J. L. Thatcher, Manager (Successor to Thatcher Serum Co.)
Riverside, Calif. Sacramento, Calif.

The Hinman Milker

For ten full years Hinman Milkers have been demonstrating in thousands of dairies that they save a vast amount of time, that they are a good thing, a benefit for the cows, that they are so simple anybody can quickly learn to use them, that they are thoroughly dependable—that they are one of the finest and safest investments the dairyman can possibly make.

It is the leading milking machine as proved by the fact that more Hinmans are in use than any others.

It is the simplest milking machine—because it has practically nothing to get out of order and no big stationary vacuum pump, vacuum tank, gauge, relief valve, long pipe line or mechanical pulsator.

It is the most economical milking machine—because absence of all the extra devices just mentioned makes the price of the Hinman lower than others and makes the cost for power, fuel, upkeep and repairs lower.

And the Hinman has proved itself over and over again to be better for the cows than hand milking. The gradual suction produced by the outward stroke of the piston on the individual pump is natural, soothing and comforting to the cows. The suction is easily adjusted to suit different cows.

The valve-chamber in the pail cover works entirely automatically. It hasn't even a spring to get out of order. Suction closes the valve tightly; stopping of suction and weight of milk

opens it. This large, open valve-chamber is as easy to clean as a tumbler!

The simple, cone-shaped teat cups fit the cows—because they are made in different sizes for cows with different sized teats. They, too, are easy to clean.

The Hinman Principle is such that not only are nervous cows and hard milkers made gentle and easy, but there are a large number of cases on record where use of the Hinman increased the cows' milk flow. Its easy, uniform action on the cow keeps the udder and teats in a more normal condition than most hand milking does.

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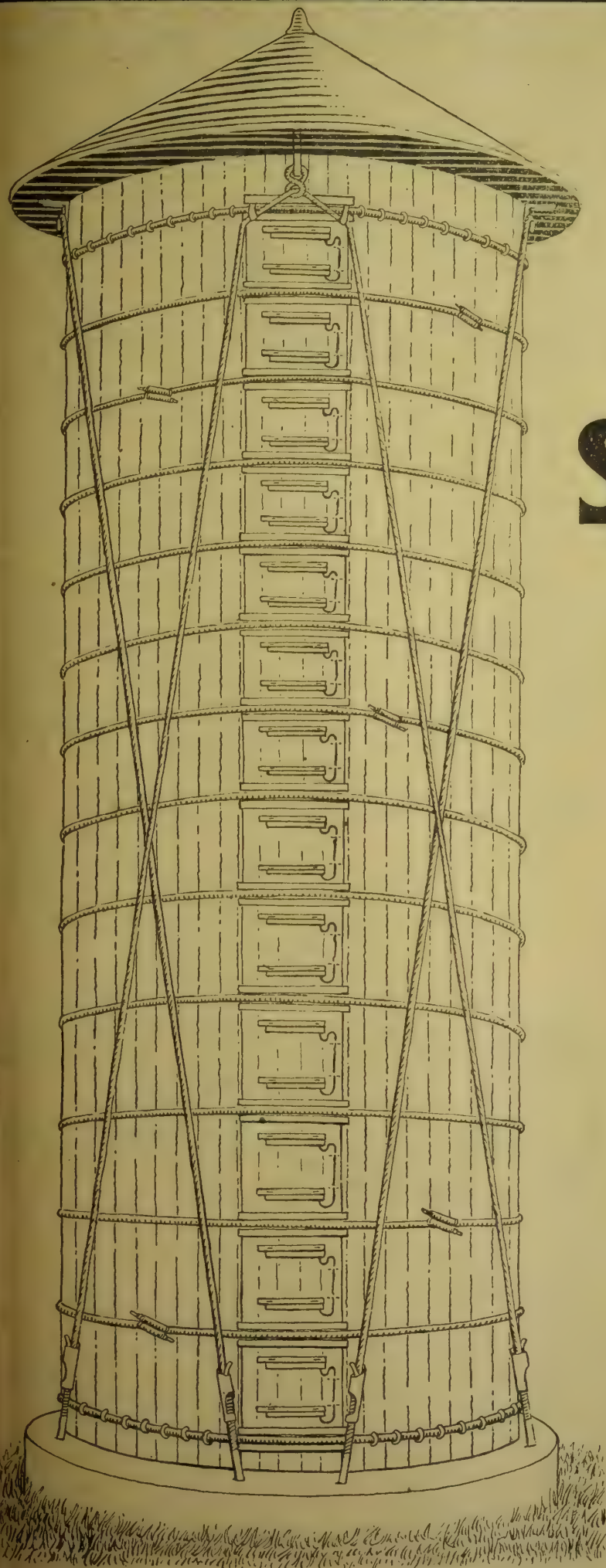
Lowest Cost

Because the Hinman is simple—has no stationary pump, vacuum tank, relief valve, pipe line and pulsator—its cost is about half that of other milkers.

Hinman Milking Machine Co., Oneida, New York

C. F. DANIELLS, Hughson, Cal., Distributer for California and Oregon.

NOW IS THE TIME!



When your summer crops begin to ripen then is the time for a silo. A safe, sure and profitable means of preserving the full value of your summer's work. Much of the food value is lost when fed in the old manner. Take corn, for instance—the stock is worthless when it becomes dry and 50 per cent of the blades and husks are lost in handling. Save the entire plant by putting it in a silo. Your stock will eat it to the last ounce. More nutrition, more milk, more profits.

Let a "SIMPLEX" take care of your stock. Don't eat up your profits by paying the usual "out of sight" winter prices for dry grain and mill feed. Fill a "Simplex" now and your feed worries are over. The

SIMPLEX SILO

is indestructible. Staves are of Douglas Fir and one piece—the height of the silo. This is a distinctive feature. No weak end-joints to leak and cause trouble. Hoops are made of new steel. Doors are of the two-way hinged type, air-tight and will not sag. The "Simplex" is fitted with the Crisell Tangent Top, which automatically keeps the Top in a true circle under all conditions.

Heavy galvanized cables are attached to top and are crossed diagonally to foundation anchor bolts imbedded in the foundation. This forms the SIMPLEX WINDPROOF INTERLOCKING ANCHORING SYSTEM.

Fill Your Own Silo

The PAPEC ENSILAGE CUTTER has a one-piece solid semi-steel frame. No wood or bothersome rivets to cause trouble. The Papec has six fans instead of the usual three or four. They are attached to the cutting wheel and "throw and blow" a steady stream of ensilage. Papec cutters require less power to operate and will elevate to the top of the highest silo, operating at their low speed of 600 to 700 revolutions per minute.

The Papec is a money-saver and a money maker. We guarantee it to do better work at a lower upkeep cost and operating expense than any other.

The "Simplex" Silo and the Papec Cutter are two money makers. They are permanent investments and will yield big returns each year. Send for our descriptive folders.

SEE OUR EXHIBIT AT CALIFORNIA STATE FAIR, SACRAMENTO

SANTA FE LUMBER COMPANY,
16 California St., San Francisco, Cal.

Please send me folder describing Simplex Silos;
also information about Papec Ensilage Cutters.

Name

Address

Mail
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Coupon
Today

SANTA FE LUMBER CO. San Francisco

Summer Cow Comfort Pays

(Written for Pacific Rural Press by E. H. Whitten.)

Whatever adds to the comfort of the dairy cow increases her yield of milk. For a hard-working cow to suffer in the hot sunshine, or be tormented by flies, means a drain on her vital forces that will cause a loss at the pail. Leaving the humane side out of consideration, her distress should at least appeal to the owner's business sense.

Probably there is no artificial shade quite as good as that furnished by trees, and there are so many quick-growing trees that adapt themselves to our climatic conditions that there is little excuse for not having abundant shade. Where the eucalyptus flourishes, ideal shade for summer and wind-breaks for winter can be quickly provided by planting these trees, while cottonwoods, catalpas, locusts and other quick-growing trees adapt themselves to the colder climates.

Swat the Flies.

It is just as necessary to keep cows free from flies as it is to protect them from the hot sun. A cow, being a highly nervous animal, is easily annoyed and excited, and excitement always causes a shrinkage in the flow of milk; also the annoyance prevents her from feeding to her capacity, and she loses in flesh. An average decrease in milk flow of from 25 to 40% is not uncommon as the direct result of flies and extreme summer heat. And under existing conditions, with a keen demand for dairy products, and with prices at a high mark, it will pay every dairy farmer to use every possible means to eliminate the fly evil.

It can't be done? Wrong you are. We have seen almost flyless farms, and you can have one if you will make up your mind to it. Remember this—flies do not travel far, even if they do have wings. They stick pretty close to their breeding and feeding places, and if you have them they are a crop of your own raising.

Flies are hatched and spend most of their lives in filth. The barn, the corral, the manure pile, drains, cess-pools, the flesh of decaying animals, the swill barrel—all such places are favorite breeding spots. Keep them clean; use plenty of lime, and the flies will brand you as inhospitable and give you a wide berth. It has been found that borax will destroy all fly eggs and maggots existing in manure. Use one ounce to every bushel of manure. Sprinkle it more plentifully at the outer edges of the pile, as this is where the maggots congregate. Cart the manure to the fields as fast as possible so that Mrs. Fly cannot use it for her nursery.

Other requirements for keeping flies away are darkened barns, stable sanitation, hanging burlap in the barn doors to brush flies from the cows, baited fly traps outside the barn, and spraying with fly repellents. The latter is effective, but requires repeated applications. Repellents should be used with care, as no effective one has yet been devised which will not taint the milk slightly.

Home-Made Sprays.

Many different patent sprays are on the market, some of which are effective, but many are unsatisfactory in addition to being extravagant. They generally consist of some coal-tar product combined with either fish oil, oil of tar, or resin. Under ordinary conditions the dairyman will find it more economical, as well as more effective, to make his own fly spray, and this can be quickly and easily done.

To prepare kerosene emulsion—one of the cheapest and best home-made fly repellents—dissolve one-half pound of yellow soap in a gallon of soft water heated to the boiling point, and with this combine 2 gallons of kerosene in a barrel where the solution can be churned vigorously. Dilute this mixture with 6 gallons of water. This amount of emulsion is sufficient for spraying 100 cows and should be prepared only as needed. When smaller amounts are required they should be prepared in the proportions given.

Another excellent spray is made of 4½ quarts coal tar dip, 4½ quarts fish oil, 3 quarts kerosene, 3 quarts whale oil and 1½ quarts oil of tar. Add these ingredients to lukewarm soft water in which 2 pounds of laundry soap have been dissolved, and the total brought up to 30 gallons by adding more soft water. This amount is sufficient to spray forty cows twice daily for a period of ten days. This spray serves to rid the cows of flies and does not cause the coats to become thick or harsh, although dust adheres more easily.

If a spray is desired which contains resin, take two cakes of laundry soap, dissolve in warm water, add 1½ pounds resin, 1½ pints fish oil and enough water to make 3 gallons. Boil the mixture until the resin dissolves. When ready to use, stir in ½ pint kerosene. Apply two or three times per week as required.

If there are only a few cows in the herd a hand sprayer will answer. If a large number are to be treated a very simple spraying apparatus may be constructed by making a portable cart from a half barrel and wheels, to which is added a spray pump and nozzle. By using this cart two men can spray a herd of forty to fifty cows in five minutes. The cost of labor plus the ingredients used in the spray will be practically one cent per cow daily, while the increased milk production, greater comfort to the cow and milker, and maintenance of more sanitary conditions, makes the investment an exceptionally profitable one.

THE SILO HAS COME TO STAY.

Have you a silo? If not, the chances are your herd is not most economically fed, for a silo is generally the source of the cheapest and best feed.

A good pasture is conceded to be the ideal feed for livestock. A silo is a pasture under cover, the contents of which can be used at any time of the year.

Silage can be produced at less expense than the usual hay or grain crop. Figuring the rent of land, plowing, cost of seed, planting and cultivating, it costs 72 cents per ton to grow silage, and the cost of putting it in the silo is figured at 74 cents—a total of only \$1.46 per ton.

The question of whether or not it is profitable to feed silage was settled long ago. The silo has come to stay. It is one of the requisites of good business farming, and the dairyman who puts off the erection of a silo limits the ability of his cows to make money for him.

Milk utensils should be kept perfectly clean. You may exercise extreme care in keeping cow barns scrupulously clean, but all your efforts will amount to nothing unless every utensil used is kept in a sanitary condition.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

ASK YOUR DEALER FOR

El Dorado Coconut Oil Cake

for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address

EL DORADO OIL WORKS

493 California Street,

San Francisco.

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs? Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

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CALIFORNIA STATE FAIR

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AUTOMOBILE SHOW—AUTO TRUCK SHOW

EVERYTHING FOR THE HOME AND FARM.

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"A Show Worth Millions by a State Worth Billions"

Reduced Rates on All Railways

Send for Premium List and Detailed Information.

GEO. C. ROEDING, President.

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MAKES HENS LAY

LACTEIN

CONDENSED BUTTERMILK

FOR HOGS AND POULTRY



MAKES HOGS FAT

BUTTER MILK IS NATURE'S FOOD AND TONIC.

Lactein is pure buttermilk as it comes from the churn, pasteurized, super-soured and condensed. It contains all the health-giving food and tonic values of the original buttermilk without the useless bulk of water. On account of its high lactic acid content it will keep almost indefinitely.

Lactein is now recognized as one of the most necessary food digestive agents known for both growing hogs and poultry, due to the large amount of lactic acid it contains. The lactic acid aids digestion and assimilation, causing the hog or fowl to digest all the good from the grains given them to eat, and to eliminate all the dead and disease matter from the digestive organs, thereby promoting growth and preventing disease. Lactic acid is considered the best tonic, appetizer, liver and bowel regulator known for hogs and poultry.

COSTS LESS THAN 2c PER GALLON TO FEED

* One gallon of Lactein mixed with thirty gallons of water and fed with the usual grain feed will show greater gains than from feeding the grain alone, besides, it will keep the hogs and poultry healthy and their appetites keen.

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Tuolumne County Farm Bureau has established an exchange for barter and sale of stock, machinery and equipment of farmers.

Livestock Queries and Replies

Pigs Have Thumps.

To the Editor: I have a litter of nice fat pigs a week old that are suffering from what looks like palsy. When they attempt to rise their bodies seem convulsed in a backward and forward movement. Tell me the cause and cure.—E. V. B. Roseville.

[Answered by Livestock Editor.]

Evidently your pigs have thumps which occurs when they are too fat and have too little exercise. Put all affected pigs into a large wooden box, with sides high enough so that they cannot jump out and let them chase about and squeal for a couple of hours in endeavoring to get back to their mother. Repeat once or twice a day until the pigs lose their surplus fat and the twitching and convulsions cease. Another way is to drive the sow out of her pen, and when the pigs become hungry they will chase back and forth and squeal in trying to get to her, and thus get the needed exercise. Reduce the sow's feed and make the piglets take exercise daily.

Will Twin Calves Breed?

To the Editor: One of my best cows has just had twin calves. A neighbor says that they will not breed. Is this so?—A. V., Chico.

[Answered by Livestock Editor.]

Twin bulls are as sure breeders as bulls of single birth, and the same may be said of heifers that are twinned together. They are as sure to be breeders as any other heifers. But when a heifer and a bull are twinned together, the heifer is known as a free-martin. The bull twinned with a heifer is as certain to be a breeder as a bull of single birth, but the free-martin heifer is almost sure to be sterile. Only a very few free-martins have been known to breed and the chances are very small that they will ever reproduce. Consequently, as a rule it is not advisable to raise free-martin heifers, as they usually result in failures as breeders and are worth no more than their beef value.

To Save Cut Udders.

To the Editor: I have a cow whose

udder has been badly cut from a barb wire entanglement and one teat is partly severed. Can I save it and what shall I do?—T. S. L., Santa Rosa.

[Answered by Livestock Editor.]

Hold the teat in place by hand and insert a milking tube at the normal opening. Work it up through the milk duct, thus connecting the cut portions. There should be a flange at the lower end which will keep the tube in place and allow it to remain until the wound is healed. Make several turns of the tube at each milking so that the flesh will not grow to it during the healing process.

Requirements for Selling Butter.

To the Editor: Where do we have to send our farm butter to have it tested for tuberculosis so that we can get a license to sell it?—P. A., Lodi.

[Answered by Livestock Editor.]

If you want to sell butter to outsiders you do not have a sample of the butter tested for tuberculosis. Instead, it is necessary for you to either have your cows tested or pasteurize the cream. If you have only a small dairy you probably will not want to go to the expense of putting in a pasteurizing plant, so it will be best for you to have your cows tested. The certificate of a local veterinarian will not be sufficient. Write to J. P. Iverson, State Veterinarian, Sacramento, and he will send one of his state deputies to test your cows.

Silage vs. Shredded Corn Fodder.

To the Editor: What is the food value of shredded corn fodder as compared with silage.—J. L. M., Sonoma.

[Answered by Livestock Editor.]

Pound for pound, shredded corn fodder contains nearly three times as much actual feed as silage, but the silage is more palatable and, as the cows like it better, there is much less wasted. When dry fodder is fed, a great deal of the coarser part is left uneaten, while with silage the loss is small. Feeding experiments conducted at the Ohio Experiment Station showed that a ton of corn made into silage will produce from 35 to 50 per cent more milk than the same corn fed as dry fodder.

SCALES REMOVE THE GUESSWORK

There is a great need of platform scales on farms where livestock is fed. With high-priced feed and high-priced livestock the farmer must feed in a scientific manner, and this means more than merely choosing good stock and giving a certain ration. If he has beef cattle, for instance, it means that he should check up frequently during the process of feeding and know just what is being accomplished. If he has to wait for the proof of his efforts until marketing time comes he may find that his feeding has been carried on at a loss.

With the aid of scales he may test his theory and his practice from week to week. If the scales tell him that the animals have not made the gains that he thinks they should have made, then he knows that something is wrong and he can make the correction.

Another advantage is that in keeping records of individual animals one soon learns to judge which is the best type to feed for the largest profit.

Aside from the value in feeding stock, the farmer has an opportunity to weigh his hay, grain and other crops marketed. He can drive his barley over the scales and know how much he is taking to market. Heretofore the farmer who has had to rely on the weight at the selling end has often harbored the suspicion that he has been deceived, because the grain has not weighed up to his expectation. The scale will remove such a suspicion and the farmer will not have to guess at the weight of his load.

The scale, therefore, has become a necessity on the farm run according to modern business ways, and it is a good investment in a great many cases.



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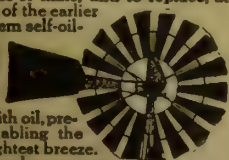
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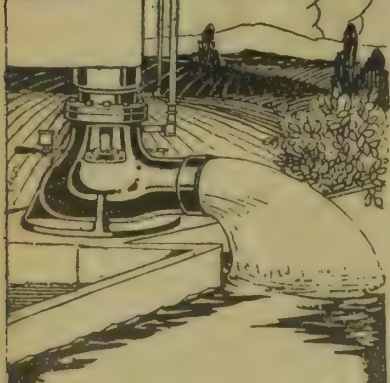
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Poultry and Rabbits for Profit.

(Written for Pacific Rural Press by R. H. Whitten.)

THE MARKET IS READY FOR CAPONS.

Ever taste capon? Try to imagine something better than the sweetest, juiciest and tenderest piece of meat you ever put in your mouth, and you will have some idea of what it is like. It is not new, even if you have never tasted it. The Chinese knew of it centuries ago; the Greeks and Romans practised caponizing; and today in European countries epicures not only know what capon is but insist upon having it.

The introduction of the capon to the American table is comparatively recent, and here in California no great progress has been made until recently. Many who tried caponizing gave it up, not because they did not succeed with the birds, but because the demand was light and the market too variable. However, when I saw capon on the menus of three different restaurants last week, found it in one cafeteria, and in walking through chinatown saw three crates of magnificent capons in front of a Chinese fish and poultry store, I said that at last the demand must be heavy enough to encourage Rural Press readers to raise capons for profit. So here goes. What is a capon? It is an unsexed or castrated male bird—one from which the reproduction organs have been removed. What the gelding is to the stallion, the steer to the bull, the wether to the ram, and the barrow to the boar, the capon is to the ordinary barnyard rooster.

How He Changes!

As with other male animals so altered, the disposition and appearance of the capon changes. He becomes docile and sluggish; the comb and wattles cease to grow, causing the head to appear small; the hackle and saddle feathers develop beautifully, making up for the loss of voice, since the crowing disappears. He never fights or courts trouble, and is easily kept within bounds. Because of his more peaceful disposition he takes on weight rapidly with no more than the ordinary amount of feed. Also, when finishing off, the capon fattens more readily and economically than the cockerel.

In the same length of time a capon will weigh one-half more than he would have weighed as a cockerel. A cockerel of the American breeds will weigh from 4 to 5 pounds when 8 months old; the same bird, if caponized, will weigh from 6 to 8 pounds. The flesh will be softened and of finer texture and superior flavor, thus giving it a premium value on the market sometimes amounting to double the price paid for a cockerel. Putting it tersely, the capon will eat as much as one cockerel, weigh as much as two, and sell for as much as four. Figure it out, and you will find that at an average weight of only 8 pounds the capon will make you a net profit of at least \$1.25—generally much more.

The use of capons for raising chicks is becoming more general. They seem to develop a motherly instinct, and while they are being fattened they can be used for rearing chicks, thus doing away with the necessity of having artificial brooders, as well as giving the chicks more natural care. Or, if they are not used for brooding, they can be run with the hens. They will not molest the hens, and the eggs will still be infertile.

Breeds for Caponizing.

Large capons bring the best prices; consequently it does not pay to caponize small fowls such as Leghorns. The Plymouth Rocks, Wyandottes, Reds, Light Bramas, Cochins, Indian Games, Langshams, or crosses of these breeds make fine capons. Orpingtons are fine for ideal flesh production, and their white shanks and shin make them show off to advantage.

The proper age at which to remove the reproductive organs is when

the cockerels weigh from 1 1/2 to 2 1/2 pounds, depending upon the breed. At these sizes the sexes of the birds can be determined, yet they will not have begun to develop sexually. Thus, if a chick is hatched in early spring it can be operated on before extremely hot weather begins, and will be ready for market during and after the holiday season.

Easy To Learn.

The operation is not difficult, and is easily learned, but it is best to practice on a dead bird first. There are a number of different makes of instruments on the market, a good set costing about \$5. The directions coming with the set should be studied carefully, and the use of each instrument learned before attempting the work. If a bird dies from the operation the flesh is fit for food, for death is caused by severing a large artery, and is not materially different from bleeding the bird in the neck.

Not much difference will be noticed in the newly made capons and young cockerels for the first month or so, but later the capons will begin to get long legged and awkward; then they will begin to body down and take on fat in surprising amounts.

Try a few capons this summer. Don't plunge blindly into capon raising simply because it sounds good. Caponize just a few at first and see how they turn out. Then see what kind of a market exists, or what kind you can develop. And then you'll be able to decide for yourself whether or not it will be best to go into it on a larger scale next year. The chances are you'll be mighty well satisfied.

RABBITS CATCHING COLD.

My rabbits seem to have colds and sneeze a good deal. What can I do for them?—Mrs. A. D., Elk Grove.

The most important thing is to find out what caused the trouble and change the conditions. Drafts will give rabbits a cold and they will sneeze just like human beings. They must be watched and treated or the cold will develop into snuffles, and there is no cure for this disease but the axe. After being sure that your rabbits are free from dampness and drafts you should give them a treatment of eucalyptus oil. Put it in a small oil can, hold the rabbit's head back carefully and squirt a few drops of the oil into each nostril, allowing time for it to get into the nasal cavities. Do this each day until relief comes. It will prove helpful to give a warm mash mixed with a little linseed meal.

PEEPS AND CLUCKS.

Poultry and pet stock fanciers will see more varieties on exhibit at the State Fair this year than ever before. There will be many new features, including daily pigeon races in connection with which some of the famous 500-mile war pigeons which were stationed at Mather Field will be on exhibit. The means by which these birds are liberated from flying machines will be shown.

The liberal use of a 2 per cent solution of Zenoleum, Kresol, or any good coal tar disinfectant about the poultry house after cleaning it will keep it sanitary and comfortable for the hens. The hen is naturally a clean animal and will repay efforts in this direction by producing more eggs.

Hens never wash as many other birds do, but rid themselves of insects by wallowing in the soil. Where the ground is hard, some means of dusting should be provided and everywhere this should be done during the winter months. A dusting box about 3x5 will be large enough for most farm flocks and should be placed where it can be reached by sunlight in the winter time. Fine light, dry dust is best, but sandy loam is good. Road dust is excellent if not filthy.

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Write for our booklet,
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Coal or wood ashes may be mixed with the soil if desired.

Growing pullets do better if they have some kind of animal food, such as skim milk, butter milk or beef scraps. Under normal conditions pullets on the farm obtain enough insects and worms, but on account of the dry weather this season the supply may be limited in some sections. Plenty of milk or buttermilk is generally available on the farm, but if not, it will be worth while to use beef scraps. Or if tankage is used for hogs, this can be substituted.

In locating a poultry house, select a spot that has natural drainage away from the building. A dry, porous soil is preferable to a clay soil. In most localities the building should face south, which insures sunlight throughout the year. Allow about 3 square feet of floor space to a bird. Proper ventilation and sunlight mean a dry house and healthy birds.

Many farmers feed only whole grain to their hens. A hen's gizzard is capable of grinding all kinds of grain, but when egg laying is taken into consideration it will be found more economical to have part of the grinding done by machinery. However, a happy medium should be observed and at least half of the grain should be fed whole, as the muscles of the gizzard need exercise. If you feed the ground grain moistened be sure to have it a rather dry, crumbly mash and not a gummy mixture.

This is the time of year when farmers are inclined to become rather slack in caring for their hens. There are no mating problems to confront them, the hatching season is over, the young stock is at an awkward age, and the old stock is in a faded, ragged condition. Apparently there is little to keep up the farmer's interest, so he just lets things go. But next winter he will wish that he had been a little more particular during these hot days, for the youngsters will not be as large as they should be and the old hens will be out of condition. So don't let that tired feeling get the best of you during these hot days, but remember that attention given the birds now will pay big.

Egg day will be celebrated in Petaluma August 30th. A committee has been appointed in each rural district to visit the poultrymen and collect eggs and a big time is expected.

The July business of the Tulare Co-operative Poultry Association was the largest of any July in the history of the organization, with a total of \$24,045 which exceeded the business of a year ago by \$3,000. The month's business was handled at an overhead expense of .0384 per cent.

TESTED FEEDING METHODS.

At the University Farm, where different combination of different feeds have been tried, the following mixtures have been adopted as best under present day conditions.

Dry Mash—5 pounds wheat bran, 5 pounds wheat shorts or middlings, 5 pounds ground barley, 2 pounds soy bean meal, 3 pounds beef scraps, ½ pound charcoal, 1-10 pound salt.

Scratch Feed—1 pound cracked Indian corn, 1 pound whole milo, 1 pound barley. Or 1 pound barley, 1 pound oats, 1 pound milo. Or 1 pound milo, 1 pound barley.

A variety is very essential as it increases palatability, and the greater the number of ingredients used the less the tendency of the ration lacking some necessary mineral salt.

Every ration should possess adaptability to the needs of the fowl, palatability to increase digestion, and variety to increase appetite. It should be properly balanced and should have some natural tonic effect. It should be of low cost by the selection of ingredients of local production. Methods of feeding are important; regular systematic attention is absolutely necessary.

Scratch feed should be fed in deep litter; dry mash in hoppers constantly before the birds.

Give tender green feed daily—all the hens will eat. They should have some animal food, such as buttermilk, skim milk or beef scraps. Grit

he says "it's a world beater"

and the man who wrote this had no "fish to fry"—only eggs to hatch,—and Charters Incubator and Regulator has helped him hatch them. It will be worth your while to read the letter reproduced here. Mr. Crews knows a lot about incubation, and his experience is worth hearing about.

CHARTERS INCUBATOR

(equipped complete with Charters Regulator)

—have been adopted by dozens of other poultry raisers, with from one to one hundred machines —with the same results. Many are discarding all other makes,—and write us that with the Charters, an incubator cellar is not necessary.

How the Regulator Works:

It's the two thermostats that do the trick—actually anticipating any change of temperature, and automatically adjusting the size of the lamp flame to meet the new conditions. The atmospheric temperature may vary 70 degrees, yet the egg chamber will vary less than half a degree.

The big fuel tank, a unique feature of the Charters Regulator, holds a supply that will keep the lamp running for from two to three weeks, without refilling. In actual use, one refill, and one trimming a week is all that is ever required.

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The Regulator (easily attached) is
\$10

The Incubator, with Regulator attached, is
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Seabright Pioneer Hatchery

Charters Manufacturing Co.,
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Seabright, Calif.
June 23rd, 1919.

Gentlemen:

Your incubator is a world beater. I have thoroughly tried out the incubator itself, as well as the regulator, and I have concluded that I would never run off another hatch with a machine without your regulator being attached. Not only this, but I do not want anyone to hatch for me unless they have the Charters Incubators.

As you know, I bought fourteen Charters Incubators of 80 capacity Street, Santa Cruz, Calif., a lady who had never run these machines for me, hatching out a total of 19,333 chicks, an average of over 384 chicks out of every batch. I believe this is most remarkable record and it proves conclusively to me that your incubator is a most superior product.

A little incident convinced me as to the value of your regulator in a remarkable manner. I left a number of eggs, one day for a few hours. Upon my return I found the temperature of all the other machines way high and the temperature in each of them around 110. The Charters, on the other hand, had not varied one degree as the outside thermostat was working in conjunction with the shutter burner has cut down the flame to a point, thereby shutting off the heat and keeping the temperature down. So convincing was this test of your regulator that I decided never to hatch again without it. Showing that I am at home in this regard, I have had my order for 50 Charters Incubators, 500 egg capacity, to be delivered at 50 Charters Incubators to be delivered to me in August, 1919.

Yours truly,
Enoch Crews,
SEABRIGHT PIONEER HATCHERY

and charcoal are necessary as digestive aids and there should be mineral matter in the form of shell and bone. Experiments at Davis have not shown any material advantage from the use of any particular grain, but hens not accustomed to a grain may have to be given time to learn to like it before the same results can be looked for.

The food values of the different grains are so nearly similar that they may be used interchangeably according to cost, but it should be remembered that the hens will do better on a mixed ration of two or more grains. The purpose of the mash is to add to the grain ration a greater percentage of protein and to help the hen by furnishing her with a portion of her food in ground form; also to turn by-products unfit for human consumption into nutritive and palatable eggs and meat.

Based upon experiments covering three years, the conclusion is that the egg mash should contain 15 per cent animal products and 10 per cent of some high protein vegetable product like soy bean meal; the balance to be fillers like wheat bran, wheat shorts and ground grains.

A good motto to hang in your hen houses: "An egg a day keeps the hatchet away."

A few onion tops chopped fine and fed to the little growing chicks will be a variety to their green feed. Try them and see how they are relished.

Breeding pens, runs and yards should be plowed or spaded up at least once each year. Ground in time becomes foul and may retain disease germs.

Clean all drinking vessels each day and thoroughly scald them out every week.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties very week. Only good, strong youngsters shipped. Stubbe Poultry Ranch and Hatchery, Box 87, Palo Alto.

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PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

FALL BABY CHICKS—Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. Santa Clara Valley Hatchery, San Jose, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

FALL BABY CHICKS from our large heavy-laying S. C. White Leghorns. Send for prices. Tupman Poultry Farm, Box 7A, Ceres, Calif.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

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10,000 rolls best 40% saving ready roofing ever offered in this market, one-half price.

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200 power poles, 25 to 40 ft. long, in ground 1 to 2 years, ½ price.
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4 tons No. 6 and No. 8 insulated copper wire.
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yet hundreds open most weeks, reduced, in each of seven popular breeds. Clearing customers, \$5 yearly. 200-290 egg strain. Large vigorous winter layers. Half chicks go to former customers. Doubling our 70,000 hatching capacity. Returned thousands of dollars for chicks we couldn't supply. FEW HUNDRED BREEDING HENS, MALES, laying younger pullets, going rapidly—50c to \$2.00 under price. Valuable circular with proof free. J. Beeson, Pasadena, Calif.

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Los Angeles, Cal. 120 S. Los Angeles St.,



THE HOME CIRCLE

SACRIFICE.

By J. Corson Miller.

Sing not to me of earthly power,
For winds make sport of the dust of
kings;
In many an immemorial hour
Men fought and bled for trivial
things.
Sing me the prayer that lifts from
some white heart,
As Earth's immortal part.
For deeds that live to gain reward,
And dreams that barter Love for
Fame:
These all shall die as with a sword,
And be forever linked with shame.
The great white vision born of pain
and death,
These have eternal breath.
And as a comet sweeps the sky,
To reappear through cycling years,
So shall Love's deeds supreme and
high
Enkindle hope again from tears.
Sing me Love's utter sacrifice and
loss—
Christ's death upon the Cross.

A LITTLE HEROINE.

Florence Montfort was a happy girl when it was decided that she should visit her Uncle Robert, who lived on a farm out in Kansas. Having spent all her life in a city, she looked forward to this as to a new kind of an existence, and so it really was, and she was not disappointed in thoroughly enjoying its novelty.

She liked to enter into all that was going on, especially, at first, to get up early in the mornings and go out in the barnyard to watch them milk the cows, and soon begged to be allowed

to learn to do so herself; so Susan, the girl who attended to that business, gave her permission to try to milk gentle old Sukey.

"But she has a dreadful way of moving around, Miss Floy, so you must watch her," said Susan. Florence agreed to do so, and was getting on famously with her pail nearly half filled when Sukey took a notion to change her position. The new milk-maid was off her guard, and in attempting to snatch the pail, lost her balance from the stool she was sitting on and the next minute found herself with the pail and stool on the ground in a pool of new milk.

"So well splashed," said her cousin Rob, "you couldn't tell which was which."

The day after her arrival on the farm, Rob, who was the oldest boy and about her own age—which was thirteen—said to Louis, his brother, two years younger:

"I say, Lou, what a pity she isn't a boy! We might have some fun with her, but I don't see how we are going to get along with a girl, and dressed up in good clothes all the time, too!"

Only a few days later Louis expressed himself in equally confidential terms.

"I cannot see what's the matter with you, Rob. I think she is just as good as any boy, and a good deal nicer."

"O, of course she is. Since we have got acquainted, she will do very well, for she can tell the best kind of stories," was the reply, with an air of superiority.

She frequently met with such mishaps as she did when learning to milk, such as being chased by the old gobbler out of the barnyard when she went out to feed the chickens one cool morning with a red shawl around her, and another time slipping off the pony into a mudpuddle when she was riding on a man's saddle. But though the sweetness of her disposition was shown in all these little things, it was an occurrence which happened later which came near having a terrible and tragical ending, that proved her possessing the traits of a true heroine.

It was a pleasant Sunday evening when Uncle Robert came in, saying briskly:

"Well, the omnibus is waiting—room for a few more. Who is going to church this evening?"

The omnibus was really a nice spring wagon, and the drive to the village was only a couple of miles over a good, smooth road, yet no one answered but Aunt Charlotte.

"I knew I should be crowded, yet there is still room for one or two more, so you might as well get your hats, boys," continued Uncle Robert, with a sly twinkle in his eyes.

"I would just as lief let Louis and Floy go, as I went last Sunday evening," replied Rob.

"O no, Rob," said Louis, "you may have my seat and I will stay at home and take care of Bertie."

To which Bertie spoke for himself: "No, Cousin Floy is going to stay with me; she promised me she would, and tell me a story how the prairie caught fire and nearly burned up some children, if I wouldn't tell the boys she got scared at a cow and fell down in the mud."

"O Bertie! and you said you would not."

"O Cousin Floy, I didn't mean to, indeed I didn't; it just told itself," exclaimed the child, bursting into tears, as he realized what he had done.

The boys shouted with laughter at Florence's expense, in which the grown people could not help joining. Bertie's tears were dried with a kiss of forgiveness from Florence, and then his papa went on making his arrangements for church.

"You boys are very kind to each other," said he; "your self-sacrificing spirit is certainly commendable, but I think you may both come with us. As Florence went to church this morning she perhaps prefers staying at home tonight. Bertie will be company for her, and Susan and Jerry are

both here for protection."

As soon as they were fairly off, Florence seated herself for the business of entertaining her little cousin, when Susan's voice was heard from the kitchen: "O please, Miss Floy, wait just a few minutes till I finish up my dishes, I want to hear it all so bad."

"Yes, we'll wait for you, Susie, but you'll have to hurry up," answered Bertie, as he arranged himself in a comfortable position for listening, with his curly head down in the middle of the old-fashioned settee and his feet over the arm.

Susan did her best to "hurry up," but church was probably more than

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BLAZING-AWAY-IN-COST-DEFENCE!



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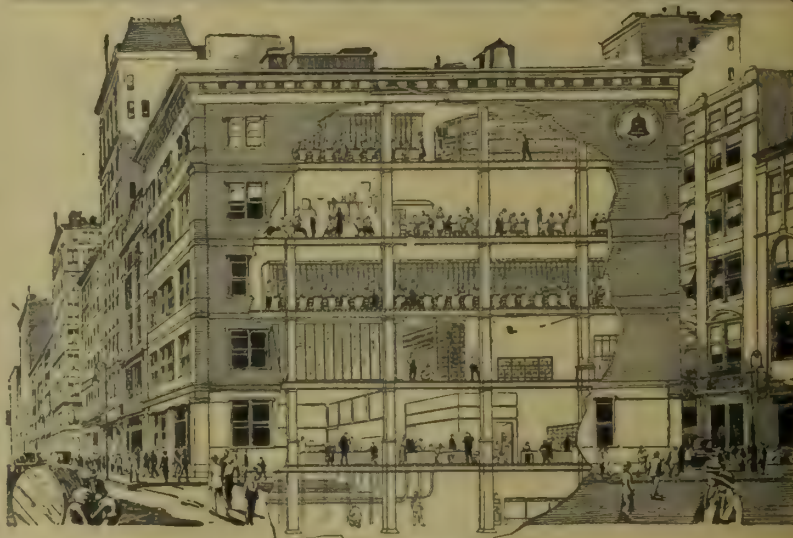
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Telephone construction, including buildings, switchboards, conduits, cables and toll lines, must, from its inherent nature, be undertaken in large units. A metropolitan switchboard, with its tens of thousands of parts, may require from two to three years to construct and install.

Only great extension can meet the

present excess burden of traffic and provide for future requirements. Extension which cares for immediate demand, only, is uneconomical and calls for continuous work of such a character as to be frequently detrimental to the service.

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half out before Florence was fairly started in her story. It was something she had read in a book, but told in her own language. Her audience was small, but so deeply attentive she spared no pains to please, and it was in vivid language that she portrayed the hard and lonely life of a settler and his family in the heart of a prairie, where he had at last succeeded in getting a comfortable home built and some of the conveniences of living around him, when one day they discovered that the prairie was on fire. There was no way to escape, for should they attempt to flee the fire could travel faster than they. It was at the end of a long, dry summer, so they were surrounded with combustible material. Their only hope was to clear a circle around the house; then, O how they worked, to the very smallest child, and it was still burning, burning; and then how they stopped in despair, and it was still burning, "Miss Floy," interrupted Susan from her seat on the doorstep, "everytime you say, 'burning, burning,' it seems to me I smell something burning."

Florence was a little startled and got up and walked to the open door. As she did so she saw distinctly a light shining through the crevices of a small, two-story building across the yard which they called the "tool-house."

"Could Jerry have taken a candle into the toolhouse?" asked Florence, as she knew this was contrary to her uncle's orders.

"O no, Miss; Jerry has gone to a neighbor's," was Susan's reply.

"Then get me the key, quick, something is wrong," she said in a breathless tone as she started to run toward the building.

Even before the door was opened she saw that it was on fire inside. It was too far from the house or barn to injure them unless the wind was blowing, but they pumped, carried water and were doing their best to subdue the flames, which were rapidly getting ahead of them as Jerry came running across the lawn screaming something in a voice that was hoarse from the effort made to make them hear.

Florence stopped for an instant, saying: "What is it you are saying, Jerry?"

"The powder, Miss, the powder! Run for your lives; there's enough to blow up half the farm!"

For one moment she felt as if her blood was turning to ice. She remembered instantly the tin can of powder and just where it stood at the top of the ladder by which you reach the second story of the building. The thought of her uncle, whom she loved so dearly, how long and how hard he had toiled for this comfortable home for himself and family that in a few moments would be in ruins. Then she thought of her own dear parents, her loved home and her darling brother Tom.

"Yes, Tom would do it," she said to herself, "he would not hesitate, and with God's help I'll try," and drawing her skirts tightly around her, she darted across the intervening space and into the door, apparently throwing herself into a sea of flames.

Both Jerry and Susan rushed after her to drag her back as they saw her running toward the building, and reached the door just in time to see her almost flying up the ladder, and then to see the flames had reached the foot, rendering her return impossible. Seizing Bertie in his arms, Jerry ran at the top of his speed across the lawn and out of the gate, meeting a vehicle coming in at a furious gallop. Its inmates were too bent upon reaching the burning house to notice his frantic efforts to stop them.

Uncle Robert, too, remembered the powder, and from the instant they had noticed the fire until they reached the spot his thoughts were divided between heaping bitter reproaches upon himself for not having been more prudent and in supplications to the Almighty to avert the dreadful catastrophe which was threatened. Harder to bear than aught else appeared the thought of injury to his loved niece, for whom he had begged so hard to have with them this summer to fill the place of an only daughter who had died. Almost as if in answer to his prayer, the first object

his eyes rested upon as he sprang from the wagon was Florence standing upon the limb of a tree that extended to the window of the burning house.

It bent and swayed beneath the little form, though she lightened her weight by clasping one arm around the bough above her, but in the other she held tightly clasped the can of powder.

"Catch it, Uncle Robert," she cried, as he came under the tree, "catch it, and then I can get down easily."

Uncle Robert did not afterward often speak of the fire, or of anything relating to it, but when he told Florence's father about it, some years later, he said: "Never, if I live to be a hundred years old, can the picture be dim in my memory of how I saw Floy that night, standing out as it did in the bright light from the flames. On that slim bough she looked as though floating in the air, and I felt that she had indeed been an angel in our household."

"How did you happen to think you could step out on that limb, Floy?" asked Louis.

"I did not think of it. I only thought I might be able to throw the powder out to Jerry, or beyond the reach of harm."

"And then, just think, you would have got burned up like those poor people on the prairie," said Bertie.

"Why, I never said they got burned up, Bertie; the good Lord was just as kind to them as he was to us, and they were saved by using the very thing that might have destroyed us, for it was by strewing powder around that they destroyed the dry grass in a circle about their house and saved it and themselves."



The PREMIER BURNER

The much talked about PREMIER BURNER will be the greatest single attraction at the State Fair. * * * Its perfect performance has been more than was expected or thought possible from a Kerosene Oil Burner.

We are pleased at the prospect of meeting so many of our old friends at the Fair * * * and we want to take advantage of this opportunity to say, that, you have helped the PREMIER in its development. Your faith and encouragement have been an inspiration, and have made the great volume of its business possible.

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Guaranteed to Heat the Whole House Comfortably

A written guarantee goes with every Mueller Pipeless Furnace installed. Whether it's an old house or new, 3 or 4 rooms or a dozen or more, the Mueller is guaranteed to heat every room com-

fortably. And it does—letters from home-owners from coast to coast prove it.

Easy to install, no floors or walls to tear up. Built to last as long as the house.

Study the Many Exclusive Features in the Mueller Book

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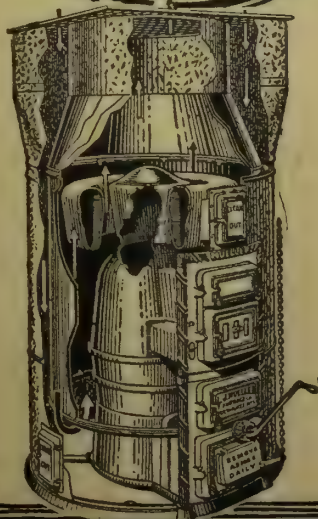
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"Are'nt You busy
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Only my
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Motors"



"My wife is keeping her eyes on the churn; young Johnnie is dumping feed now and then into the cutter; one hired man is feeding fireplace wood across the teeth of a saw; the other man is attending the irrigation canal in the west field—but the real work in each case is being done by my

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Our stocks of these are of the best quality obtainable. Our Melilotus is thoroughly scarified, insuring high germination.

Engage your requirements of the above now. Write for prices.

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COTTON.

The cotton market is somewhat quiet and bearish, and cotton growers are actively apposing all legislation framed with a view to fixing an arbitrary price for their product which it is believed by some will advance to as high as 40 cents a pound if not interfered with. Imperial Valley and San Joaquin Valley growers are optimistic over the prospects of a good crop and a good price. Some contracts have been entered into in the Imperial district at 30c.

The New York market early this week ranged about 30 and 31 cents with few sales. The Southern spot markets ran about as follows: Galveston 31 cents; New Orleans 30.88 cents; Savannah 31.25 cents; Augusta 30.12 cents; Memphis 33 cents; Houston 13.25 cents.

LOS ANGELES.

The following are the prices actually obtained in Los Angeles by wholesale buyers from retailers and others at the beginning of this week for the commodities below enumerated. The figures are obtained from the Bureau of Markets U. S. Dept. of Agriculture:

APPLES.

Five cars arrived. Newcrop, Alexanders, apple boxes, \$2.75@3.00. Gravenstein, bulk, 5@6c per lb.; packed, \$3.10@3.25; No. 2, \$2.65@3.00. Red Astrakhans 4@5c per lb. Crab apples, \$2.00@2.25.

BEANS.

Kentucky Wonders, 3@3½c per lb.; practically no demand.

BLACKBERRIES.

\$4.50@4.75 per crate of 30 baskets.

CANTALOUPE.

Two cars on track. Quality and condition generally good. San Fernando local Honey Dews \$1.35@1.50. Tip Tops, \$1.50@1.65. Rockfords \$1.25@1.50. Paul Rose, \$1.50@1.75.

CORN.

Roasting ears, 60@65c per lug box of 3 dozen.

CARROTS.

30@35c per dozen bunches.

CUCUMBERS.

Local stock, lug boxes, 20½@25c.

CELERY.

Local best, \$1.00@1.25 per dozen bunches. Crates best, \$4.50@5.00.

EGGPLANT.

Best 4@5c per lb.; poorer less.

GARLIC.

Local, 40c per lb.

GRAPES.

Five cars arrived. Local and northern Thompson Seedless, best, 5@6c per lb. Tokays, 8@9c; Malagas, 6@7½c; Muscats, 5½@7½c; Rose of Peru, 7@8c.

GRAPEFRUIT.

Local fancy, \$3.50@5.00; poorer, \$2.50 up.

LEMONS.

Fancy, \$6.00@6.75. Local packed \$4.00@4.50. Loose, some ripe, \$3.00@4.

NECTARINES.

Two cars arrived. Best, large, 7@8c per lb.; smaller, 6@7c per lb.

ONIONS.

Seven cars arrived, 7 cars on track. Demand and movement slow. Home-grown White Globes 90c@1.00 per lug box, \$2.90@3.00 per crate. Yellow varieties, \$2.50@2.85 per crate, lugs, \$1.00@1.10.

ORANGES.

Valencias medium size fancy, \$5.25@5.75. Local packed, \$3.00@4.00.

PEACHES.

Seventeen cars arrived, no cars on track. Demand and movement moderate. Local and northern various varieties 4@6c per lb.; lug boxes \$1.00@1.65.

PEARS.

Fourteen cars arrived, no cars on track. Northern Bartlett, No. 1, 6@7c per lb. No. 1 6@7c per lb.; No. 2 5½@6c per lb. Lug boxes \$1.25@2.00. Packed, \$3.50@3.75.

PEAS.

Locals, 8@9c.

PEPPERS.

Bell, 45@50c per lug box. Chili, 35@45c per lug box.

PINEAPPLES.

Per lb. 15@16c.

PLUMS.

Six cars arrived. Demand and movement slow. Satsuma and Wicksons, 6@6½c per lb.; Burbanks, 4@5c per lb.; Hungarians 7@8c per lb.

POTATOES.

Sixteen cars arrived; 14 cars on track, demand and movement moderate. Market steady. Stockton Burbanks, re-sorted sacked per 100 lbs.; \$3.00@3.50. New stock, Stockton Burbanks, \$3.25@3.40. Home grown White Rose, 1.00@1.25 per lug box; sacked per 100 lbs. No. 1 grade, \$3.10@3.40; No. 2, grade \$2.50@2.75.

RASPBERRIES.

Locals, \$4.50@5.00 per crate of 50 baskets.

SWEET POTATOES.

5@5½c per lb.

TOMATOES.

No carlot arrivals lug boxes ripe 30@40c, shipping stock 45@55c.

TURNIPS.

25@30c per doz. bunches.

WATERMELONS.

No. carlot arrivals, demand and movement slow, quality and condition gen-

erally good. Local Chileans and Klondikes, large 1½c per lb.; medium, 1c per lb.; small, ¾c per lb.

RICE.

RICE—(Per 100 lbs.)—California rice paddy, Japan, \$7.00; fancy head, \$11.50; choice head, \$11.25; Siam garden \$10.25; Creole head, \$10.00; Pinks, \$11.00; broken, \$6.75; brewers, \$10.25; rice polish \$30 per ton, rice bran, \$30 per ton. All other grades are to be sold on proportionate basis value and proper differentials are to be added for the cost of doubled pockets.

LIVE POULTRY.

Hens, 3 lbs. and under per lb. 26c
Hens, over 3 lbs. and up to 3½ lbs. 28c
Hens, over 3½ lbs. each, per lbs. 33c
Hens, colored weighing 4 lbs and up. 36c
Broilers, 1 lb. to 1½ lbs. 27c
Broilers, 1½ lbs. and up. 27c
Fryers, 2½ lbs. and up. 26c
Roasters, soft bone 3 lbs. and up. 50c
Stags 16c
Old Cocks 18c
Ducklings, Pekin 3½ lbs. and up. 27c
Ducklings, other than Pekins 3½ lb. 27c
Old Ducks, 3½ lbs. and up. 27c
Geese 25c
Young tom Turkeys 13 lbs and up. 40c
Hen Turkeys 34c
Old tom Turkeys 35c
Squabs, over 9 lbs. to the doz. 47c
Squabs, ove 9 lbs. to the doz. 47c
Old pigeons, per doz. \$1.00
Belgian hares 13c

EGGS.

Fresh extras. Produce Exchange closing price 52½c doz.; price to retail merchants, 53@56½c. Case count, Produce Exchange closing price 50c, price to retail merchants 51@52½c; pullets, Produce Exchange closing price, 49c; price to retail merchants 49½@51c.

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ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

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FOR SALE—Potato digger with extras, used one season. P. O. Box 84, Solvang, Calif.

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20 A. fine alfalfa; good bldgs.; facing highway; price \$400 per A.

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344-ACRE STATE ROAD. Middle West Farm \$5000. Splendid 10-room residence, steam heat, house alone estimated worth \$7,000, large barns etc. near railroad town, 8 miles large city. Productive loam tillage, 60-cow pasture, wood, timber, orchards. Borders river, motor bus passes door. To settle now, low price \$5000, only \$1500 down gets all. Details page 78 Catalog Bargains 19 States, copy free. Strout Farm Agency, 831 A. F. N. Y. Life Bldg., Kansas City.

GOOD GRAIN AND STOCK RANCH, 320 acres established 50 years, 20 acres creek bottom. Alfalfa, orchard, vinery, horses, implements, harness, household furniture, everything \$12,800. R. L. Douglass, Red Bluff, Calif.

FOR SALE—My Equity of \$3700 in 40 acres alfalfa land, 5 miles from Manteca. Address Wm. Robertson, 869 Fulton St., San Francisco.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, Aug. 19, 1919.

WHEAT.

The supply of wheat seems ample for all demands in San Francisco, although it is stated that arrivals are slow. All grain markets are dull.

Per bushel—	
No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
Early Baart	Nominal
California, per cbl.	\$3.65@3.70

BARLEY.

There was no local movement in barley this week, and little interest was shown in the gain on the exchange. December sold a few cents off last week's quotation, \$3.20 being the best price quoted. Spot barley, for which there was very light demand, was unchanged. Feed \$3.15@3.20. Shipping \$3.20@3.30.

OATS.

Oats are weak and in light demand. Red feed, per cbl. \$3.00@3.25. Red for seed. Nominal. Black for seed. Nominal. Recleaned Red or Black for seed. Nominal.

CORN.

The demand for corn seems well satisfied for the present and very little of the grain was moved. Quotations were maintained however.

California	\$3.80@3.90
Egyptian, choice	Nominal
Milo	Nominal

POTATOES, ONIONS, ETC.

The grain was moved. Quotations were slightly higher this week, this change is regarded as temporary and the market for both potatoes and onions is weaker. Receipts are more plentiful than the previous week, but there is no increase in demand. Sweet potatoes are lower, with garlic higher. While the prices of tomatoes are unchanged this week continued warm weather in the growing districts will probably have the effect of lowering the price in the near future. Most of the vegetables were moving rapidly this week with practically none of them showing higher quotations. Some Oregon celery was on the market and found ready buyers at a dollar a crate.

String beans	3@5c
Peas	5@7c
Carrots, per sack	\$1.25@1.50
Rhubarb, Strawberry, box	1.25@1.75
Cucumbers	.50@70c
Eggplant, box	.40@50c
Lettuce, per crate	.75c@1.25
Celery, crate Oregon	1.00
Tomatoes, River, per large box	\$1.00@1.50
do, Bay	\$1.50@1.75
Sprouts	Nominal
Summer squash, lugs, Alameda	.40@50c
Green Corn, Alameda, sack	\$2.00@3.00
Potatoes—Oregon	\$2.00@2.25
do, Garnets, new on street	\$2.40@2.75

do, Idaho	None
do, local whites	\$2.25@2.50
do, Rivers	\$2.00@2.35
do, Sweeta, new lb.	.5½@6c
Onions, Warehouse Stock—Australian	
Browns	Nominal
do, new red	Nominal
do, Browns	2.00@2.25
do, Yellow	2.00@2.25
do, Green, Alameda	\$1.00@1.50
Garlic	.20c

BEANS.

The bean market continues in the dumps over the campaign against the food profiteers. Statements have been made that enormous quantities of beans have been kept in storage in this vicinity and the intimation given that they have been held for a higher market. As a matter of fact beans is practically the only food product that has shown a considerable and with few exceptions a steady decline since the close of the war. The best information indicates that the holders have made every effort to dispose of their stock, but there has been no demand at any price. The facts seem to be that California growers raised more beans last year than are needed and they are now suffering from the attacks for their patriotic efforts by those half informed.

Bayos, per cbl.	\$6.25@6.50
Blackeyes	\$5.50@5.75
Cranberry beans	\$6.50@6.75
Limas (south, recleaned)	\$12.00
Pinks	\$6.60@6.75
Mexican Reds	\$5.75@6.50
Tepary beans	\$2.50@2.75
Garbanzos	10½@11.00
Large whites	7.00@7.25
Small whites	\$7.75@8.00

POULTRY.

The country wide campaign against the food profiteer has apparently alarmed the packers and they are sending very little poultry to the ice houses at the present time. As a consequence prices of broilers, fryers, hens and young roosters all took a tumble this week. The rest of the list, very little of which has been going into storage, is unchanged.

Turkeys, dressed, young spring, lb.	.45@50c
Broilers 1½ lbs. and under	.30@32c
do, 1½ to 2 lbs.	.30@32c
Friers, 2 to 3 lbs.	.34@36c
Hens, extra, per lb., colored	.28@32c
do, Leghorn	.28@32c
Smooth young roosters, per lb. (3 lbs. and over	.34@36c
Old roosters, colored, per lb.	.22@23c
Geese, young, per lb.	.22@23c
do, old, per lb.	.22@23c
Squabs, per lb.	.48@50c
Ducks, young	.25@28c
do, old, per lb.	.23c
Belgian hares	15@16c
Jack rabbits	\$1.50@3.00

EGGS.

While eggs showed some fluctuations during the week, they were not violent and the tendency was downward. So far as known there have been no shipments made from this territory to the East either from the bay region or points of productions, and reports from storage warehouses show but little difference from last week. Receipts in San Francisco have shown but a slight increase over last week, and all these

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Nearly all markets on all varieties remained steady, with a few fluctuations towards a downward tendency on plums and peaches.

The previous week had shown an advance on peaches but during the past few days, owing to Middlewest rejections on account of the strike situation, shippers were compelled to move cars East in heavier supply than their judgment dictated.

The lower market on plums during the past few days was due more to increased supplies than to general market condition.

The Bartlett pear market was somewhat affected by Northwestern offerings, the Washington stock arriving in fairly good condition, but on account of the California stock being of superior quality, prices ruled fairly regular.

Malaga shipments are fairly heavy but the market has been able to receive the stock at good prices.

Tokays are coldring rapidly and taking sugar. Shipments from Florida are now under way and will be in full swing in the Lodi district about the latter part of the month.

Average for the week:

NEW YORK—Elberta Peaches, \$1.17; Crawford, \$1.08; Tuscan, \$1.78; Bartlett Pears, \$3.73; Thompson Seedless, \$1.77; Malagas, \$2.25; Muscats, \$1.90. BOSTON—Bartlett Pears, \$3.34; Elberta Peaches, \$1.20; Crawford, \$1.08; Tuscan, \$1.43; Nectarines, \$1.47; Thompson Seedless, \$1.93; Malagas, \$3.10; Muscats, 2.25.

CHICAGO—Bartlett Pears, 3.44; Elberta Peaches, .98; Crawford, .90; Tuscan, 1.47; Malaga Grapes, \$2.68; Thompson Seedless, \$1.56.

Special Citrus Market Report

Los Angeles, Aug. 18, 1919.

The market for Valencia has slackened up somewhat owing to the prevalence of deciduous fruits in abundance and variety. At this writing there are, it is reported, from 1000 to 1200 cars of oranges in dealers' houses unsold as against between 250 and 300 cars at this time last year. The prospect of any sudden material improvement in the market situation is not bright.

There are in the neighborhood of 5000 cars of Valencia still to be marketed. Sales are being closed on a \$4@ \$4.50 f. o. b. basis for fancy. Valencia range from \$3 to \$6 in the Eastern markets.

Lemons are selling on a basis of \$6 per box f. o. b. for prime stock; in the Eastern markets from \$2.85@ \$7.25. Poor

grades are selling for what they will bring. Dealers are disinclined to load up with stock under existing conditions of price and weather, which are very uncertain. Pickings in the lemon groves are reported to be light, with a marked shortage of stock in sight next month. On the whole, however, the lemon shipments of this reason will be the largest in the history of the lemon growing industry in California, and will approximate 10,000 cars.

The shipments of citrus fruits for this year to date, according to the latest available figures supplied by the California Fruit Growers' Exchange, are: Oranges 30,282 carloads; lemons 8641 carloads. At this time last year the shipments were: Oranges 12,902 carloads; lemons, 4901 carloads.

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facts taken together are said to indicate that a steady falling off in production is now in progress, which will be marked as the season advances.

Thurs. Fri. Sat. Mon. Tu. Wed.	
Extras	.51½ 51½ 52½ 52½ 51
First	Nom.
Ex. pullets	48½ 48½ 49 49½ 49½
Undersized	.35½ 35½ 35½ 35½ 35½

FRESH FRUITS.

The fruit market was in good condition this week and the demand was steady for nearly all descriptions. Grapes were in especial demand. Changes in prices were of a minor character and showed fluctuations from day to day. The berry section is unchanged, with the exception that loganberries are about finished. Apples and grapes are the leaders of the present market.

Apples,	
do, Gravensteins	\$1.75@3.00
do, Alexanders	\$1.75@2.25
Skinner Seedling	\$1.50@2.50
Crabs	\$1.00@1.25
Apricots, bulk, lb.	.6@7c
Figs	\$1.00@1.25
Plums, box	.75c@1.00
Grapes, Seedless	\$1.00@1.25
do, Malaga	\$1.50
Muscats	\$1.50
Pears, No. 1	\$2.00@2.50
do, No. 2	\$1.00@1.50
Peaches	.75c@1.50
Strawberries, chest	\$10.00@12.00
Loganberries	None
Raspberries	\$13.00@17.00
Blackberries	\$ 8.00@ 9.00
Cantaloupes, Standards	\$1.25@1.50
do, Ponies	.75c@1.20
do, flats	.50@65c
do, Honey Dew, lb.	Nominal
do, Persian, lb.	2½@3c
Watermelon, lb.	1@1¼c

CITRUS FRUITS.

There were no changes in the citrus market. The demand is normal, which means not excessive at this season of the year when there are so many other varieties of fruit from which to pick.

Oranges, Valencia	\$4.25@5.50
Lemons, fancy	\$8.50@7.50
do, choice	\$5.50@6.50
do, standard	\$4.50@4.50
Lemonettes	\$3.50@4.50
Grapefruit	\$4.00@5.00

DRIED FRUITS.

Pending the developments of the H. C. L. investigation the buyers are no longer willing to load themselves up with dried fruits. As a consequence they are out of the market except at lower prices. The quotations given below are what are being offered at present. It is not claimed that many sales are being made at these figures but no higher are being offered. It seems more likely that lower prices will prevail than higher for the crops not yet bought.

Apples	\$20@22
Pears	16@18½c
Peaches	17@18½c
Apricots	24@30
Prunes	12@13½c
Figs, Adriatic	14@20c
do, Calimyrna	16@23c

RICE.

Investigation into the causes of the high cost of living has made the rice market quieter. No charges of hoarding can be lodged against the rice men, it is asserted, as there are no stocks in the State. The only trading being done at present is in futures. For spot rice, Choice California Japan is quoted at \$11.85 and the fancy at \$12.25. For futures on the same types the quotations are \$11.00 and \$11.25.

HONEY.

Some local demand for honey has developed, but very little stock is arriving here. Water white is unchanged and offering for amber and light amber have increased about 2 cents a pound. Water White Orange Blossom. .18@20c White to water-white sage (subject to production) .18@20c Amber Mountain (Sage-Buckwheat) 16@18c Light Amber Alfalfa .14@15



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THE PACIFIC RURAL PRESS

SAN FRANCISCO

AUGUST 23, 1919

LOS ANGELES

Livestock, the Balance Wheel of Farming.

Written for Pacific Rural Press by R. H. Whitten.

Jim Marshall sold his farm for \$3,200 and gave up in disgust. For ten years the poor fellow had failed to make a living from his 80 acres. A long time ago he had raised good crops and made good money, but of late years the land hadn't produced well, although he couldn't see any reason for the change. The new owner, however, was a scientific farmer. He immediately put on beef cattle and fed all the crops to them. The very first year he increased the fertility of the soil so much that the next season he got the whole purchase price back. And he has been making good money ever since.

Jim Marshall has his counterpart in hundreds of California farmers. As one authority puts it, California land owners, as a rule, have not been real farmers. They have spent the natural richness of their farms like prodigals. They have robbed their lands to produce crops that have been shipped away, and thus have lost the fertilizer and the feed in the by-products. They have not fostered methods of farming or marketing that would conserve fertility, but have lived from the fat of the land until many of their farms have lost their virgin fertility and are merely skeletons of the rich fields they once were.

"There is no such thing as good farming without the keeping of livestock," said the late Jas. J. Hill, the builder of the great Northwest empire. "No lever will do so much to raise the farming industry to its highest level as the union of livestock raising with general farming. When our farmers make this combination they will be less at the mercy of the accidents of seasons and the variations of markets, and their added profits will be measured by the millions. Reports from all sections where agriculture has moved in this direction not only prove the assertion, but show astonishing results."

That's the gospel truth. Tilling the soil alone has never proved to be of long standing. In every country where that custom has been practiced the ultimate result has been famine and failure. For proof it is only necessary to refer to the famine-stricken areas of Russia, China and India. On the other hand, the profitable result of systems of livestock raising on even the poorest soil is to be seen in Holland. Denmark is another example of a country whose soils were becoming depleted by wheat producing, but where a system of livestock production conserved the fertility of the soil.

Here in this country, from the New England States westward to the Dakotas we see a trail of once depleted soils reclaimed by substituting dairying and stock raising for exclusive grain farming. A survey by the Department of Agriculture shows that a selected list of crop farms in the Middle West gave an average net profit of only \$28, while a similar list of farms in the same localities where livestock was kept showed an average profit for \$775.

To cite an individual case, a farmer in Illinois who kept livestock had a crop of corn last fall averaging 65 bushels to the acre. His neighbor across the road, who had no livestock, obtained a yield of 35 bushels. It was quite dry in that part of Illinois last year and the lands that had been cropped to death suffered severely from lack of moisture. A soil poor in organic matter cannot hold much

moisture, while one well stocked with organic matter retains it with great tenacity. The stockman's land had been given a coat of manure every three years; that of the other farmer had not received even one coat in twenty years. The result now is that not only does the stockman get better crops, but his land is worth \$225 per acre, while his neighbor's would not bring over \$175.

Builds a Soil Reserve.

It is argued that a bushel of grain will feed more people in the form of grain than after it has been converted

without you give it somethin' to eat."

The fact is that if we increase our livestock production by one-half, we will raise just as much grain for human consumption as we do now, because of the increased fertility of the soil. And even if we get no more for our crops in the form of meat and livestock products than we would if we sold them direct as grain, it will pay us to stock our farms and market grain and forage crops on four feet, because of the fertility that will be put back into the soil.

Too many farmers do not appreciate



For the prosperity of a country there must be a soil reserve as well as a bank reserve. The farmer who carries livestock on his lands, as in the upper picture, will find stored-up richness in the soil every time he plows, and will be able to raise bumper crops.

into pork, beef, mutton or some livestock product. True, but why think only of today? No country can become richer than its lands. From the soil come our food and clothing, and all other human needs are secondary to these. The prosperity of our nation depends upon the maintenance of our soil fertility, and we must work for the future as well as the present. We must create a soil reserve as well as a bank reserve. We should get good crops this year, but should leave the soil in such condition that it will produce even greater crops next year. Unless this is done our nation is bound to go backward. If we don't put back something to take the place of what we take out of the soil, it won't be long before there will be nothing to take out. Or, as the cross-roads oracle says: "No land'll stay fat long

the vast amount of fertility they sell with farm crops. A ton of alfalfa hay takes with it approximately \$14 worth of fertility; a ton of barley about \$10 worth; a ton of corn \$8.60, while a ton of butter takes but 64 cents worth and a ton of milk \$2.56. A ton of beef, selling for 11 times as much as a ton of corn, takes with it only one-eighth as much fertility, and a mature animal putting on fat takes away practically no fertility.

As the average dairyman feeds, the amount of feed required to produce \$100 worth of butterfat, if sold direct would bring only \$80, and \$26.17 worth of fertilizer would go with it. But if fed to dairy cows, not only would it bring \$20 more, but it would dispose of only about 11 cents worth of fertility. Dairy cows and other kinds of livestock have been appreciated in the

past for their milk, meat, hides and wool, but the value of their manure has not been taken into consideration.

Manure is coming to be a farm crop with a cash value. If you don't believe this, look up the experience of the citrus growers of Southern California who were compelled to go all the way to Idaho and Montana for manure to maintain their orchards in a profitable state of fertility. It's a long, long haul, and while manure from these distant States may help the citrus growers out temporarily, the time will come when they and other fruit growers will solve the problem by carrying livestock on their own lands; in fact, many are already doing it.

The most successful horticulturists have found out that an unbalanced agriculture is a big handicap; that specialization can be overdone, and that fruit and livestock are a rational and a business combination. The fruit raiser who, in addition to his specialty has, say a few cows, hogs and chickens, not only possesses an additional source of income but improves the fertility in the cheapest possible way. The cover crops now so generally grown in orchards afford a large amount of valuable feed for livestock, and are too valuable to be turned under. By feeding them to livestock the greater part of their soil-building value will still go to enrich the land, and at the same time a considerable profit will be made from the livestock, especially if registered stock is kept. Better yet, with richer soil will come increased yields from the trees.

Provides Market for By-Products.

We said a while back that a bushel of grain will feed more people in the form of grain than when converted into meat or milk, but not all crops raised on the farm are fit for human consumption, and even those that are have their by-products. In the manufacture of cereals and other seeds into flour, breakfast foods, hominy and vegetable oils, immense quantities of by-products are produced which are unsuitable for human food, yet are among the most valuable feeds for stock. Cottonseed meal and linseed oil meal are used extensively with profitable results. Mill by-products are fed to nearly all kinds of livestock.

Coarse roughages which have little or no commercial value can be turned into high-priced meat. Such feeds as straw, corn stover and silage in rations reduce the feeding cost greatly; the same may be said of beet tops, beet pulp and many other by-products. They cannot be eliminated because they are a necessary part of crop production. They have no value for direct human consumption, but when fed to livestock are converted into most palatable and nourishing morsels.

One great law of food conservation is to turn inedible feeds into edible foods. The misuse of the by-products of farm crops has caused a loss of millions of dollars annually, and nothing offers greater opportunity for increased and more economical production of farm meats and dairy products than the more efficient use of these by-products which heretofore have been wasted.

Safety in Diversification.

Again, diversification takes the risk out of farming. We cannot buy insurance against loss in farming, but (Continued on page 253.)

Auctions Solve the Selling Problem.

Written for Pacific Rural Press by R. H. Whitten.

A year ago last winter the call of the land reached the ears of Bert Potter, a young musician back in Illinois. He concluded that there was as much music in the squeal of a pig as in the wail of an organ, so he rented a farm and decided to make a start with pure-bred hogs. He went to a public sale and staked nearly all of his pile on a gilt bred to one of the greatest boars of the breed. She was an untried gilt and his neighbors thought he had gone plumb crazy to pay the world record price of \$1,500 for such an uncertainty.

The story was printed in the farm papers of that section, and when the gilt farrowed eight pigs, seven of which lived, people came from far and wide to see the litter. They pronounced it a remarkable one, and one breeder offered the price of the sow for three of the pigs. Potter turned the offer down, and again the neighbors pronounced him a fit subject for a padded cell.

The next fall Potter advertised a sale for November, featuring this litter. Everybody was there, and the bids came thick and fast. The first pig sold for \$1,500, thus practically replacing the original investment. And when the sale was over the seven pigs had sold for \$5,910—the world record price for a litter of that breed. Thus, the public sale method gave Bert Potter the right start, and it enabled him to sell his stock to the best advantage after he got started.

Public Sales Establish Values.

There are many Bert Potters starting in with livestock every year, and the public sale affords one of the best ways of investing their money to good advantage. Most of them know little about the fine points of cattle, hogs or whatever they are buying, and if one of them was offered a dairy cow for \$600 at private sale he would not know whether the animal represented good value or not. But put that same cow in the sales ring and her true value would be established. Men of keen judgment would bid on her, and if they bid to \$575 it would be pretty safe for the beginner to raise them \$25 and take her for \$600. He could well afford to pay the \$25 for the expert opinion of the other bidders. The price then would not be the result of his own judgment, but of the combined judgment of all participating in the bidding.

Furthermore, the beginner would be pretty sure that he was buying from a responsible breeder, for at auction sales the public can place its stamp of approval or disapproval on the business methods of the breeder. Instances of where these methods have failed of public approval have occurred often enough to leave no doubt of the merits of the public sale in this respect, and as a means of establishing true value of animals and eliminating bad business practices it seems to be the best plan that human ingenuity has yet invented.

Then again, the public sale provides a quick, convenient and cheap way for a man to buy stock. Years ago it was necessary to drive hundreds of miles and spend days—perhaps weeks—in visiting different farms where stock was offered for sale. Perhaps a few "diamonds in the rough" were picked up in some farmer's barnyard, but generally at so great an expenditure of time and gasoline that they really cost just as much as similar animals could have been bought for in the sales ring, and besides there was no publicity with the transaction.

Stimulates Desire for Purebreds.

Public sales are a splendid means of demonstrating to farmers that the purebred is not a myth or a plaything, but a real money-making animal. The man who raises scrubs cannot help but see the difference in what is before him in the ring and what he raises at home, and he notices in the bidding that men pay a premium for quality. He sees animals sell for several times what he gets for his own, and he knows that it has taken very little more feedstuff than he has poured into his scrubs. He sees that

the premium is paid for breeding, and he is soon convinced that purebreds are for him.

At each sale of registered stock from a half-dozen to a dozen new breeders are started. Few receive their first inspiration at the sale at which they make their first purchase. They have been attending sales for months, and the purebred ideals and

salesmen. One of the most important phases of any business is the disposition of the surplus at a profit, but too many breeders cannot write an order-bringing letter, or cannot put up a good sales talk if a prospective buyer calls.

The public sales method solves the problem for such breeders. It enables them to sell their surplus without the

of a lot of breeders at his ranch to see his place, to look over his foundation stock, to examine into his system of management, to learn how he is feeding and handling his animals, is a method of advertising that cannot be equalled in any other way. The man whose place is kept right, whose foundation animals are right, whose system of management is right, and whose offering in the sales ring is right, need have no worry as to the outcome of the inspection by his fellow breeders. The success of his sale will be assured. The animals will sell well, and the buyers will return to future sales and will bring their neighbors with them. They will tell about his ranch and his stock wherever they go, and will do much to put him on the map. For after all, the friends that one may make in the purebred business are of more lasting value than dollars that he gathers in.

Progress in California.

The public sales business here on the Coast is in its infancy, but as the purebred industry develops the public sale is bound to prove the solution of the problem of distribution. In fact, it is already doing it. For the months of September, October and December twelve sales are announced, and probably several more will be added to the list. There are sales by individuals, by groups of individuals and by breed associations. In all cases the breeders are well and favorably known; they have established herds of popular blood lines; they are to consign choice individuals from their herds. The auctioneers selected are men of honor and ability, fully conversant with their tasks, and these sales should be liberally supported by California farmers. Established breeders, beginners and all farmers who can possibly work livestock into their scheme of farming, should plan to attend. Even if they do not buy, they will be well repaid for the trip.



California breeders, following the Middle West custom, are beginning to provide places on their ranches for holding public sales. The above shows the natural amphitheater at the Ortega Underhill Rancho, Santa Barbara, in which a sales-ring has been built and numerous conveniences provided for both buyers and seller. Photo taken at the recent successful Hampshire sale, Col. Ord L. Leachman of Sacramento in the box.

possibilities have been brought to their minds so many times that finally they have decided to embark in the business.

Clearinghouse for Experienced Breeders.

Successful breeders gain much from attending public sales. Often a breeder will attend many sales without making a purchase, yet it is worth hundreds of dollars to him to view the different animals that are led into the ring, study their breeding, type and individuality, and compare his estimate of their value with the prices they bring. He can see if the type he is breeding is what the buyers want; he can form new acquaintances which may lead to business later on; he can meet other breeders, swap experiences and gain many valuable pointers.

Commenting on the value of public sales to both young and old breeders, Dean Curtiss, of the Iowa Agricultural College, says: "Next to the show ring public sales are the best means of educating the public to higher standards of excellence. Probably they even surpass the show as a stimulant to own better stock. There is a keen, practical interest in watching the buyers measure the value of the animals offered. Some of the most practical and successful breeders have gotten a large part of their schooling at the sales ring; in fact, many of them were enlisted at the sales ring, and but for the stimulus of this environment their interest would not have been aroused. The public sale has much to commend it, and individual breeders and breed associations may well calculate the advertising, the stimulating and the educational values of the public sale in promoting breed interests."

Puts a Breed to the Front.

Yes, that is another important feature of the public sale, and its proof is found in the fact that the breeds that are forging ahead in public favor are the breeds that hold the most sales. An editorial in a recent issue of one of the swine journals deplored the fact that the breed it championed was not so popular as some of the others, and attributed it to the lack of public sales, and consequently the lack of publicity which goes with them. Through public sales a breed gets more real publicity than in any other way, as the breed is brought directly to the eye of the public and to the farmer.

Best Method for the Breeder.

There are too many breeders of livestock who overlook the importance of a selling method. There are too many who are good breeders, but not good

necessary correspondence of private sales; the entire lot of stock is converted into cash in a single day at a maximum figure and at a minimum expense; a wider distribution of the stock is made, so that the advertising value is greater.

The successful breeder should look upon the public sale as an essential part of his business program. There is no better means of getting before the public what he is doing and how he is doing it. The coming together

ITHOS

FOUR TIMES GRAND CHAMPION



Will Show Again This Year with Two of His Stud Colts.
ALL THREE FOR SALE

My Poland-China swine-breeding business requires all my time, so I am forced to quit breeding Percherons. Here is your opportunity to secure a proven stallion of the very best breeding and show type, or a youngster who will equal his sire in a few years.

See Them and Buy Them at the Fair.

M. BASSETT

HANFORD, CALIFORNIA

YOU CAN'T AFFORD TO MISS THE STATE FAIR.

The biggest ever—that's what we offer you this year. The wonderful new \$300,000 exposition building is completed. It is 485 feet long and 105 feet wide, and every inch will be occupied by interesting exhibits. The livestock barn will be filled to capacity, and the quality of stock will be better than ever. The tractor, truck and farm machinery departments will cover the biggest part of an 8-acre field.

The educational building will have a large and interesting exhibit from schools throughout the state. The woman's building will have a fine display of art and will house the "Better Baby" feature.

Restaurants and cafeterias are being arranged so that there will be plenty of places to eat at reasonable prices. There will be many entertainments features—a little of everything to please all kinds of people. There won't be an idle moment during the entire eleven days. Come expecting the time of your life. You'll have it.

CHAS. W. PAINE, Secretary.

Grazing on National Forest Ranges

The great livestock industry of the West is so largely dependent on the grazing lands within the National Forests that the right management of these lands is of importance to everyone who eats beef or mutton, or wears shoes and woolen garments.

During the last fourteen years the Forest Service has been working steadily to increase the country's supply of meat, wool and hides by developing methods of handling stock on the range which will allow as large an increase as possible in the number of sheep and cattle grazed without injury to the Forests, and a recent Government bulletin, "Range Management on the National Forests," gives the result of long experience in range management. With this bulletin as a guide, grazing can be made more uniform on different ranges, and the best principles can be put into actual practice.

Classification of the range to determine the areas best suited to the different classes of stock is the first important step toward the best use of the grazing resource. Cattle and horses use a different sort of range from sheep. Sheep relish tender, green foliage and the grains of many grasses, while cattle consume the coarse grass foliage. Cattle prefer level or rolling country, and altitude makes little difference if the stock have been raised on the range. Sheep do best on smooth range and where the summers are cool. They can go from several days to several weeks without drinking, depending upon the abundance of succulent weed forage, the temperature and the amount of rain and dew. Cattle need water oftener—at least every two days.

Overgrazing is a cause of injury to the range which must be carefully guarded against. In the past it has been difficult to know when a range was overgrazed until the damage was considerable. Extensive experiments by the Forest Service have led to the discovery of a means of detecting overgrazing before it has progressed very far. Certain "earmarks" appear in the vegetation, such as the predominance of annual weeds and grasses, like knotweed, tarweed, and mustard, with a dense stand of such species and lack of variety in species; the predominance of plants which have little or no value for any class of stock; and the presence of dead and

partly dead stumps or shrubs. Noticeable damage to tree reproduction and erosion and barrenness have long been recognized as signs of an advanced stage of overgrazing.

Establishment of grazing periods to prevent damage to the range through premature use has had as much to do with range improvement on the National Forests as the prevention of overgrazing, if not more. The repeated removal of herbage year after year during the early part of its growing season causes rapid deterioration of the range. Little damage is done after the plants have matured seed, but it is not practicable to allow all of the range to go ungrazed until after the seed matures. The problem is to work out seasonal grazing which will result in the maximum production of forage and livestock year after year. The usual way of doing this is to divide the range into several parts and begin grazing early on a different portion each year for a series of years.

The practical information necessary in carrying out the various principles that govern range management is given in detail in the bulletin. Suggestions are made regarding watering, salting, herding, the establishment of drift fences, the eradication of poisonous plants, the protection of wild life, stock driveways, breeds of stock, lambing grounds, and the proper care of ewes and young lambs.

HEREFORD NOTES.

H. M. Barngrover of Santa Clara, whose Veramont Stock Farm is at Taylorsville, Plumas county, has issued an attractive six-page circular telling about the farm and the Veramont Herefords. It is a classy little circular and everyone interested in beef cattle ought to have a copy.

Four prominent livestock breeders from Uruguay recently visited the United States and purchased for export to that country 21 Herefords, 14 Shorthorns and 6 Holsteins. Uruguay has been importing about 350 Herefords and 150 Shorthorn bulls from England each year and the visitors stated that after seeing American herds they believed the American cattle to be superior to the English-bred cattle. Gradually American purebreds will be in demand in all quarters of the globe.

Diamond G Ranch REGISTERED HEREFORDS



Our herd now headed by **DON PERFECT 2D**, by the great breeding bull and International Grand Champion, **POINT COMFORT 14TH**—one of the best sires ever brought to the Coast.

PURE BRED SIRES PAY

H. H. GABLE . . . Proprietor

ESPARTO, CALIF.

Ranch 7 miles north of Esparto

When You Buy Herefords

Bear in mind that

BUNTING Bred Herefords

- 1—Have Size.
- 2—Have Bone.
- 3—Have Constitution.
- 4—Have the Best of Breeding.
- 5—Are the Most Profitable.

THEN YOU'LL BUY BUNTING HEREFORDS

See Bunting Herefords at the Shows

J. A. BUNTING

Mission San Jose,

California

SIERRA VISTA HERD

—of—

Pure Bred Herefords

Over one hundred head of registered cattle in herd.

**SENIOR HERD BULL
FREDERIC FAIRFAX**

(Sired by Perfection Fairfax)

**JUNIOR HERD BULL
REPEATER 157th**

(Sired by Repeater)

Ranch on State Highway, midway between Madera and Merced, one mile north of Chowchilla

Sierra Vista Vineyard Co.

P. O. MINTURN,

CALIFORNIA

Herefords

LEADING HERD OF THE STATE

My stock is the result of nearly 40 years of careful breeding and selection. Have for sale a carload of registered bulls and a carload of helpers—1917 calves, grandsons and granddaughters of Beau Donald 31 No. 109885 and Mr. Perfection No. 215575.

THEY WILL GO QUICKLY.

Write or call at once.

Wm. Bemmerly

Woodland, Cal.

Feeding Steers on Pasture

Written for Pacific Rural Press.

Does it pay to give supplementary feed to steers on pasture? An experiment along this line was recently conducted by the Department of Agriculture, and it was found that when cottonseed cake was fed to steers as a supplement to summer pasture it increased materially the rate of gains made by the animals, caused them to finish more quickly and take on a higher degree of finish and increased the margin between the buying and selling prices.

All of the experiments were carried out under actual and typical farm conditions. Consequently, the results may be applied directly to cases where steers are kept on pasture. In each experiment, groups of steers were kept on pasture alone; on pasture with a supplementary feed of one-half corn chop and one-half cottonseed cake; and on pasture with a supplementary feed of cottonseed cake. The average daily gains for each animal, which may be considered the most valuable standard in judging the efficiency of rations, were 1.49 pounds for the steers getting pasture only, 1.83 pounds for the steers getting cottonseed cake with pasture, and 1.53 pounds for those on pasture supplemented by the mixture of cake and corn chop.

The initial cost of the steers per 100 pounds of the three groups was the same for any one year, but in each case the steers on pasture alone sold for a lower price. The margins between the buying and selling prices of the cattle were always in favor of those which were fed supplements with their pastures. The margins averaged less than 25 cents a hundred pounds for the steers on pasture alone, compared to 90 cents for animals which were fed cottonseed cake with pasture, and 81½ cents for the animals whose pasture was supplemented with the mixture of cake and corn chop. After the animals had

been butchered, inspection showed that the steers which were fed cottonseed cake or a mixture of cake and corn with pasture dressed out higher than the cattle which had pasture alone.

While the steers that had pasture alone made gains cheaply, the total gains were not large, and the steers did not take on a high finish. Their unfinished condition is reflected in the small margin on which they were sold and low dressing percentages. Thus the profits they returned were smaller than for the steers in the other two groups.

The cost of gains of steers on pasture was greatly increased by feeding cottonseed cake, but the better market prices received for cake-fed cattle paid for the additional cost of feeding cake, and returned a greater average profit than is realized on the grass-fed cattle.

One of the distinct advantages on supplementing pastures for concentrates is the fact that steers so handled can be finished more quickly and can be marketed earlier than steers getting grass alone. Thus the cattle can be sold before the rush of grass-fed cattle glut the market and depresses prices. Moreover, when cattle are marketed early, the pastures have time to recuperate and furnish good grazing for other stock during the fall.

There is only one case where pasture alone is preferable to pasture with concentrates. Steers of inferior quality may return more profit by grazing alone than by grazing with the addition of supplementary feeds, especially when they are on good pastures that are cheap. Scrub steers do not respond readily to the use of good feeds, and even when well finished do not command satisfactory prices in competition with well-bred cattle similarly finished. The better the quality of the steers the safer it is to give them high-prices feeds.

Pacheco Shorthorns

For Profit

See Our Exhibit at the State Fair

We shall show a number of sons and daughters of our leading herd bull, **True Dale**; also a number of calves and a 2-year-old heifer sired by Pacheco Lad 58th, a son of True Dale. We believe these youngsters equal the product of True Dale himself, thus establishing the value of this great bull as a sire of bulls that will continue to sire good ones. Remember, he has never been defeated in the get-of-sire class.

When you want Shorthorns that make good, let us hear from you. We have 125 breeding matrons in our registered herd, representing the best blood lines of the breed.

Pacheco Cattle Company

HOLLISTER, CALIFORNIA.

ORMONDALE SHORTHORNS

All are heavy boned, and of Scotch and Scotch-topped breeding.

Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED.

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road.

We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

ORMONDALE CO.

REDWOOD CITY, CAL.
R. D. No. 1

One of the leading banks of Fernald has engaged an agricultural expert to mingle among the dairymen and offer the bank's assistance in purchasing pure breeds. Looks as though bankers, as well as dairymen, should turn to Humboldt County for guidance.

HILLCREST STOCK FARM

Shorthorn Cattle

Shropshire Sheep, Merino Sheep



KING LANCASTER,

The only Shorthorn bull three times Grand Champion at the California State Fair and five times Grand Champion in one year.



HILLCREST LAD,
First Prize Imported Shropshire Ram.

BULLS AND RAMS FOR SALE

Single and Carload Lots

Be Sure and See My Shorthorns at the State Fair This Year.

T. S. GLIDE,

Davis, California

Livestock, the Balance Wheel of Farming

(Continued from First Page.)

we can have just as safe insurance by diversifying. We hear a great deal nowadays about specialization—about putting all of our eggs into one basket—but in the long run the farmer who does this will scramble every egg he carries in his special basket. The successful farmer will have three or four sources of income—perhaps five or six, or even more. If the market is low on one thing that he has to sell it will be high on another, and the average will be satisfactory. And for the average farm, the greatest net profit will be obtained when from 50 to 75 per cent of the income is derived from livestock or livestock products.

Better Distribution of Labor.

A business is not economically operated unless it distributes labor over the entire year. For instance, a six-months' occupation might be considered profitable when estimated for that short period, while the same income spread out over a whole year might show an actual loss. Livestock production provides for the distribution of labor throughout the whole year instead of concentrating it at certain seasons. Help that is coming and going is not efficient or economical in farming, any more than it is in a mercantile business, and because the livestock farmer can offer steady employment he has comparatively little trouble in solving the labor problem.

Makes Better Farmers and Citizens.

Wherever you find good livestock you will find good farms, good citizens and good communities. Those early races that followed the pursuit of animal husbandry most systematically have played the leading part in the world's history. Modern breeders are likewise leaders in agricultural progress because their business has challenged the best in them and made them more efficient. As Prof. E. A. Trowbridge puts it: "Livestock of the right kind on the average farm makes for contentment, stability and satisfaction. It furnishes a means of interesting boys and girls, and tends to make farm life more attractive to them. It encourages reading and study and helps to develop admirable ideals—to keep one in touch with the rest of the world, and at the same time serves as a profit-producing occupation."

California Needs More Livestock.

We hear it prophesied that California will become the leading livestock state of the Union. That is not impossible, but she must go some first. At present Iowa leads all other states in beef cattle with 79.1 head per square mile, while California is fifteenth with only 12.8. New York

leads in dairy cattle with 32, while California is again fifteenth with only 3. In hogs, Iowa leads with 133.1, while California must be down among the tail-enders, as our list gives the 15 most important hog states and she is not mentioned. Ohio leads in sheep with 95.7 per square mile, and California comes in thirteenth with 16.4. In poultry Ohio also leads with 423.2 fowls per square mile, while California, even with her world-renowned Petaluma, Santa Cruz and Van Nuys districts, does not show up well enough to be mentioned.

True, we have lots of rough land, but that is an argument for more livestock. On land that is so rough or stony that it cannot be cropped economically, beef cattle will gather the grass on the smoother stretches and sheep will search out the herbage on the more inaccessible rocky slopes. Where the rainfall is light and irrigation is impossible, stock will thrive on the scanty, but highly nutritious, grasses and other forage. Through well planned systems of grazing, with additional feed during certain seasons of the year, our ranges should carry even more stock than they did before large areas were broken up into farms.

This, however, does not mean that livestock raising is adapted only to rough, cheap land, not suitable for crops. Up-to-date farmers no longer depend upon pastures alone to maintain livestock. It requires grain, hay, silage and other crops, as well as pasture, to make economical gains on animals, and these crops may be profitably grown on high-priced land. In fact, the high-priced land may not yield an income large enough to return a profit unless livestock is kept. As a rule it is livestock that gives high-priced land its value, just as it sets the value of many crops. Take corn, for instance. It is not the human consumption that determines its value. Over 80% of the country's corn crop is consumed for feed by animals on the farm. Livestock makes the value of corn—not corn the value of livestock—and lands devoted to corn-growing would never have attained their present high value without the development of the livestock industry.

California's greatest asset is agriculture, and the backbone of agriculture is livestock. Consequently, to have a permanently profitable form of agriculture we must have more livestock. Creative effort will bring no richer reward than when wisely applied to animal breeding. It alone will make our farms 100% efficient. It will make them the home of the American dollar.

TO INCREASE PURE-BRED BREEDERS.

The American Shorthorn Association has inaugurated a movement for every Shorthorn breeder to make it his business to start at least five new men with Shorthorns during the year. It would be unreasonable to expect every breeder to make good on this schedule, yet this is no reason why the movement is not a commendable one. Even if one breeder out of five reached the mark, it would mean a 100% increase.

This plan of the Shorthorn people is not copyrighted, and those who have other breeds are free to adopt it. It can be worked out just as well with other breeds of beef cattle; also with dairy cattle, hogs and sheep.

Not only is this movement a good plan in general, but it will prove of direct benefit to the man who does his part because it will establish new breeders of the same kind of stock right around him, and the more breeders there are in any locality, the better for each of them. Local pride and friendly rivalry mean better stock, better farmers, and better ranches. Also, when several farmers in a certain locality are breeding the same kind of stock, this attracts buyers to the community, as they think that their chances for securing what they want are better when they can

visit several breeding establishments in one trip.

HEAVY DEMAND FOR REGISTERED BEEF CATTLE.

"The demand for registered beef cattle is greater than ever before, with quite a number of new herds being started throughout the state," says T. T. Miller, the Shorthorn breeder of Hollister. In spite of the fact that marketing conditions are far from satisfactory, Mr. Miller says that pure-bred bulls are very much in demand for use in grade herds where they can accomplish great improvement. On the ranges the tendency is more than ever toward the use of pure-bred bulls and Mr. Miller believes that the only thing that prevents their general use is the fact that it has not been possible to secure as many bulls as are needed here in this state, and many cattlemen have not felt able to bring bulls out from the East. Pure-bred bulls used on average ranch cows will add from 150 to 200 pounds to the progeny at time of maturity, and besides, the type and quality of the offspring will be far above that sired by scrub bulls.

In California today, says Mr. Miller, there are herds of pure-bred cattle which will rank with the best of those in the East, and cattle of equal merit can be purchased on the Coast for much less than they can be purchased and shipped out from the East.

Carruthers Farms

LIVE OAK CALIFORNIA

SHORTHORNS

Home of the Champions. **COUNT GLORY**, for three years the Grand Champion of California and never defeated in the show ring. **HALL-WOOD VILLAGER**, first prize two-year-old at the 1918 State Fair and reserve Senior Champion to his stable mate.

At our recent public sale we established a new Coast Shorthorn sales average of \$820.

BERKSHIRES

The Berkshire is the hog that comes nearest to the pork-maker's ideal, and here you find the best of the breed. This herd is the fountain head from which many of California's leading herds have been established, and the two sales have topped the coast records; also the United States records for those years.

Headquarters for Good Stock

When you want money-making Shorthorns or Berkshires, follow the example of the wise breeders of the state and come to headquarters. You gain prestige by having Carruthers Farms stock in your herd. We can supply your needs for show animals, foundation stock, or new blood. Call and inspect stock, or write us your wants.

Carruthers Farms

W. M. CARRUTHERS, Prop.

LIVE OAK, CAL.

Miller Shorthorns

Shorthorns furnish an unexcelled quality of beef, and their combination of size, adaptability, easy keeping and feeding qualities make them the most popular breed.

Best Blood Lines

This herd was founded with selections from some of the oldest and most successful breeders in this country, and also included several animals imported from Great Britain.

HERD BULLS: Greendale Sultan, Grand Champion California State Fair 1917. **Secret Stamp**, a wonderful individual and breeder imported from England.

When you think of the Best in Reds, Whites and Roans, Think of Miller Shorthorns

T. T. Miller

Hollister,

California

Among the Beef Cattle Exhibitors

Written for Pacific Rural Press.

H. M. Barngrover, of Veramont Stock Farm, Santa Clara and Taylorsville, says that if any Hereford bull beats his herd sire, Patrician 5th, this year, he will have to be fed and groomed pretty well. Mr. Barngrover will show 12 head, including 2 cows, a two-year-old, 2 yearling heifers, 2 bull calves and a heifer; also aged herd and produce of dam.

T. T. Miller of Hollister will be missed from the show ring at the State Fair this year. Mr. Miller is in the east, so cannot show his good herd of Shorthorns. He expects to bring back a few cows with him.

J. A. Bunting, of Mission Hereford Farm, Mission San Jose, who has made such big cleanups at the State Fair during the past two years, will be on hand with 8 head, including the bull that was junior and grand champion last year. Watch him repeat his previous performance.

Pacheco Cattle Company, Hollister, who won 9 first and 3 second prizes at the State Fair last year, will make a fine showing of Holsteins again this year, including a number of sons and daughters of their great sire True Dale; also some youngsters sired by Pacheco Lad 58th, a son of True Dale. Mr. Hawkins is particularly proud of these youngsters, as they prove to him that True Dale is a sire of bulls that will continue to sire show stock.

Grainford Matchless, the first prize senior yearling at last year's International Livestock Show, recently purchased by Edward Cebrian of San Francisco, as one of the herd sires for his Caledonia Shorthorn ranch at West Sacramento, will not be in shape for the State Fair on account of the long trip across the continent and the hot weather experienced. However, Mr. Cebrian expects to have this great bull in shape for the San Francisco Show, and other breeders will anxiously await his presence in the show ring.

W. J. Bemmerly of Woodland can not show at Sacramento this year owing to shortage of labor. His stock, however, looks good enough to show most anywhere right now, particularly his 11-months-old calf by New Era 2nd that weighs 1150 pounds, and the Bonnie Brae Bull calf that is a very close second. He will be on deck for San Francisco with a great herd.

The Diamond G Ranch, H. H. Gable proprietor, have their cattle, both registered and range stuff in very fine shape—not too fat but just right. The registered herd is on wheat stubble, and it is seldom cattle dry fed look as good as this bunch. The range bunch are back on the hill pasture, but are in fine shape and look like purebreds. Too bad the registered stock cannot be shown, but shortage of labor prevents.

E. H. Murphy, of the firm of H. L. & E. H. Murphy, Shorthorn breeders of Perkins, is quite sick with typhoid fever instead of being in the east as was reported lately. His illness may prevent the exhibition of this firm's stock at the State Fair.

Roselawn Stock Farms of Woodland, Dr. H. M. Elberg, Prop., are not going to show their Shorthorns at the State Fair this year. Much disappointment is felt among Shorthorn men as it means a material shortening of the exhibit of this great breed to have this noted herd missing from the show ring.

T. S. Glide of Hillcrest Farm, Davis, is going to the State Fair with 12 head of Shorthorns that will make a very favorable impression. The condition of the herd is particularly good. His new imported herd bull, Scottish Lord, will not be shown.

The Estate of Thos. B. Dibblee will show 17 head of Shorthorns from Rancho San Julian at Lompoc and Santa Barbara. Mr. Troup certainly knows how to fit them in good shape.

G. W. Emmons of Oakland, owner of Diablo Stock Farm, Danville, will make his first exhibit at the State Fair with 11 head of Polled Herefords, selected from the fine animals he purchased at the Sacramento sale last spring.

Wm. Bond of Newark will be there with 7 head of Shorthorns, fit to win in hot competition.

BEEF CATTLE NOTES.

The Pacific Coast Hereford Cattle Breeders' Association will hold a banquet at the Travelers Hotel, Tuesday, September 2, and the genial secretary, J. A. Bunting, invites all breeders to attend. The association will have headquarters at the Hereford barn, at the State Fair, where breeders of Hereford cattle and their friends are invited to rest and talk over cattle. There will be literature on hand for free distribution to those who are interested in this great breed.

Shorthorns certainly are making rapid strides. In two years the number of herds in the United States has increased from 20,000 to 36,000. Furthermore, the selling price has raised from an average of \$399 in 1916 to \$514 in 1919. The indications are for even higher prices this fall. All of the breeders seem extremely prosperous.

Two train loads of prime steers recently shipped from Porterville to Kansas City brought better prices than could have been obtained at South San Francisco, considering freight differential and shrinkage. Secretary Stollery of the California Cattlemen's Association says the indications are that there will be a scarcity of fat range cattle at middle-west markets during August and September. The corn fed cattle will be out of the way and the market will be ready for California's best fat cattle at probably better prices than can be obtained locally.

R. M. Dunlap, the genial livestock broker, will make another Eastern trip some time this fall on a cattle buying trip.

Information has been received from Berkeley that on account of serious drouth and consequent scanty pasturage in certain states and counties of the great basin region, considerable amounts of feeder stock, cattle, sheep and hogs must be disposed of this summer and fall. Prof. C. W. Rubel, Agricultural Hall, Berkeley, can give information to persons desiring to secure car lots of feeder stock.

CALF RAISING PRECAUTIONS.

Don't overfeed. Twice as many calves are stunted by overfeeding as by underfeeding.

Don't feed milk in dirty, smelling pails.

Don't be irregular as to time of feeding or the amount of milk fed.

Don't vary the temperature of the milk. It should always be at body heat.

Don't change suddenly from whole to skim milk.

Don't let a calf drink foamy milk right from the separator.

Don't make a calf go without water just because it has had milk.

Don't deprive calves of salt. They need it constantly after two weeks old.

Don't let calves suck each other after drinking milk. They should be placed in stanchions and fed grain.

Don't start a calf on roughage with green alfalfa. It is too laxative. Use

dry hay for a few weeks, or preferably for the first two months.

Don't keep calves in damp, dark, crowded, poorly-ventilated barns or

sheds. The more they are made to rough it out in the open the better, provided they have protection from summer sun and winter storms.

CALEDONIA SHORTHORNS

Largest herd of high-class Shorthorns in this country—400 head of wonderful breeding matrons, combining the noted Elmendorf and Harkness herds.

The fountain-head of international prize-winning stock, producing the dam of the Grand Champion steer over all breeds at the 1917 Chicago International; the dam of the Grand Champion Shorthorn steer at the 1918 International; the dam of "CALIFORNIA MODEL," the highest priced Shorthorn bull ever sold on the Pacific Coast, bringing \$5,500 at public sale.



IMP. CALEDONIA

This great proven sire heads our herd. He is considered the best Scotch bull imported in recent years. Sired by the Duthie bull Proud Emblem, the best stock bull in Scotland, whose calf topped the sales last year at \$20,000. Out of a Rosewood cow—the best in the Wm. Anderson herd. In breeding, type, color and individuality this bull stands supreme.

Imp. Caledonia is assisted by GAINFORD MATCHLESS, first prize senior yearling at the last Chicago International, and PINE GROVE KING, a Clipper, by the champion King Cumberland, a proven sire.

The Home of
Deep-Bodied, Thick-Fleshed, Smooth-Covered Shorthorns

CALEDONIA FARMS

J. C. CEBRIAN, Owner
EDWARD CEBRIAN, Manager
ANDY SIMPSON, Herdsman

WEST SACRAMENTO, CAL.
Office, 57 Post St., San Francisco

Specialist in Registered Beef Cattle

I am a firm advocate of the use of better sires—Registered Bulls—reflecting through correct breeding a high standard of early development in weight, quality and finish, insuring most satisfactory results.

I devote my entire time keeping in touch with the Registered Beef Trade, much of it among the most expert and reliable Eastern breeders, which enables me to save time and other expenses when buying.

I will deliver at this end for less money than a stranger to the trade can buy at the other end, so let me quote you prices on Registered Beef Breeds Delivered.

I was born among Shorthorns and have been among Beef Cattle ever since. My thirty years' experience in California has shown me just what the State needs in

Registered Beef Cattle

and any one of the following list of a few of my customers—all experienced Beef men—will tell you I deliver the right kind:

MAYO NEWHALL, San Francisco
SIMON NEWMAN CO., Newman
H. H. GABLE, Esparto
B. F. RUSH, Sulun

STANFORD UNIVERSITY FARM
HOLT & GREGG, Redding
HOWARD TILTON, Gilroy
WM. BEMMERLY, Woodland

R. M. DUNLAP,

Woodland, California

ELDERSLEY FARM

ABERDEEN ANGUS

We have a good Senior Yearling Bull for sale, sired by our Eldersley Prince, Grand Champion bull of 1917 State Fair. Remember, the "DODDIE" has a most enviable record as a herd improver. This young bull will put quality into your cattle.

J. H. WARE, Live Oak, Calif.

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay.
Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.
A few yearling heifers of same breeding.
Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY,

Perkins, Sacramento Co., Cal.

Gigantic Fraud in Holstein Testing

Written for Pacific Rural Press.

Holstein breeders throughout the entire United States will be astounded to learn that Charles E. Cole, the man who has given world records to several cows, has made a complete sworn confession to the executive committee of the Holstein-Friesian Association, stating that his ability to make huge records lay in "helping" the cows by the direct addition of cream and water.

The method of "helping" used by Cole, according to his testimony as given in the Holstein-Friesian World, consisted of the direct application of cream, diluted with water to make a larger bulk. An ordinary hot-water bottle was suspended about his neck, the tube extending down inside his overalls and connecting with the pail through a slit in the crotch. A cork in the end of the tube held the mixture in place until the pail was nearly full, when it was removed, and the deed was done.

The proper surroundings for the successful use of this plan were stated to be a box-stall, with high tight sides, and only one window placed high and in the back right hand corner of the stall. The feed box was to be placed in that same corner, so that the cow would always be standing with her udder in the shadow, and where it would be impossible for the supervisor to stand on the opposite side of the cow. Fast milking and plenty of conversation for the supervisor furnished the rest of the natural setting.

Cole was detected in fraud in connection with the 51-pound record of Creampot Pontiac Korndyke, and in his confession he admitted that he had made some large fraudulent records, including those given cows in the Cabana herd recently dispersed. The matter is of a most serious nature, as it affects investments totalling hundreds of thousands of dollars.

President Aitken, of the Holstein-Friesian Association, has called a meeting of the executive committee for August 25 to act upon the matter and says: "We realize the tremendous influence that the action of the committee is bound to have, not alone on the animals whose records may be expunged, but the offspring that have been sold in practically all the states. Thousands and thousands of dollars have been paid for the offspring because of the record of the dam, and calves of the offspring have been sold at large prices because of the record of the granddam and the effect is already apparent in two or more generations.

"The committee realizes that the association is a record association; that the maintenance of the accuracy of these records are the reasons for its life, and that while the expunging of frauds from our records may bring disgrace, anxiety and loss to some of our breeders; the necessity for quick and accurate action is conceded by all. The only question in the mind of any officer or member of the Board of Directors is what does justice, equity and good conscience demand, and that action will be taken.

"The Herd Books of this great industry have been assaulted, and an insult and injury inflicted upon every breeder of the black and white wherever located, because in my opinion the man who has debauched our records has assaulted the good name and fame of the greatest breed of animals on the earth. There was no occasion for exaggeration, there was no occasion for fraud. The Holstein-Friesian cow has demonstrated herself on every occasion to be the most wonderful producer of milk and dairy products in existence, and this under legitimate and regular conditions."

The Way to Develop the Dairy Industry

Written for Pacific Rural Press.

Much has been said and written about the enormous increase in exports of dairy products during 1918, says M. D. Munn, president of the National Dairy Council. The amount exported during that year in the form of butter, cheese, condensed milk and milk powder showed a very large increase over pre-war exports. But government estimates show that it took only two and a half billion pounds of milk from which to make all the dairy products exported in 1918. This is only about 3 per cent of the milk produced in this country in 1918. If each person in the United States would increase the amount of milk he or she consumes each day by only two tablespoonfuls, it would amount to more than the entire amount exported in 1918.

It has been shown by thorough investigation that the following percentages of expenditure for food compose the diet of the average person:

Meat and fish	25 per cent
Milk and its products ..	20 per cent
Bread and cereals	15 per cent
Vegetables and fruit	13 per cent
Eggs	6 per cent
Sugar	5 per cent
Miscellaneous	6 per cent

LIBERAL FEEDING PAYS.

Generally it pays to feed livestock liberally, even if the immediate results do not seem to justify the additional expense.

With dairy cows, if the flow is allowed to decrease during the winter months it will not be possible to get as much milk during the green feed season as it would be if the flow was maintained. Habit has a great deal to do with the milk production, and as a rule it will be found that the best cows are the ones that were trained, as well as bred, to produce milk.

The wool of a sheep, in the hands of a professional buyer, tells a true story of the life conditions surround-

ing the sheep from which it was clipped. The time when feed was short registers itself in the ease with which the wool breaks, and the sheep well cared for registers its pleasing story in the oil in the wool.

Meat and fish 35 per cent
Milk and its products .. 44 per cent
Bread and cereals 13 per cent
Vegetables and fruit 17 per cent
Eggs 6 per cent
Sugar 3 per cent
Miscellaneous 5 per cent

Taking the conclusions of authorities as to the need of increased consumption of milk and its products in our diet, Mr. Munn says that it is far better for those engaged in the industry to build home consumption of these products by constructive publicity, instead of chasing any export "will o' the wisp." Our national and human welfare require this of those engaged in the dairy industry. We are glad to be able to state that California is doing her part. The California Dairy Council is carrying on an effective campaign to educate the public to the food value of dairy products and it is bound to result in a very large increased consumption in this state.

ing the sheep from which it was clipped. The time when feed was short registers itself in the ease with which the wool breaks, and the sheep well cared for registers its pleasing story in the oil in the wool.

The finely marbled piece of beef comes from the steer whose path has led through luxuriant places. And so it goes. Give the animal the best of feed and the best of profit will come back to you.

Dairy utensils should always be rinsed in cold or lukewarm water immediately after using them. Do not use hot water until the utensils have been thoroughly rinsed out with cold or lukewarm water. Never use rusty utensils.

CREAMCUP HERD

REGISTERED

HOLSTEIN-FRIESIAN

CATTLE

We offer young bulls and bull calves of 34-lb. breeding (14-gallons milk stock) at farmer's prices. Light in color and fine type. Also a few females for sale. Tuberculin tested.

M. HOLDRIDGE

R. A., Box 437,

SAN JOSE, CALIF.

1½ miles north of San Jose, out North 1st Street

Sir Aaggie Korndyke Alcartra

Grandson of the World's Champion long distance dairy cow heads our herd. His two nearest dams have an average of 1,092 lbs. butter and 27,300 lbs. milk in 365 days. We are offering young stock sired by him out of A. R. O. dams.

Write or call and see us.

Leeman and Kilgore
Ripon, California

LONE OAK TERZOO KORNDYKE



His dam's record:

32.07 lbs. butter in 7 days.
975 lbs. butter in 10 mos.
Average test 4.37 Per cent.

He heads my herd, which consists largely of the daughters of El Prado Wayne Colantha, 30-lb. son of Colantha Sir Pontiac and Aaggie.

El Prado Wayne Colantha won first in his class at 1917 State Fair.

This great combination of blood will breed production and type into your herd.

J. W. BENOIT

MODESTO,

CALIFORNIA

Sunflowers for Silage

Written for Pacific Rural Press.

Not many people would associate sunflowers with butter, for, excepting some resemblance in color, there is apparently little connection between them. Yet sunflowers are playing an important role in the production of butter in many parts of America, and the number of inquiries we are receiving shows that Californians are becoming interested in this crop.

In Montana, where sunflowers have been raised for silage for several years, and where extensive feeding tests have been carried on, the sunflower has established itself as a profitable silage crop for dry-land conditions. It yields from 10 to 20 tons on dry land, and from 20 to 30 tons, green weight, under more humid conditions. Yields as high as 40 tons per acre have been made under irrigation. In the feeding tests the nutritive value of sunflower silage was shown to be equal to that of such corn silage as was produced in Montana; it proved just as palatable; the cows made as much butterfat, and the flavor of the butter was all that could be desired. The way the cows relished the sunflower silage was particularly noticeable. One dairyman said that when he began using it his cows "ate the bottom right out of the manger."

In Idaho, cows that had been fed corn silage were changed to sunflower silage and took to it readily. They ate it heartily and thrived on it just as well. The conclusion was that in sections where corn cannot be successfully grown for silage, sunflowers will prove a boon to dairymen on account of its heavy yield, its high feeding value (properly combined with other feeds), and the way cows relish it.

In some sections sunflowers have been used as a soiling crop, thus furnishing an abundance of feed during the fall months when there is often a shortage of pasture. Some dairymen fed the stalks whole; others preferred to cut them up. A farmer back in Michigan planted sunflowers with corn for silage, having about 25 per cent of the volume in sunflowers. He says: "I am agreeably disappointed in the way the cows eat this feed. I was apprehensive that the coarse stalks of the sunflowers would be left, but the cows nose the leaves of the corn and sunflowers away and search out the coarser parts, seeming to relish the stalks best. We began running this green stuff through the cutter and feeding it three weeks before starting to fill the silo and it has all been cleaned up from the first. Even the large butts, some of them two inches in diameter, when broken up in the cutter are readily eaten."

How to Raise.

The Mammoth Russian variety of sunflower is generally used. It produces large stalks, attains a height of 7 to 12 feet, and is not exacting as to soil requirements. It can be planted a little earlier than corn. Frost will

not injure the sunflowers readily, thus prolonging the harvesting season. A grain drill or a corn planter may be used for seeding if the proper adjustments are made.

Under irrigation two methods of growing the sunflowers have been tested—seeding them in drill and in check rows at different distances. The former method has proved more satisfactory. The most practical distance between rows has been found to be 24 to 30 inches and the amount of seed 12 to 16 pounds per acre. The desired distance between rows can be obtained by stopping a sufficient number of the seed cups of the grain drill.

Under dry-land conditions the best yields are to be expected by seeding the sunflowers in rows 36 to 42 inches apart, using five to seven pounds of seed per acre, and thinning the stand to one plant for every 10 or 15 inches of the row.

We have heard of several disappointments among farmers who merely planted the seed and gave the crop no attention. Sunflowers must be cultivated just like any other crop to get the heaviest yield; otherwise it will be a case of time and money wasted.

Methods of Cutting.

Sunflowers are cut for silage when one-half to three-quarters of the seed is in the milk stage. If cut before this time the stalks are watery and considerable loss in weight occurs. If more matured, the feed is less palatable and probably some of the leaves will have been shed. The harvesting may be done by hand or with a corn binder. Some difficulty may be experienced with the binder if the sunflowers are lodged. Both the heads and the stalks are utilized. They are passed through the silage cutter and placed in the silo in the same manner as corn.

Feeding Value.

Sunflower silage is fed in the same kind of a combination with other feeds as corn silage, and not more than 40 pounds per cow should be fed daily. Henry's "Feeds and Feeding" gives the following as the number of pounds of digestible nutrients found in 100 pounds of these two fodders:

	Protein	Carbohydrates	Fat
Green sunflowers ..	2.2	10.7	1.3
Green corn fodder ..	1.0	12.8	0.4

These analyses would indicate a decidedly higher feeding value for green sunflowers than for corn fodder, but feeding experiments at the Montana Experiment Station do not seem to warrant this conclusion, as the values were shown to be about the same.

To what extent sunflowers will replace corn as a silage crop no one can say, but it is beyond the experimental stage as a successful crop in sections where corn cannot be successfully grown. If we were to venture advice it would be: Grow corn for silage if you can do it successfully; if not, grow sunflowers.

The Greatest Holstein

Blood Combination in the West



PRINCE RIVERSIDE WALKER

Our senior herd sire, PRINCE RIVERSIDE WALKER, is out of the same dam as Aggie Acme of Riverside 2nd, the wonderful cow who has just made a yearly record of 1,053 lbs. butter from 20,354 lbs. milk at 12 years of age, and who made the world's highest official yearly butter record for 1917-1918. Also he is by the same sire as Miss Valley Mead De Kol Walker, the junior 3-year-old making the highest yearly butter record for 1917-1918.

Two Bulls of Unsurpassed Breeding

Our junior herd sire, KING KORNDYKE PONTIAC 20TH, is the highest priced bull ever sold at a California public sale. He is by King Korndyke Pontiac, the best son of King of the Pontiacs in the West, and out of Miss Valley Mead De Kol Walker, who made over 36 lbs. butter in 7 days and 1100 lbs. in one year as a heifer. She is a daughter of Prince Geische Walker and of De Kol of Valley Mead 2nd, former world record 2-year-old.



KING KORNDYKE PONTIAC 20TH.

The Herd of Heavy Producers

We now have 8 cows with records over 30 lbs., and the list is constantly growing. The calves by King Korndyke Pontiac 20th, mostly out of cows by Prince Riverside Walker, are the most remarkable lot you ever saw. They show great quality and wonderful udder development, and promise to develop into world beaters.

Keep your eye on this breeding and make your mind to have a bull of this wonderful conformation. Entire herd tuberculin tested.

Write, Call or See Us at the State Fair.

Tulare Holstein Farm

H. L. REDD, Herdsman.

W. J. HIGDON, Prop., Tulare, Cal.

Combination Sale

65 Registered Holstein Cows, Heifers and Bulls

Consigned by:

HENDERSON COMPANY,
Sacramento, Cal.

BONITA STOCK FARM,
Lodi, Cal.

To be sold at public auction at

Stockton, California

THURSDAY, SEPTEMBER 18, 1919

Management
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.,
Sacramento, Cal.

THE VICTORY HERD Registered Holstein-Fresians

Herd Sire, Sir Piebe De Kol Segis Pontiac, No. 135795.

He has five 1000-lb. sisters.

His sisters have broken 100 World Records.

He has nine 20,000-lb. sisters.

He is sired by King Segis Pontiac Count, who is generally considered one of the very greatest sires of his age—Nuf-sed.

HILCREST FARMS

H. E. SPIRES,

Caruthers, Cal.

SURE CURE FOR PIG SCOURS.

A veteran hog raiser, who has been at the game for over twenty years, says that he has never known the following remedy to fail in curing scours, and in nine cases out of ten a cure will be effected within 24 hours.

It consists simply in using real strong coffee. Put four large tablespoons of ground coffee in one-half gallon of water and let boil five to ten minutes. Mix this in the sow's slop and give to her night and morning until the scours in the pigs are checked. Generally not more than three or four feeds will be required. If the trouble was caused by over-feeding, cut the feed down until conditions are normal again. If caused by damp quarters, move the sow and litter to a dry bed.

This remedy works equally well with calves and colts, but should be used as a drench instead of being fed through the milk of the dam.

THE "QUITTER" HOG.

The "quitter" hog is known by old-time breeders as the one that takes on fat quickly and stops growing early. We hear a great deal nowadays about the advisability of early maturity, but we really don't want breeders to mature early. We want them to grow fast, but we also want them to keep on growing and not ripen at an early age. The pig that, instead of developing and growing, fattens, cuts off further usefulness.

When you find one of your hogs that fattens quickly does not have the stretch of body, nor the depth, nor well-sprung ribs, and carries a great deal of surplus fat; stands on short legs, with the hams coming down well on the hocks; has a short head and a thick jaw, he is a finished hog, and if he is not large for his age you may class him as a quitter. He will never become large, and is undesirable to use as a breeder. He should be sold for pork and should be banished from the breeding herd.

Dirty Milking Machines Unsafe

Written for Pacific Rural Press.

Some dairymen say that it is not easy to produce clean milk in summer when milking machines are used on account of the difficulty of keeping the rubber parts of the machine free from germ growth. But if the following treatment is used it will not be found a difficult task, neither will it be necessary to buy expensive germicides, as the old-fashioned chloride of lime will serve every purpose. This is made as follows:

Stock Solution: Dissolve a 12-ounce can of chloride of lime (calcium hypochloride) in 3 quarts of water; let settle, pour off the clear liquid, and put in it a jug or dark bottle and keep tightly corked.

Working Solution: Add one pint of stock solution to 100 gallons of water or one-half pint to 50 gallons, or smaller amounts in proportion. This should be kept "alive" by the addition daily of stock solution at the rate of about one ounce to each 25 gallons

of the working solution.

How to Use: Immediately after milking and while the machine is still running, suck through the machine 3 pails of water—the first clean cold water, the second hot soda water, and the third clean hot water. Then detach the teat cups and rubber tubes and plunge them in this working solution so that they are entirely covered. See that all pockets of air in the tube are emptied so that the water will come into gradual contact with the walls of the rubber. Keep in this solution until the next milking; rinse with clean cold water before using. Once a week clean all rubber parts thoroughly with brushes.

To sterilize milk bottles, pails and cans, the same working solution may be employed and will be found generally more effective than the hot water method commonly used.

The milking machine is a great help or a great hindrance to quality. It all depends on how it is handled.

STATE FAIR OFFERS MANY PRIZES FOR DAIRY PRODUCTS.

The California State Fair is offering medals and cash prizes amounting to \$1,000 for exhibits of creamery butter, cheese, market milk and cream sent to the State Fair this year. Special prizes are also given to milk dealers and dairy inspectors. Milk and cream exhibits, consisting of 4 pint bottles of milk or 4 half-pint bottles of cream must be shipped on August 25 and sent express prepaid to Director in Charge of Dairy Exhibits, Consumers Ice and Cold Storage Company, Sacramento. The butter and cheese exhibits must be shipped express prepaid to Director in charge of Dairy Exhibits, Dairy Building, State Fair Grounds, Sacramento, and must arrive by 6 P. M., August 29th. All exhibits should be carefully packed to withstand warm weather, and the milk, cream and

butter exhibits should be packed in ice for shipment.

Three cash prizes on judging dairy products amounting to \$150. The money in this class shall apply on scholarships in the Dairy Manufacturers' Short Course at the University Farm, to be paid to the winner upon completion of the course. Premium lists and application blanks for milk and cream exhibits can be secured by writing to Secretary, State Agricultural Society, Sacramento, California.

Cows holding up milk should have their udders massaged before commencing to milk. It is also a good plan to let them eat something they especially like while being milked.

Only the rich can afford to keep poor cows. But they don't, and that's one reason why they are rich.

...Packwood Farm Holsteins...

A herd bred for type, constitutional vigor and heavy production. Best blood lines of the breed. Official testing constantly carried on.

The Home of King Abbekerk Johanna Segis



The sensational young bull we purchased at the last Guaranty sale for \$5,000. He is by the great Bridgford bull, King Segis Alcartra Abbekerk, and out of the 41-lb. cow Adirondac Wietske Dairy Maid, holder of the Pacific Coast records for 7, 30 and 60 days for both milk and butter, and the 30 and 60-day United States records for combined milk and butter.

A Guarantee of Success

There is not a weak link in the chain of this bull's ancestry, and his rich breeding means 100 per cent efficiency for his offspring. He is being used on daughters of Prince Hiske Walker and Segis Pontiac Crane De Kol, and the dairyman who buys stock of this breeding will have the best possible guarantee of success.

Write or Call When You Want Good Stock.

W. F. Mitchell, Owner, Visalia, Cal.



Here He Is

The royally bred young bull we purchased at the Cabana sale to cross with our matchless daughters of King Pontiac Segis Korndyke.

Notice his grand type. Then study his wonderful breeding given below, and you will understand why he must sire great producers.

Pioneer Pride --- Highest Record Calf in California

His Sire: FINDERNE PRIDE JOHANNA KORNDYKE, a grand young son of our senior herd sire, King Pontiac Segis Korndyke. Dam, Finderne Pride Johanna Rue, the only cow that ever made two 7-day butter records, each above 36 pounds, in one lactation period. Eleven months after freshening she produced 36.03 pounds butter—the world's record over all ages and breeds. For the full year she produced 1470.59 butter, world's record at the time, and only surpassed by one cow since then. She has a 31.95 pound 3-year-old daughter and 3 A. R. sons.

His Dam: PIONEER BESSIE, the phenomenal young cow that completed a 7-day record of 41.20 pounds butter from 713.7 pounds milk under the most unfavorable circumstances the night before she was sold at the Cabana sale, and was purchased by Chas. Cole for \$7,100. She is by Prince Hazel Korndyke, he by a brother of King Segis. The dam of her sire and the dam of the young bull's grandsire are sisters, both being by Pietertje Hengerveld's Count De Kol, with 99 A. R. O. daughters.

Destined to become California's Premier Sire

Keep your eye on this young bull. Watch him make Holstein history here in California. The daughters of our senior sire are noted for their size, individuality, constitutional vigor and udder development, plus their ability to produce in both short and long-time tests. The combination of these qualities, intensified by similar blood lines in Pioneer Pride and the Finderne Pride Johanna Rue cross, will enable us to offer a line of breeding that cannot be duplicated anywhere on the coast.

PALO ALTO STOCK FARM

Directors: HERBERT FLEISHHACKER, M. H. TICHENOR,
VICTOR KLINGER, C. F. HUNT, J. C. MCKINSTRY.

M. H. TICHENOR, Pres., Palo Alto, Cal.

Dairy Cattle Exhibitors

Written for Pacific Rural Press.

The J. S. Gibson Co. of Williams expect to show 10 head of their Holsteins at the State Fair. Mr. Self will have them right on edge and will certainly make a fine showing.

Dr. H. W. Hand's Keep On Register of Merit herd of Jerseys will be represented at the State Fair by 12 head, filling most of the classes. His cattle are looking fine and with recent additions will make a fine showing. St. Maw's Susy's Olga, a recent addition to the Keep On herd, has a record of 698.51 pounds fat in one year and promises to do much better. A 4-months-old daughter of this cow was purchased by Hood Farm for \$1,550, which is a pretty good indication of what they think of the breeding.

J. A. Thorp of Lockeford will have 18 head of his beautiful herd of Jerseys on exhibition and is bringing them along in wonderfully fine condition, due largely to his personal supervision and work. His cattle certainly look as though the judge would have to give them some consideration before placing others ahead of them. Many of his cattle shown will be of his own breeding.

The Henderson Company of Sacramento have entered 20 head and will show several daughters of the great sire, King of the Black and Whites.

After viewing the dairy cattle at the State Fair don't fail to visit the exhibit of the California Hydraulic Engineering Supply Company and see the demonstration of the Universal Milking Machine; a complete exhibit of the Loudon Barn Equipment and Alamo Silent Farm lighting plant. It will be well worth a call.

J. H. Wherrell of Fuimus Farms, Riverside, is coming up from the South with a very fine lot of Jerseys and will make a strong bid for first honors.

L. D. Smith of Claremont Farm, Berkeley, will show a large herd of 19 Guernseys this year. His cows are heavy producers as well as show animals.

Walter Dupee of Edgemoor Farms, Santee, will have the largest herd of Guernseys on exhibition with 24 head entered. Until recently Mr. Dupee had the highest priced Guernsey bull in the United States and the females include some of the best animals of the breed. His competition with the northern breeders will be watched with interest.

J. Henry Myer of San Francisco, whose ranch is at Watsonville, will show 18 head of Ayrshires. While only a few breeders will show Ayrshires each one has a large herd and competition will be keen, but Mr. Myer should walk away with his share of the ribbons.

Thos. Harrison of Santa Rosa Stock Farm, Santa Rosa, has entered 13 head of his noted Milking Shorthorns. He has them in fine shape and expects to get his share of the ribbons.

Make yourself at home at the De Laval booth where you can look over the De Laval line of separators, barn equipment, feed cutters, and the new De Laval milker, which promises to prove such a sensation.

Bridgford Company, Knightsen, who

won a lion's share of the Holstein awards at last year's State Fair, will show 17 head this year in nearly all of the classes, including all the herd classes, get of sire and produce of dam. Breeders will be glad to learn that the world's champion, Nattaline Walker, will be shown in the 3-year-old class; also the state champion senior 4-year-old, Spring Farm Pontiac Maid 2nd, and the grand champion King Segis Alcartra Prilly. Most of the balance of the exhibit will be made up of the get of King Segis Alcartra Prilly, which will include 12 young bulls and heifers.

E. J. Kellerman, Modesto, will show 7 head of Holsteins, including 3 heifers and a bull calf sired by Sir Johanna De Kol Rag Apple, a son of the 41-pound Adirondac Wietske Dairy Maid.

J. S. Gibson Co., Williams, will not take in the entire circuit of shows this fall, but will have 10 head of Holsteins at Sacramento and Orland.

W. J. Hackett, Ceres, will make a fine showing at the State Fair with 8 head of Jerseys.

H. E. Cornwell of Modesto will show 5 head of Holsteins, including the great 41-pound herd sire, Sir Johanna De Kol Rag Apple.

Guy H. Miller, Modesto, will make his usual good showing of Jerseys, and his herd will include the grand champion bull Altama Interest.

J. E. Thorp, Lockeford, is starting out to win his share of the ribbons at the shows this fall and will have 18 head of Jerseys at the State Fair. He is particularly determined to win in the 5-cows-in-milk class.

W. J. Higdon of Tulare will make a wonderful showing with 18 head of Holsteins headed by his \$6,500 bull, King Korndyke Pontiac 20th. He will fill practically all classes and the herd will include the twin bull calves dropped at the State Fair last year by Model Bonnie Fobes, sired by Mutual Fobes Longfellow De Kol.

Alexander & Kellogg of Innisfail Farm, Suisun, will make their usual fine showing of dairy Shorthorns, and their herd of 17 head will include the great show bull Westward Ho. There will be 5 cows in milk, 2 entries for the best Record of Merit cow and also entries in the produce of dam and get of sire classes.

E. E. Greenough will be on hand with a good showing of Jerseys from his Sunshine Farm at Merced.

A. B. Humphrey of Grape Wild Farm, Escalon, will show a herd of Guernseys at the State Fair. Mr. Humphrey's Guernseys are too well known to need any comment. They win wherever they go.

N. H. Locke Company of Lockeford will be unable to make a showing of Jerseys this year on account of help troubles.

As usual the Holsteins head the list with the largest number of entries, there being 108 head entered.

The Yolo-Sacramento Cow Testing Association will give an educational exhibit to show dairymen how to cull out the less productive cows and will also exhibit desirable types of heavy producers.

HAVE SOME NICE YOUNG BULLS

Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.

SEGIS PONTIAC De Kol BURKE

Heads my herd of A. R. O. cows with records up to 32.16 lbs. butter in 7 days. Look up his breeding and you will want some of his blood in your herd.

E. E. FREEMAN

MODESTO,

CALIFORNIA

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW

SAN FRANCISCO

November 1 to 8, 1919

Cash prizes amount to over \$35,000 are offered for exhibits of Beef Cattle, Dairy Cattle, Horses, Hogs, Sheep, Poultry, Pigeons and Rabbits.

Dressed Carcasses and Dairy Products.

Several thousand feet of space will be given to the Exhibit of Dairy and Farm Appliances.

Horse Show and Livestock Parades in the evening.

The Most Complete Livestock and Dairy Show on the American Continent.

W. T. SESNON, President.

GORDON H. TRUE, Manager,

417 MARKET STREET, SAN FRANCISCO, CALIF.

GRAPHIC DEFINITION.

The sergeant was asking a few raw recruits general knowledge questions. "Private Pigtails, what is a hill?" he asked suddenly. "Oh-er—" stammered Pigtails. "Come on—quick!" rapped out the sergeant. "Oh," said Pigtails, "I should say it was a field with its back up."—Chicago News.

NOT DANGEROUS.

"I have a friend who has put all his capital in a business which is a hanging matter." "Great Scott! What is it?" "A rope factory."



\$150,000
FOR PRIZES
PUBLICITY
AND
SERVICE
EXTENSION

Breeders of Holstein unanimously voted to quadruple the fees for recording transfers of their cattle sold, and spend the income therefrom to place the merits of this greatest of dairy breeds before the public. If interested in

HOLSTEIN CATTLE

send for our booklets and inform yourself on how to make money in breeding dairy cattle.

The Holstein-Friesian Assn. of America
Box 141 BRATTLEBORO, VT.

HOLMES STOCK FARM WATERFORD RD., MODESTO, CALIF.

Registered Holstein Friesians.
YOUNG SERVICE BULL FOR SALE
Prince Abbecker Aralia Walker,
No. 204267—Three-quarters white.
Write for pedigree and price. Inspection
invited and satisfaction guaranteed.

Registered Holstein Bulls

Highland Head offers bulk of serviceable age from A. R. O. dams. Excellent individuals with world's record; Ormsby Breeding.

H. M. Warden,

San Luis Obispo, California

Breed for BUTTER FAT

The 20 Daughters of Dutchland Sir Pietertje Creamelle

in my herd are all high testers, averaging well over 4 per cent and they have records at two years or younger, averaging over 20 lbs.

Have for sale a few of his sons out of good producing cows, also bulls out of his daughters sired by KING KORNDYKE SADIE VALE.

F. Stenzel San Lorenzo - Calif.

Breeder of High Test Holsteins

Sir Pieterkje Ormsby

Mercedes

43rd



SENIOR HERD SIRE

HIS SIRE: SIR PIETERTJE ORMSBY MERCEDES, the greatest sire of yearly record daughters of any breed. Twenty of his daughters, most of them under mature age, average over 1,000 pounds butter in one year; two have records above 1,300 pounds butter in one year; eight have records above 1,000 pounds butter in one year; fourteen out of his 66 A. R. O. daughters have records above 30 pounds butter in 7 days; two have records above 40 pounds butter in 7 days.

Three of his daughters sold for over \$30,000 and one son sold for \$65,000 in the Minnesota Breeders' sale last June.

Production and show ring records establish him as the breed's premier sire of producers and show-ring winners.

HIS DAM: AAGGIE WAYNE PEEP, one of the outstanding cows of the breed.

Her records are:

Butter, one year	1,250.35 pounds	Butter, seven days	34.59 pounds
Milk, one year	27,762.50 pounds	Milk, seven days	657.20 pounds

SHE HAS PRODUCED IN FOUR YEARS:

Butter	3,999.43 pounds	AVERAGE)	Butter	999.85 pounds
Milk	88,509.70 pounds	PER YEAR)	Milk	22,127.40 pounds

She is a full sister to Early Dawn Peep 2nd, 1,287.72 pounds butter from 26,204.1 pounds milk in one year; and half-sister, by the same sire, to Ona Clothilde Wayne, 1,266.65 pounds butter from 27,091.5 pounds milk in one year, and Jennie De Kol Veeman Wayne, 1,003.21 pounds butter from 20,876.3 pounds milk in one year.

JUNIOR HERD SIRES

Sir Aaggie Mead

Sire, Sir Aaggie De Kol Acme. Dam, Aralia De Kol Mead.

His dam and sire's dam each have strictly official yearly records above 1,200 pounds, averaging 1,273.49 pounds, which can be said of no other bull.

His dam, dam's dam, and his sire's dam average 1,229.76 pounds—a world's record average.

His three nearest dams each have produced over 2,000 pounds butter in two consecutive years, averaging over 2,200 pounds, which can be said of no other bull.

Five of his seven nearest dams average 1,177 pounds butter in 1 year—a world record average. You can't beat this long distance ancestry.

Finderne Soldene Valdessa

Sire, King Valdessa. Dam, Finderne Soldene Hengerveld.

His sire is a son of the first 41-pound cow and a grandson of the first 44-pound cow.

His dam, a 35.34 pound three-year-old (world's record for heifer with first calf), is a daughter of King Hengerveld Aaggie Fayne, one-third of whose daughters have exceeded the 30-pound mark, and who is a brother to the 50-pound cow Segis Fayne Johanna.

His dam is a sister to the world's champion yearly producers of the junior three-year-old and junior two-year-old classes. Also a three-quarters sister to a 1,075-pound three-year-old.

The Health of Our Herd is Under State Supervision

We have over 200 head, including cows with yearly records up to over 1,100 pounds butter, and daughters of large yearly record cows. Also 10 cows and heifers with records above 30 pounds butter in 7 days, and a large number with records from 25 to 29 pounds butter in 7 days.

EVERY FEMALE IN THE HERD WILL BE GIVEN A 305 OR 365 DAY RECORD

Visitors cordially invited to the farm.

TOYON FARM ASSOCIATION

Farm: Los Altos California

Office: Mills Bldg., San Francisco

Stick to One Dairy Breed

Written for Pacific Rural Press.

Good bye, you cross-breed, bony scrub.
The times demand a better breed.
You eat enough, but there's the rub—
You never pay for half your feed.
So after all these years we part,
But pray remember as you go—
If this should break your bovine heart,
My purse was broken long ago.

Tom Marshall ran a dairy. For years he had proceeded on the theory that a bull was a bull, be he a scrub, grade or purebred, with the balance always in favor of the scrubs because they were cheap. In fact, he openly boasted that he placed no stock in this pure-bred sire idea. He liked to "mix 'em up."

Somehow he had gotten a number of grade Jersey, Holstein and Guernsey cows into his herd, and there was just about the same number of non-descripts of his own breeding. After much persuasion he was induced to join a cow testing association, and side by side in the same stable, getting the same care and treatment, were the grades and the scrubs.

As time passed on the monthly tests began to open Tom's eyes, and at the end of the year his theories were completely changed, and why shouldn't they be? For the yearly records showed that the grades had returned a net profit of \$48 each and the scrubs only \$37. It didn't cost any more to produce the grades than the scrubs. No better bulls were used. The only difference was that in the first case a bull of the same breed was used each time, and in the second case a bull of different breed.

Yet isn't the latter about what is done on the average farm? Over 75 per cent of the cows throughout the land are classified as common cows, meaning that they do not show enough of the characteristics of any one breed to be classed as grades of that breed. The herds indicate that the farmers change breeds about as often as they change sires. The reason often advanced is that when bulls of the same breed are used continuously the herd runs down in size and constitutional vigor.

Also, a farmer having a good grade herd of Jerseys observes a much larger yield of milk secured by a neighbor who has Holsteins, and he decides to make a Holstein cross, thinking that he can combine the richness of Jersey milk with the quantity of the Holstein. Occasionally this end is partially attained, but only in exceptional cases. The usual

result is that the offspring gives the quantity of the Jersey and the quality of the Holstein.

Dairy breeds have been developed for distinct purposes—some to produce a high per cent of fat, others to produce a large quantity, etc. And to cross distinct breeds is to defeat the very object for which the breeds have been developed. They have been kept pure in order for certain characteristics to become fixed so strongly that they will be transmitted regularly, and crossing breaks the chain of inheritance and makes it impossible to predict what the outcome will be—except that, as a rule, it will be a step backward. The cows will lose all breed characteristics, and the occasional good animal that appears from such a mixture will not transmit her good qualities.

A soldier firing at random accomplishes no more than the farmer who has no fixed aim in his breeding operations. The first step toward the goal of success in dairying is to decide upon an established breed. It doesn't make so much difference what breed is selected, but when a farmer once decides upon a breed he should stick to it. He should not allow anything to switch him over to another breed.

It isn't so hard to build up a profitable herd if this simple suggestion is followed. No matter how common the foundation cows, the persistent use of good purebred bulls of one breed will bring quick and certain reward. Three crosses will result in cows that are 87 per cent pure blood, and in both appearance and production they will resemble purebreds very closely.

So if you're a scrub,
Don't be a dense dub,
And conclude that there's nothing in cows.
Clean house; take the lead—
Buckle up; name the breed,
And your home will rest high in the boughs.

No one can tell how long a cow will continue in lactation, yet this is an important factor in determining her value. As a rule, one that starts off with a big flow and soon dries up is less profitable than the cow giving a fair yield for the year.

The first essential for the production of good milk is to have a clean barn. It should be well lighted and ventilated, and a coat of whitewash applied once or twice a year will add much to its appearance and wholesomeness.

Finderne Soldene Pontiac Valdessa

The Bull with the Backing

The names of 10 World's Record Cows appear in his Pedigree

FINDERNE HOLINGEN FAYNE—
Butter in 365 days at 3 yrs. old, 1395 lbs. World's 3-year-old record.
FINDERNE NETHERLAND FAYNE—
Butter in 365 days at 27 months old, 1200 lbs. World's record 2-yr-old.
(Will this record ever be excelled?)
LUTSCKE VALE CORNUCOPIA—
Milk in 365 days, 31246 lbs. World's record when made.
SEGIS FAYNE JOHANNA—
Butter in 7 days 50.68 lbs. World's record when made.
FANCHER FARM MAXIE—
Butter in 7 days at 4½ yrs. old, 46.84 lbs. World's record.
K. P. PONTIAC LASS—
Butter in 7 days, 44.18 lbs. World's record when made.
VALDESSA SCOTT 2D—
Butter in 7 days, 41.88 lbs. World's record when made.
FINDERNE SOLDENE HENGELVELD—
Butter in 7 days, 35.34 lbs. World's record for heifer with first calf.
GRACE FAYNE 2D HOMESTEAD—
Butter in 7 days, 35.55 lbs. World's record when made.
MABEL SEGIS KORNDYKE—
Butter in 7 days at 4 years old, 40.32 lbs. World's record.

We have his sons and daughters for sale, one to a car load; also some extra good young cows and promising heifers bred to him. 225 head to select from.

CAN YOU BEAT IT?

Geo. A. Smith & Son
CORCORAN, CAL.

Golden State Herd Holsteins

Will show 7 head at the State Fair. Two yearling heifers, one heifer calf and one bull calf, are sired by Sir Johanna DeKol Rag Apple, a son of Adirondac Wietske Dairy Maid, 41 lbs. butter from 831 lbs. milk in 7 days, and 158 lbs. butter from 3584 lbs. milk in 30 days.

Visit Us.

Look Over Our Stock.

E. J. KELLERAN

Route 1, Box 248, Modesto, Cal.

Holstein Bulls Bred for Production

We offer some outstanding young purebred Holstein bulls of excellent dairy type, well marked, royally bred, and fit to head any herd. Several from A. R. O. dams.

Millbrae Dairy

Millbrae, California

Phone Burlingame 111

Main Office,

MILLS BLDG., SAN FRANCISCO

Phone Douglas 820

The man engaged in dairying with a blocky, sleek, fat, short-necked cow with well-sprung ribs, squarely built, is liable to be found saying, "Dairying doesn't pay."

Udder diseases should always be considered contagious, and cows showing symptoms should be promptly separated from the balance of the herd. This precaution will pay.

Home of the Ormsbys



SENIOR SIRE
GRAND CHAMPION
KING KORNDYKE HENGELVELD ORMSBY 7TH.
He Has Made Good.

ORMSBY MEANS
"QUALITY AND PRODUCTION"

THE HIGHEST TESTING FAMILY IN THE WORLD FROM ONE DAM

Kounias Reg. Stock Farm

Modesto, Cal.



FINDERNE SOLDENE FAYNE,
Dam of our Junior Sire.
33.28 lbs. butter, 597 lbs. milk in 7 days.
24th Prize for Butter in 1918.



JUNIOR SIRE
KING KORNDYKE AAGGIE FAYNE



Does It Pay the Small Breeder to Test?

Written for Pacific Rural Press.

With three 50-pound cows and more than 50 above 40 pounds of butter in 7 days, it is not unnatural for the little breeder, who perhaps has never been able to break into the 25-pound class, to ask himself if it is worth while to go on and try to make records, says the Holstein-Friesian World.

It may seem a little discouraging to a breeder who knows he has good cows, and who has been testing a little off and on for a number of years, to realize that other breeders can make records from fifty to a hundred per cent larger. But is this a sufficient reason for dropping out of the testing work yourself? In the first place, it should be remembered that, even though those extreme producers get and are probably entitled to the lion's share of the publicity, numerically they represent but a small proportion of the breed. It is the average for the whole number that denotes progress, and the constant raising of the average production for the Holstein is the thing that should be the greatest cause for satisfaction upon the part of the breed's adherents. And when you get down to average figures, it is no great stunt for the little breeder or the beginner to make records that are above the average. Last year the average for the mature cows in 7-day test was 507.7 lbs. milk, 18,207 lbs. fat, or less than 23 lbs. butter. Surely it pays to produce an article better than the average in quality and to demonstrate that it is better. Thus the man who is making records that may seem to him only ordinary, is really adding dollars to the value not only of the animals themselves, but all of their progeny and descendants for all time to come.

By all means do not give up making records just because you cannot make a 40 or 50 lb. record. Just keep on "sawing wood"; never lose sight of your individuality; get as much good producing blood as you can; give your

young stock a fair chance for growth and development, and you will not have to worry about a market for your surplus at prices far in advance of those obtainable by the man who loses his courage and gives up the official development of his cows. It costs money to make records, but it is an investment that is absolutely sound.

WHEN BUYING A COW.

Here are the main points of a good milker from the point of view of a stranger who must use his eyes solely: Head small and clean cut; muzzle large; forehead straight or concave; neck long and thin but not scrawny; horns somewhat small; eyes bright and prominent; shoulders thin; loin broad but not thickly fleshed as in beef cattle; thighs thin, hind quarters long, deep and strong; flank high; legs short and wide apart; tail long, slim and loosely jointed; frame wedge-shaped from all directions; udder set broadly, high up behind, square and high up on abdomen, not loose, pendulous or fleshy; milk veins large and prominent; chest deep and with well-sprung ribs; belly large and deep; teats medium sized, evenly placed and wide apart. A fleshy udder, fine to the touch when empty and retaining the size and form after milking, indicates a tendency to inflammatory troubles. The skin should be clean and thin, free from the ribs and with a fresh color; hair fine, thick and short; temperament active and docile; large feeder.

The main points in selecting good dairy cows are the large, well-balanced udders that are not fleshy; the large, roomy bodies, showing in the first case an ample laboratory for the formation of milk, in the second case a capacity for taking care of large amounts of feed.

A Holstein Bull from the Longheath Herd

Will Improve Your Herd.

Our Leading Herd Sire is

King Ormsby Canary Johanna

SIRE—Sir Pietertje Canary Johanna,

66 A. R. O. Daughters; 14 above 30 lbs., 2 above 40, 8 above 1000 lbs., 2 above 1300 lbs.

DAM—Glen Canary De Kol,

34.59 lbs. in 7 days, 139.84 lbs. in 30 days as a senior 3-year-old.

Full brother to the famous heifer Glen Canary De Kol 2nd.

YOUNG BULLS OF THIS MOST POPULAR BREEDING

Fallon,

LONGHEATH FARM,

Nevada

GET ONE
of these high-class

Holstein Bulls

Young bulls by Sir Johanna De Kol Rag Apple, whose 41-lb. dam, Adirondac Wietske Dairy Maid, holds the Pacific Coast records for 7, 30 and 60 days for both milk and butter, and the 30 and 60-day United States records for combined milk and butter.

ROYAL BREEDING

These young bulls, mostly from females of Prince Hiske Walker breeding, are a classy lot. They have outstanding quality and vigor, with supreme dairy conformation and temperament. Nicely marked. Profitable for grade herds; fit to head any purebred herd.

CALL OR WRITE FOR PARTICULARS.

H. E. Cornwell

Route B, Box 183,

Modesto, Cal.

Ranch 3 miles N. W. on Prescott Road.

HOLSTEINS for TYPE and PRODUCTION



NATTALENE WALKER,

Record at 3 years, 4 months:

7 days: Butter 34.316 lbs.; milk, 818.2 lbs.

30 days: Butter 134.76 lbs.; milk 3319.9 lbs.

Both 7 and 30 day milk records are world records.

Thirty-day butter record is California record for age.



OUR HERD SIRE: KING SEGIS ALCARTRA PRILLY,

Grand Champion at California State Fair, both 1917 and 1918.

His get won first as get-of-sire, first calf herd, junior champion female, first and second junior heifer, and first and third senior heifer.



ADIRONDAC WIETSKÉ DAIRY MAID,

Record at 6 years, 9 months.

7 days: Butter 41.016 lbs.; milk 831.7 lbs.

30 days: Butter 158.31 lbs.; milk 3603.1 lbs.

60 days: Butter 304.95 lbs.; milk 7242.2 lbs.

Her 7, 30 and 60-day records are Pacific Coast records for both milk and butter. Her 30 and 60-day records are United States records for combined milk and butter.

Leading Winners of the Pacific Coast

Our herd appears thirty-three (33) times in the list of PRIZE WINNERS of the OFFICIAL RECORDS given by the HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA for the year 1918-19, which is a greater number than any other herd on the Pacific Coast and tenth highest in the United States. Study this tale of results.

YOUNG BULLS FOR SALE

See Our Exhibit at the State Fair, Sacramento, August 30 to September 9.

BRIDGFORD HOLSTEIN COMPANY
PATTERSON, CALIFORNIA

Place	Division	Class	No. Cows Competing
1st	30 day butter	Full age	2607
2nd	30 day butter	Sr. four	578
3rd	30 day butter	Jr. two	1778
5th	7 day butter	Full age	2607
5th	7 day butter	Sr. four	578
4th	7 day butter	Jr. two	1778
1st	30 day milk	Full age	2607
3rd	30 day milk	Sr. four	578
4th	30 day milk	Sr. two	1040
2nd	30 day milk	Jr. two	1778
1st	7 day milk	Full age	2607

From prize-winning dams and sired by our twice Grand Champion bull, KING SEGIS ALCARTRA PRILLY, or our senior sire, KING SEGIS ALCARTRA ABBEKERK, whose three only daughters to freshen average on official test over 21 lbs. butter in 7 days at an average age of 22 months.

Dairy Cattle.

V. L. Heath, who formerly had charge of the Napa Hospital herd of Holsteins, recently took charge of the Bonita Ranch at Lodi.

The Holstein cow, Glen Canary De Kol 2nd, owned by E. C. Schroeder, Moorhead, Minn., has just completed a yearly test of 1,323.36 pounds butter from 25,590.6 pounds milk, being the twenty-ninth cow to produce over 1,250 pounds butterfat in one year.

L. D. Smith of Claremont Farm, Berkeley, has recently purchased several head of registered Guernseys from the Palo Alto Stock Farm, Palo Alto.

Lillith, a 2-year-old daughter of King of the Black and Whites, head of the Henderson Company's Holstein herd, has just completed a yearly record of 800 pounds butter and 20,000 pounds milk.

A. W. Morris & Sons Corporation of Woodland do not expect to exhibit any of their great herd this year at the State Fair. It is a loss to the fair to not have this herd represented, as there are fewer herds anywhere in the United States that could make a better showing. The herd, in fact, is a show of Holsteins in itself and is a wonderful example of what Mr. Morris and his sons have done toward putting California on the map in the Holstein-Friesian world. It is well called "The Home of Tilly Alcartra" and one that does justice to such an animal by continuing the breeding and raising of great Holsteins that are making great records all the time, many of them "strictly official."

E. E. Freeman, the Holstein breeder of Modesto, reports that Julia Clothilde of Sleepy Hollow has made a 7-day record of 19.1 lbs. butter from 504.3 lbs. milk 8 months after calving. Also, the junior 2-year-old Belle Faskie De Kol Withop produced 19.1 lbs. butter from 504.3 lbs. milk 8 months after calving, which Mr.

SAN FRANCISCO SHOW THE BIG EVENT.

The California International Live Stock Show, to be held in the California Building, San Francisco, November 1st to 8th, is organized in response to a demand of the stockmen of the State for a show that shall adequately present and promote the livestock and dairy industry of the West. It is dedicated to the proposition that the Pacific Coast offers opportunities for the development of these industries unparalleled elsewhere, and that the world should know it.

The success of the show and its value to those in whose interest it is given will depend upon the interest and support they themselves give it. While San Francisco makes the show possible, it is your show, and the Board of Directors most cordially invites you as exhibitor and attendant to a full participation in it.

W. T. SESNON,
President.

GORDON H. TRUE,
Secretary and Manager.

Freeman believes is a state record.

The Stockton unit of the Northern California Dairymen's Association has ordered machinery for bottling milk so the producers can distribute direct to consumers. At a meeting some time ago it was generally agreed that they could reduce the price from 13 cents to 10 cents per quart and still make more money for the producers.

Many heifers get thin at about three years old, observes A. Schmitt of San Joaquin county, and their owners think they have tuberculosis. The trouble will in such cases generally be found by examining their back teeth. The last of the bay teeth are likely to be loose and hurting when they try to eat. They can be pulled with pinchers and somewhat even with the fingers.

F. H. Stenzel of San Lorenzo recently sold Holstein bulls to Anita Land Company and A. Vosti, both bulls being sons of Dutchland Sir Pietertje Creamelle.

W. J. Hackett of Ceres has sold a registered Jersey bull to C. L. Woodbridge, Modesto, and another to C. J. Wylie, Los Angeles.

H. E. Vogel, Fresno, is breeding his 35-pound Holstein cow to the Higdon bull, King Korndyke Pontiac 20th and is expecting a fine calf.

The Millbrae Dairy herd of regis-

tered Holsteins consists of 280 head, according to the census recently taken by the Holstein-Friesian Association.

Walter Mitchell of Packwood Farm, Visalia, is using his 41-pound herd sire, King Abbecker Johanna Segis, on daughters of Prince Hiske Walker, who already has two 18-pound two-year-old daughters, and Segis Pontiac Crane De Kol, who has a 21-pound two-year-old and a 15.4-pound two-year-old daughter.

A. A. Jenkins of Tulare has recently sold a registered Jersey bull to C. R. Sorter of the same district. Like others in the district Mr. Jenkins has been troubled a great deal by grasshoppers and the feed has not been what it should be, but his twenty cows milking have averaged over \$20 a month each for butterfat since spring, to say nothing of the milk that has been used on the ranch, and 11 of the cows are heifers with first calf and only four are mature cows.

R. F. Guerin of Sunnyside Ranch, Visalia, has just had a two-year-old daughter of Sir Veeman Korndyke Pontiac complete a 7-day record of 20.16 pounds.

If Jerseys had as frequent milking as other dairy breeds that give more, but less rich milk, Jersey records would be even higher than they are now, according to a well-known Jersey breeder of the San Joaquin Valley.

A cow on test in his herd was giving from 60 to 67 pounds of milk a day with three milkings, but the labor question made only two milkings possible, and the cow at once dropped to about 51 pounds of milk a day. Her test averaged 4.5, the loss being thus more than half a pound of fat a day. Figuring this to a yearly basis, with due allowance for diminished milk production, and then figuring what might have occurred if the cow had been milked four times a day, it can be seen what remarkable records are possible with this breed. The trouble is that the breed concentrates its milk so into fat that the benefits of frequent milking is almost universally ignored.

Tilly Alcartra, the world's champion cow, owned by A. W. Morris & Son, Woodland, who is now at Carnation Farms, Seattle, being bred to Carnation King Sylvia, the \$106,000 bull, is expecting to stop at Portland on her way home and be the guest of Portland clubs at a luncheon to be given in her honor at the City Park. The affair is in the hands of O. M. Plummer, manager of the Pacific International Livestock Show. Nothing is too good for California animals, and when they go into other states they are given royal receptions.

H. H. Sisson, of Sunnybrook Ranch, Willits, reports the purchase from Brown Meadows Farm, Powling, N. Y., of a son of The Mighty Monarch. The latter is by King of the Pontiacs and his dam, Segis Hengerveld Fayne Johanna, recently sold at the Cabana sale for \$40,000, the highest price ever paid for a dairy cow at public auction. The dam of the calf is Springdale Segis Fayne, with a 7-day three-year-old record of 20.44 pounds butter. She traces direct to King Fayne Segis, sire of the 50-pound Segis Fayne Johanna. The bull calf is a splendid individual, of beautiful conformation and nicely marked. He should make a valuable addition to the herd sires.

The man behind the cow is useful; so is the man in front of her with the feed bucket.

FOUR GREAT LONG DISTANCE SIRES Head Morris' Herd

King Morco Alcartra

His dam is the long distance champion of the world for both milk and butter—The only cow that has produced 33,000 pounds milk in one year—The only cow that has twice exceeded 30,000 pounds milk—The only cow with an average over 30,000 pounds for four years—The only cow that has exceeded 2,500 pounds butter in two years, and the only cow that has averaged over 1,000 pounds a year for first six lactations. The cow that has won more prize money than any Holstein that ever lived. King Morco Alcartra's dam and sire's dam average 1,204.07 pounds butter and 31,125.8 pounds milk in one year.

Sir Aaggie De Kol Mead

Son of Sir Aaggie De Kol Acme and Miss Valley Mead De Kol Walker, that grand young cow that won the California State Dairy Cow Competition, over all breeds, producing 1,113.58 pounds butter in 343 days and carried a calf nine months. She broke the world's seven-day butter record eight months after calving as a senior two-year-old and again as a junior three-year-old. She is also dam of a \$6,500 son, King Korndyke Pontiac 20th. His dam and sire's dam average 1,222.68 and five of his seven nearest dams average 1,130.69.

Sir Aaggie De Kol Acme

His dam holds the strictly official yearly butter record for the world, 1,331.78 pounds and the world's butter record for two consecutive years, 2,426.88. His sire's dam was the first 28,000-pound cow and made 1,142.32 pounds butter when past eleven years of age. She has two daughters and a granddaughter above 1,100 pounds. His three nearest dams average 1,176.05. He is the sire of the only bull in the world whose seven dams average over 1,100 pounds, that sold in the Philadelphia sale for \$11,000.00. He is also sire of the only bull in the world whose three nearest dams average over 1,225 pounds.

King Aaggie Mead

Son of the great King Mead of Riverside, sire of two daughters above 1,200 lbs. strictly official test and five that average 1,025 lbs. His dam, Aaggie Acme of Riverside, made 1,054 pounds butter, finishing at past 12 years. He is full brother to the strictly official world record cow, Aaggie Acme of Riverside 2nd, 1,331.78 pounds.

With four such sires mated to a number of the greatest long-distance cows in the world, we are in position to supply young bulls with unsurpassed yearly record backing. Write us your needs.

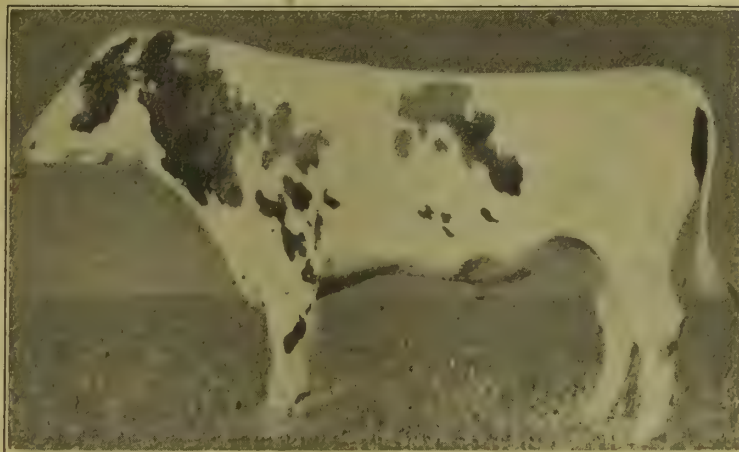
A. W. MORRIS & SONS CORPORATION
WOODLAND, CALIF.

It Will Pay the Breeder or Dairyman

Who wants a higher percentage of butterfat to investigate

SUPREME GLISTA PIETJE

King of
High
Testers



His dam, her full
sister and seven
nearest dams
have an average
test of 4.5 per
cent.

Her dam, Glista Eglantine, has two 32-pound records. Her sister, Glista Ernestine, has recently completed her fifth consecutive record of over 30 pounds butter in 7 days. This wonderful performance has been equalled by only one other cow in the United States.

Bonita Herd is composed of young, high-testing individuals with A. R. O. records ranging from 18 pounds of butter in 7 days at 2 years old to 27 pounds of butter in 7 days at four years old.

A son of SUPREME GLISTA PIETJE, from one of these A. R. O. cows, will be a valuable addition to your herd. To induce the more extensive use of pure-bred sires, we will give very liberal terms on young bulls.

Bonita Stock Farm

J. M. HENDERSON, Proprietor.

SACRAMENTO, CALIFORNIA

WE INVITE YOU TO VISIT OUR QUARTERS AT THE STATE FAIR AND SEE OUR EXHIBIT OF
SONS AND DAUGHTERS OF

King of the Black and Whites

who has more A. R. O. daughters than any other bull on the Pacific Coast. One of them sold in the recent Philadelphia sale for \$2,000 and her calf for \$2100.

Another daughter has just completed a junior 2-year old record of 20,000 pounds of milk and over 800 pounds of butter. This record is excelled by only two daughters of the great bull King of the Pontiacs.

KING OF THE BLACK AND WHITES is the first bull of any breed whose seven nearest dams average over 30 pounds of butter in 7 days, four of which are 30-pound cows that have produced 30-pound daughters, who in turn have produced 30-pound daughters, all of which have 30-day records of 126 pounds or better.

KING OF THE BLACK AND WHITES is noted for his prepotency and the persistent milk production of his offspring. The first daughter to be tested, sired by his son, King Lillian Walker Segis, made over 17 pounds of butter in 7 days as a 2-year-old.

GET ONE OF HIS SONS

A son of this great bull, from one of our A. R. O. cows, will
INSURE INCREASED PRODUCTION in your future herd

Liberal terms to responsible parties

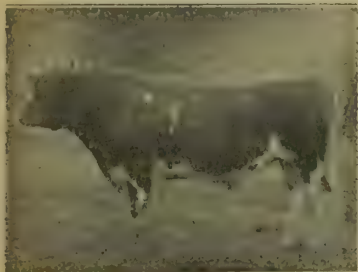
HENDERSON COMPANY

SACRAMENTO,

CALIFORNIA

Edgemoor Farm Guernseys

Production AND Conformation



Imported Itchen May King
25174

Senior Herd Bull, many times
Grand Champion, and sire of
12 A. R. daughters.

Junior Herd Bulls

ROYAL ROSE KING,

By Itchen May King, out of
Belladia, A. R., 19,631 lbs. milk,
934.05 lbs. fat.

PENCOYD'S GOLDEN MAY SECRET

By Longwater Pencoyd, out of
Nellie Jay 4th, A. R., 20,709 lbs.
milk, 1,019 lbs. fat.

Practically all cows in Edge-
moor herd have A. R. records or
are on test. Twelve cows with
records averaging 15,056 lbs.
milk and 748 lbs. fat. Six class
leaders with records averaging
15,061 lbs. milk and 734 lbs. fat.

Bull Calves For Sale
at Reasonable Prices

W. H. DUPEE,
OWNER

SANTEE, CALIF.

LIVESTOCK SALES DATES.

August 23—Carruthers Farms. Live Oak.
70 head young Berkshire sows and boars.
September 16—Preston School of Industry,
Ione. Dispersal sale of 60 cows, heifers and
bulls at State Fair Grounds, Sacramento.
September 17—John M. Bernstein and W.
L. Haag & Son, Hanford. Poland-China bred
sow sale.
September 18—Henderson Company, Sac-
ramento. 65 registered Holsteins at Stockton.
September 19—San Joaquin Poland-China
Breeders' Association, Lodi. Consignment sale,
60 head.
September 30—Dimmick Bros. and De
Raad, Hanford. Disposal sale of Poland-
Chinas.
October 4—H. I. Marsh and Les McCracken,
Modesto. Poland-China bred sows and gilts.
October 7—M. & A. L. Bassett, J. A. Craw-
shaw and F. D. Ross, Hanford. 75 head of
Poland-Chinas.
October 11—Kings County Poland-China
Breeders' Association, Hanford. Consignment
sale.
October 16—H. M. Elberg, Roselawn Stock
Farms, Woodland. 45 head of Shorthorns.
October 18—Trewitt and Vaughan, Han-
ford. Poland-China bred sows and gilts.
October 21—Tulare County Poland-China
Breeders' Association, Tulare. First consig-
nment sale.
November 6—California Shorthorn Breed-
ers' Association, San Francisco. Consig-
nment sale.
November 7—Pacific Coast Hereford Breed-
ers' Association, San Francisco. Third sale
of Herefords.
January 31—Ireland Ranch, Owensmouth.
50 bred Duroc sows and gilts.
February 14—Castleview Ranch, Santa Rosa.
Sale of 50 Bred Berkshire sows and gilts.

FALL FAIRS AND SHOWS.

August 22-23—Livestock and Agricultural
Fair, Patterson.
August 25-26—Placer County Farm Bu-
reau Fair, Roseville.
August 30-Sept. 6—California State Fair,
Sacramento.
September 16-18—Humboldt County Fair,
Ferndale.
September 17-20—Antelope Valley Fair,
Lancaster.
September 24-27—San Diego County Farm
Bureau Fair, San Diego.
September 22-27—Glenn County Fair, Or-
land.
September 30-October 4—Fresno County
Fair, Fresno.
October 2-5—Napa County Fair, Napa.
October 4—Contra Costa County Farm
Bureau Fair, Brentwood.
October 6-11—Land Show, Martinez.
October 6-11—Tulare Livestock Show, Tu-
lare.
October 7-11—Southern California Fair,
Riverside.
October 15—Kings' County Pork Produc-
ers' Contest, Hanford.
October 13-18—Tulare County Fair, Visalia.
October 18-26—Los Angeles Livestock Show.
October 25—Shasta County Farm Bureau
Fair, Anderson.
November 1-8—San Francisco Livestock
Show.

HOT WEATHER HORSE HINTS.

Water your horse as often as pos-
sible. So long as a horse is working,
water in small quantities will not
hurt him. But let him drink only
a few swallows if he is going to
stand still. Do not fail to water
him at night after he has eaten his
hay.

When he comes in after work,
sponge off the harness marks and
sweat, his eyes, his nose and mouth,
and the dock. Wash his feet but
not his legs.

If the thermometer is 75 degrees
or higher, wipe him all over with a
damp sponge, using vinegar water if
possible. Do not wash the horse at
night.

Saturday night, give a bran mash,
lukewarm; and add a tablespoonful
of saltpetre.

Do not use a horse-hat unless it is
a canopy-top hat. The ordinary bell-
shaped hat does more harm than
good.

A sponge on top of the head, or
even a cloth, is good if kept wet. If
dry it is worse than nothing.

If a horse is overcome by heat, get
him into the shade, remove harness
and bridle, wash out his mouth,
sponge him all over, shower his legs,
and give him two ounces of aromatic
spirits of ammonia or two ounces of
sweet spirits of nitre, in a pint of
water; or give him a pint of warm
coffee. Cool his head at once, using
cold water or, if necessary, chopped
ice, wrapped in a cloth.

Watch your horse. If he stops
sweating suddenly, or if he breathes
short and quick, or if his ears droop,
or if he stands with his legs braced
sideways, he is in danger of a heat or
sun-stroke and needs attention at
once.

If it is so hot that horse sweats in
the stable at night, tie him outside
with bedding under him, or turn him
loose in a corral. Unless he cools
off during the night he cannot well
stand the next day's heat.

The Penobscot Registered Ayrshire Dairy Herd

The Penobscot Farm

F. D. WILSON
Manager

CHAS. R. SHARP
FARM MANAGER

Cool, Eldorado County
California



AYRSHIRES at Public Auction

The Preston School of Industry, Ione, Calif., will disperse at
public sale its entire herd of registered Ayrshires, consisting
of approximately 60 cows, heifers, and bulls.

TUESDAY, SEPTEMBER 16, 1919
STATE FAIR GROUNDS, SACRAMENTO, CAL.

This herd was established with animals selected from some of
the best known herds of the United States and Canada, and in
this dispersal buyers will have an opportunity not before
afforded in the West for the purchase of registered Ayrshires
at public sale.

See the School Exhibit at the State Fair.
Management.

CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
C. L. Hughes, Sales Manager, Sacramento, Calif.



Rancho Santa Marguerita

The home of money-making Jerseys. I
breed for size, type, constitutional vigor
and economical production, and my

Registered Jerseys

have been consistent winners in butterfat
contests, including the first and second
prize cows at the State Fair last year.

HERD BULL,
GOLDIE'S ALTAMA INTEREST, 151888,
whose dam made 598.70 lbs. fat from
12,195.8 lbs. milk in one year.
Some fine young bulls for sale.

D. F. CONANT, Prop.
MODESTO, CALIFORNIA

VISIT

Sunshine Farm Jerseys

At the State Fair

E. E. GREENOUGH, Merced, Cal.

T. B. PURVINE & SONS

PETALUMA, CALIFORNIA.

Breeders of

Registered JERSEYS

Young bull calves for sale. Fine individuals
with Register of Merit backing.

Don't Fail to See



the
KEEP ON
Herd of
Register
of Merit
JERSEYS

at the Sacramento and Orland
Fairs. Beautiful specimens of
both sexes at reasonable prices.

DR. H. W. HAND
ORLAND, CALIFORNIA

HORSE NOTES.

Merritt & Bowers of Tagus will
show 5 head of horses and packs at
the State Fair.

Mark Bassett of Hanford will show
his great Percheron stallion Itnos,
who has been four times grand cham-
pion.

LEONARD FARM JERSEYS

Bulls from register of merit
cows. Write for prices and
pedigrees.

Also

Duroc-Jersey Swine

W. J. HACKETT

Ceres, Cal.

Will show at State Fair

For Economical Production Keep Jerseys

To improve your herd, get
one of my Jersey Bulls. They
are rich in the blood of Gertie
of Glynlyn, 16,780 pounds milk,
991 pounds butter, and Lady
Lette Lambert, 1081 pounds
butter in 1 year and 2913
pounds in 3 years.

Write or call and see them.

A. A. JENKINS

TULARE, CALIF.

EASTMONT FARM

Young Jersey bulls from Register of Merit
dams with records up to 621.2 lbs. butter
fat. Financial King breeding.

GRANT A. BROWN,

509 E. MAIN ST., EL MONTE, CALIF.

Sheep Suggestions for Beginners

(By Prof. Gordon H. True, University Farm, Davis.)

Sheep are kept in California under three main sets of conditions: On the unfenced public or private ranges where they run in bands of two or three thousand head; on fenced mountain ranches of a few thousand acres, and where other farm activities may or may not be carried on.

For use on the open ranges where sheep are run in large bands under the care of a single herder and his dogs, a preponderance of fine-wool blood, such as Merino or Rambouillet, is necessary on account of the natural banding instinct of this class of sheep.

Sheep run in the open range move constantly from one feeding ground to another. As the snow melts and green feed starts in the mountains the sheep are moved to keep pace with the coming of the new feed. Lambing takes place in the spring, usually in March or April. It is not customary to provide shelter, though it has been found profitable to do so. Flocks lambing in sheds have raised as high as 140 per cent of lambs, while losses in the open are often 40 to 65 per cent in case of bad weather at lambing time. The flock is shorn once a year—before lambing in the spring. The average clip is about six pounds of wool. The increase may be marketed as lambs when the range is in good, but more frequently they are carried on to be sold as yearlings. Lambs weighing eighty pounds sold last year at from \$10 to \$12. Under pre-war conditions \$5 was considered a fair price.

Sheep are especially adapted for grazing over rough land of scanty herbage. They eat many plants not eaten by cattle. On farms they keep

down weeds and other volunteer growth along ditch banks, lanes and on summer fallow. As hogs consume waste grain, fruit and dairy by-products, so sheep use what would otherwise be waste roughage on the farm.

In the valleys where they run on stubble fields, it is the practice to shear twice a year, in March and September; otherwise once a year in spring. The clip will run from six pounds to twelve pounds a head, some fine-wool ewes shearing as high as sixteen to twenty pounds. It is good practice to dip sheep after shearing.

Thin lambs may be bought and fattened for market by running them on stubble for three or four weeks and then feeding hay and grain for two or three months. On full feed lambs should eat two pounds of hay and one pound of grain a day, and gain from one-fourth to one-third of a pound in weight. Ewes may be wintered on hay and volunteer growth, with some grain at lambing time. Cull or damaged beans are especially relished by sheep.

A pure-bred ram of good type should always be used. The period of gestation is five months, and the natural breeding time is September or October. Neither ewes or rams should be used for breeding under a year old. The ram should not run with the flock, but be turned with the ewes for a short time each day. During the breeding season he should be fed some grain.

Expensive buildings are not required for sheep, but they need protection from the rain. The dog is the sheep's worst enemy and where there is danger sheep should be put in dog-proof corrals at night. One should see and count the flock every day.

SHEEP NOTES.

Joe Levy of Calla Grove Farm, Manteca, who is one of the leading Hampshire breeders of the Coast, will show 8 head at the State Fair.

Wm. Bond of Newark, who some time ago purchased the registered Hampshire flock owned by T. T. Miller of Hollister, will show 4 head at the State Fair.

Chas. Kimble of Hanford recently shipped 25 head of Rambouillet ewes to breeders in Texas and Mexico. Mr. Kimble will attend the Salt Lake sale and purchase some rams to go with these ewes.

Ellenwood & Ramsay, Corriedale breeders of Red Bluff, who recently imported some very high priced animals from New Zealand, will show 4 head at the State Fair.

Bullard Bros., of Woodland, who have a reputation of capturing a lion's share of ribbons, will show 60 head of Rambouillets at the State Fair and expect to make a big clean-up.

The wool consumed in the United States last month broke the monthly record for 1919, the amount consumed being 55,000,000 pounds, grease equivalent. This is said to indicate continued activity in the textile industry.

WHEN SELECTING BREEDING SHEEP.

CHOOSE EWES THAT ARE—
Well grown, healthy and spirited.
Sound in mouth and milking organs.
From one to four years old.
Covered with dense coats of marketable wool.

Uniform in size and breeding.
Straight in body lines and showing feed capacity.

GET A RAM THAT IS—
Bold in head features and strong in constitution.

Active, vigorous and from one to three years old.

Symmetrical and evenly developed.
Covered with firm flesh.

Strong and straight in his legs.
Evenly covered with a dense fleece.

WHY NOT TRY IT?

Daddy had the flu, and mamma was busy sterilizing the dishes she had just carried from the sick room.

Four-year-old Jimmie watched the process for a time, and then asked: "What for are you doing that?"

"To kill the germs, so that we won't catch the flu, too."

"Has daddy got germs?"

"Yes."

"Why don't you boil daddy?"

HAMPSHIRE SHEEP

As a money-maker and all-around farmer's sheep, the Hampshire challenges the world to produce its equal. Its chief characteristics are: ability to stand grief from exposure or shortness of feed; docility and motherly qualities; adaptability to climate and feed; prolificacy; precocity, and the early maturity of the lambs.

THE BEST OF THE BREED

My foundation stock consists of ewes sired by a Walnut Hall ram and bred to an outstanding imported ram. I have endeavored to secure the best animals of the breed in both individuality and breeding, and will be able to offer California buyers as good stock as can be found anywhere. Keep your eye on my herd.

R. H. BROTHERTON,
RANCH AT LOS ALTOS.

369 PINE STREET,

SAN FRANCISCO, CAL.

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

One mile east of town.

St. Helena, Calif.

Live Oak Stock Farm

F. A. MECHAM ESTATE

P. O. Address:

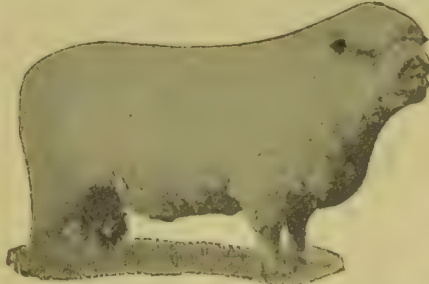
Petaluma, Sonoma County, Cal.

Take Electric Cars at Petaluma or Santa Rosa for Live Oak Station

Importers and Breeders of
**Red Polled Cattle,
Shropshire Sheep,
American Merino**

AND

Rambouillet Sheep



**SHROPSHIRE,
RAMBOUILLETS
AND
AMERICAN
MERINOS**

We have for sale this season 350 HEAD OF PUREBRED SHROPSHIRE RAMS, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age, and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouillets are all from prize-winning rams at the P. P. I. E. Strong, hardy, range-raised stock. We have a fine lot of yearling American Merinos of our own breed.

ALL STOCK SOLD SINGLY OR IN CARLOAD LOTS.

Rambouillets



Noted for

HEAVY FLEECES AND CARCASSES

I make a specialty of big, smooth, heavy-wooled rams.

J. BIDEGARY

Fresno,

California

Kimble Rambouillets



Imported Stock from the first blood lines in America.

They are large and smooth with heavy fleece of fine long staple wool. They will make money on any farm.

RAMS, YEARLINGS AND OLDER BREEDING EWES

Any Number.

Prices Attractive.

Call or Write for Further Particulars

CHAS. A. KIMBLE

HANFORD,

Importer and Breeder

CALIFORNIA

SHROPSHIRE RAMS

The kind that produce the large uniform black face lamb so much sought after in the markets.

Call on or write to

G. E. BARNHART,

Suisun, Calif.

Efficient Cows Lower Cost of Production

Written for Pacific Rural Press.

At the end of the Civil War it required three hours of human labor to harvest a bushel of wheat, but by improved machinery it now takes only ten minutes of the human labor to harvest a bushel of wheat says Dean H. E. Van Norman of University Farm, Davis.

Our scientific leaders tell us that every growing child should have about a quart of milk a day. Therefore, there rests on the dairymen not only the business of producing the milk at a profit to themselves, but something of a national moral obligation to furnish to the growing children of this nation a necessary food.

How much of a cow's time does it take to produce a quart of milk—one day's supply for a growing child? The average cow in the United States produces about 14 pounds of milk a day, at which rate it would take her about 206 minutes to produce one day's supply of milk for a child. A good cow, on the other hand, yielding

6,000 pounds of milk per year would require only 144 minutes, while the kind of cows that a progressive, successful dairyman ought to have would only require 96 minutes to produce this same amount of milk. Boiled down, the question is, which kind of cows have you?

The most outstanding sign of today is that we must reduce the cost of production to insure satisfactory profits. One of the greatest factors in this reduced cost of production is more efficient cows. It takes just as much human labor to feed ten poor cows as to feed ten good ones. It takes almost as much human labor to milk the poor ones as the good ones. It takes just as long to deliver their product to the creamery or shipping station. Therefore, there is a tremendous saving in the actual cost of production when the cows average 9,000 pounds of milk per year as compared with those that average only 6,000 or 4,000 pounds.

Palo Alto Picked a Plum

Written for Pacific Rural Press.

Years ago when the writer was new in the breeding game, he was anxious to make the right start. So he went to one of the most successful Holstein breeders in the east and asked him what was the most important rule to be observed in successful breeding. "My boy," advised the veteran, "buy the best bull you can afford; keep his most promising daughters, and then breed them to one of his best grandsons. I know that many breeders will poo-hoo such a method, but it is the most scientific kind of line-breeding, and scientific line-breeding is what makes each generation show an improvement over the one before it."

When I visited Palo Alto Stock Farm last week to see the new bull calf purchased at the Cabana sale and looked over his pedigree, I wondered if the president, M. H. Tichenor, had been given the same advice when he also lived back in New York State. For I found that the new bull, Pioneer Pride, who was purchased at a cost of \$4,300 to use on the daughters of the senior herd sire, King Pontiac Segis Korndyke, is a grandson of this King, as he is called at the farm. He is by King's son, FINDERNE PRIDE JOHANNA KORNDYKE, who was out of FINDERNE PRIDE JOHANNA RUE, the wonderful cow that made three world records, including a record of 36.03 lbs. at 11 months after calving, and 1,470.59 lbs. in one year.

The dam of the new bull is Pioneer Bessie, who completed a 7-day record of 41.20 lbs. butter from 713.7

lbs. milk the night before she was sold, and brought \$7,100 in the Cabana sales ring. The dam of her sire and the dam of the young bull's grandsire are sisters, both being by Pieterje Hengerveld's Count De Kol, with 99 A. R. O. daughters, and thus further strengthening the already strong pedigree of Pioneer Pride.

This youngster is just as good in individuality as he is in breeding. He has a clean-cut, intelligent, masculine head, one of the best top lines you ever saw, good bone, excellent heart and lung capacity, and fine barrel. He is more white than black, and is ideally marked. He ought to make a great show bull, as well as a prepotent breeder. He will be given an excellent opportunity to make a name for himself, and his purchase by the Palo Alto Stock Farm means much to the Holstein industry of this state.

USEFUL MILKING SHORTHORN.

G. W. Watson of Napa Judction has taken great interest in Milking Shorthorns for years, and many animals have passed through his hands. We recently saw an account of the results obtained from one cow of that breed which he had just sold for beef at the ripe age of nineteen years. She dressed 660 pounds in good condition and brought \$92. Mr. Watson said of her:

"I used her for milking up to fourteen years old. She was good for six gallons a day at all times, and at the

BREED FOR

BEEF AND MILK

The two greatest necessities of the age.

Milking Shorthorns

supply both. Authorities admit they are the greatest dual purpose cows. It is the coming breed.



Braemer Beauty

Record

10,000 lbs. of Milk

Herd Sire: FOOTHILLS PIONEER, by General Clay, who has 30 daughters in the Register-of-Merit list.

Dam, Imp. Tassel, who has a record of 10,000 lbs. milk.

Choice bulls, all ages, for sale. Write me, or better, Call and See Them.

THOMAS HARRISON

SANTA ROSA STOCK FARM

SANTA ROSA,

CALIFORNIA

Pacific Coast Representative for the celebrated Otis herd of Willoughby, Ohio, which has the largest sale connections in America.

Innisfail Dairy Shorthorns

Will exhibit 17 head at the State Fair, including the great show bull, Westward Ho; five cows in milk; two entries for the best Record-of-Merit cow; produce of dam out of the world record three-year-old Greenhill Caroline; get of sire by Glenside Royal and Kelmseott Viscount 19th, out of Record-of-Merit dams.

See Our Herd

Notice the type and study the blood lines. Our herd has been built up from the leading milk-producing strains of the breed. Young stock for sale out of large cows of good milk production. Entire herd tuberculin tested.

Alexander & Kellogg

SUISUN,

CALIFORNIA

Farm on Grizzly Island.

Enter Your State Fair Stock

at the

Los Angeles Livestock Show

to be held at

Exposition Park, October 18-26

\$50,000 Cash Premiums and Prizes

Special attractions, consisting of harness and running races, driving and saddle horse show, Holstein sale and Dairymen's exhibit.

ENTRIES CLOSE SEPTEMBER 20

COMPLETE PREMIUM LIST READY

Address: C. R. THOMAS, Sec-Mgr.

CHAMBER OF COMMERCE,

Los Angeles, Calif.

We have issued a convenient little book for the keeping of breeding dates of cattle, hoping to aid the breeder and cattle owner in maintaining accurate records. We will gladly mail you a copy free if you request it.

CALIFORNIA BREEDERS' SALES AND PEDIGREE CO.
C. L. HUGHES, Sales Manager, Sacramento, Cal.

age of nine years she had to be milked three times a day for some time after coming fresh. She kept the house in all the milk and butter needed, besides raising me many good bulls and heifers. I have sold over \$1000 worth of stock from her, and yet have a few of her descendants left, worth several hundred dollars. I call that a good showing for an unregistered animal, one of which would doubtless be passed over by some of the wise ones on the milk question as not worthy of consideration. Now at the age of nineteen, after rolling in a good bank account, she hung up a fine piece of beef, and made carcasses from the dairy herds indeed look second choice."

THE OTIS HERD

WILLOUGHBY, OHIO.

Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledged the best and most valuable individual of the breed. Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty. Write T. H. Harrison. Santa Rosa Stock Farm, Santa Rosa, Cal. California Representative.

Why Not Credit Unions for Farmers?

"There should be provided a system of personal credit unions, especially for the benefit of individuals whose financial circumstances and scale of operations make it difficult for them to secure accommodations through the ordinary channels. Organized commercial banks make short-term loans of a great aggregate volume to farmers possessing the requisite individual credit, but there are many farmers who, because of their circumstances, are prevented from securing the accommodations they need. The men I have especially in mind are those whose operations are on a small scale and who are not in most cases intimately in touch with banking machinery who know too little about financial operations, and whose cases usually do not receive the affirmative attention and sympathy of the banker. Such farmers would be much benefited by membership in co-operative credit associations or unions."—David F. Houston, Secretary of Agriculture.

One of the greatest needs of farmers is short-time personal credit on reasonable terms. The Federal loan banks are taking good care of the land-mortgage requirements in many cases, but they are not always available for new settlers and for farmers who need personal loans to buy livestock, implements or other equipment. The need for short-time personal credit is shown as a result of an investigation by the Department of Agriculture in one section where it was found that 60 per cent of the farmers depend upon advances from merchants during the crop-producing season. Credit extended by merchants, commonly known as the advancing system, is usually exceedingly high. It is estimated that hundreds of millions of dollars would be saved by the farmers each year if the means already adopted in a number of communities were put into general use. The means referred to is that of properly organized rural credit unions.

In nine states laws have been enacted under which farmers may organize credit unions. These laws enable the farmers who are members to obtain loans on terms which compare favorably with those secured by the city business men.

The movement of surplus funds of the individual farmers has in general been toward the city, but rural unions encourages the retention of money made on the farm where it is most needed. In addition it tends to turn the current of urban capital toward rural districts, as outside credit is secured through regular credit channels, the banks.

The plan followed in North Carolina, where 18 strictly farmers' organizations are now in operation, should be of interest. A branch of the State government, known as the Division of Markets, has been charged with the work of encouraging the organization of credit unions among the farmers, and a superintendent gives practical assistance in their organizations and supervision of their activities.

Twelve or more persons in the community may organize a credit union, the first step being to sign an application for assistance, which is addressed to the Superintendent of Credit Unions. Under his direction a meeting is called for the purpose of arousing further interest and spreading information concerning the plans and purposes of the proposed organization. If the community is sufficiently interested an organization is formed, by-laws are adopted and five persons are selected for directions. A credit committee and a supervisory committee, each composed of three members, are also named. The cost of incorporation is limited to the notary fees and \$3 for the recording and filing of organization papers with the Division of Markets.

The board of directors appoints a bank committee to select some local institution through which the union does its business. The credit union is accorded treatment similar to that which one bank gives another. As a rule it receives 4 per cent interest on time deposits and 3 per cent on monthly balances, while it borrows from the bank at 5 per cent interest.

Each member buys one or more shares of stock at \$10 a share, and deposits with the union any idle cash that can be spared. The union also accepts deposits from non-members. Its operations are similar to a small scale bank, but it is able to operate at a minimum of expense since most of the overhead expenses of a regular bank are eliminated. The officers with the exception of the treasurer, receive no compensation. The treasurer, who is required to devote three or four hours a week to the business of the organization, usually receives a salary of about \$50 a year. The credit union thus becomes primarily a mutual society of borrowers and depositors operating under State law.

THINGS THAT DON'T PAY.

It doesn't pay to lose the services of a good man.

It doesn't pay to leave implements and harness out in the rain and sun. It doesn't pay to buy fertilizers and allow the farm-made manure to go to waste.

It doesn't pay to have fences out of order and disorder around the home and sheds.

It doesn't pay to turn cattle into corrals or fields where there is no shade.

It doesn't pay to feed poor stock. It doesn't pay to let good stock go short of feed.

It doesn't pay to have the home so short of proper equipment that wife and daughters have to slave to do the work.

It doesn't pay to subscribe to the Pacific Rural Press and not give thought and attention to the ideas it suggests.

CLAREMONT HERD GUERNSEYS

Represent the best blood lines of the breed. They combine big production and show type.

See them at the State Fair.

L. DEE SMITH, Proprietor

R. R. BERKELEY,

CALIFORNIA

START WITH GUERNSEYS

This is the breed to take up if you want to make the greatest possible profit from dairying. The Guernsey is noted for the most economical production of milk and butterfat, as well as the best flavored and highest natural colored products. In all impartial trials the Guernsey has shown greater returns for each dollar invested in feed than any other breed.

BEGIN WITH THE BEST

We believe that our herd cannot be surpassed anywhere in uniformity of type, health, breeding and production. Heretofore most of our cows have been held above price, but now, because of the rapid increase of our business along other lines, we are compelled to disperse this entire Guernsey herd.

100 HEAD AT PRIVATE SALE

Everything goes; not an animal reserved. There are 83 females of great production and promise; 17 males that are real herd headers. Twenty-one of the cows have Advanced Registry Official yearly records of from 500 to 800 pounds butterfat, and several more are now on test.

If you want show quality as well as heavy production, you will find them here. The herd includes the grand champion cow and the junior champion bull at the last San Francisco Show, and many young animals fit to win in the hottest competition. Will sell separately or in lots.



FEMALES OF GREAT PROMISE

While a good share of the mature females have been given records, they have not been forced, and there is not a cow in the herd that has shown her limit of production. Also many of the untested cows give promise of making even better records than the ones already tested.

BULLS FOR BREEDING UP

Guernsey bulls quickly build up grade herds. They are so prepotent that they stamp the breed characteristics upon their offspring to a marked degree, and soon you have profitable producers of quality products. We offer some royally bred young bulls that will quickly double the profits from your herd.

Your Opportunity—Act Quickly

The sales list is completed and we are ready to sell. Breeders know how difficult it has been to secure good Guernsey stock, and will jump at this chance. Don't put the matter off. If you want foundation stock for a registered herd, new blood for an established herd, exhibition stock for the fall shows, or a bull to breed up a grade herd, come at once and make your selection. If you can't call, write your wants fully. But don't delay.

Write for Price List. DO IT TODAY.

Palo Alto Stock Farm

Directors:
HERBERT FLEISHACKER, M. H. TICHENOR,
VICTOR KLINGER, C. F. HUNT,
J. C. MCKINSTRY.

M. H. TICHENOR, Pres.
Palo Alto, Calif.

What the Hog Furnishes Us

Written for Pacific Rural Press.

We often hear it said that packers use all of the hog but the squeal. But how many of us really know what all of the by-products are? The list is a long one, and it is interesting to know of the uses made of some of these products as told by Armour & Company in their booklet, "Progressive Hog Raising."

The packing business of fifty years ago was a very simple affair. Hogs were cheap. Pork, also, was cheap, but not so cheap as hogs, and the margin of profit was liberal. Hogs were slaughtered for carcass and lard, and the offal was thrown away. From that day to the present, however, by-products have been utilized in ever-growing proportions, and today packer's profits are almost wholly derived from the parts formerly thrown away.

Approximately 17 per cent of each carcass—exclusive of government condemnation—is lost in the form of moisture at various stages of dressing and by evaporation in processing and curing. About 60 per cent goes into the cuts.

Among the edible by-products of the hog may be mentioned pepsin, derived from hog stomachs; livers used in the manufacture of liver sausage; and neutral, a specially prepared lard, largely used as an ingredient of oleomargarine.

Lard proper is not commonly considered a by-product. It is one of the primary products. Nearly 15 per cent of the average hog goes into lard. Part of this lard is further processed into lard oil and lard stearin. The lard oil is used for illuminating purposes and as a lubricant. Stearin enters into the manufacture of chewing gum and soft candles.

Brains are produced in enormous quantities. They are the most perishable of all the by-products, but by artificial refrigeration they are saved in summer as well as in winter, packed in cans, frozen, and sold in all parts of the country.

Tongues lend themselves to the making of high-grade canned or pickled meats. Hearts are a valuable ingredient in sausage making. Tails, snouts and ears are rich in gelatin, or glue, and also are sold for boiling with kraut and other vegetables.

Kidneys are distributed in a canned or frozen condition. Milts, or spleen, are sold to the government and other agencies for maintaining fish hatcheries, and serve as a feed for growing

fishes. The "black" or curly intestines of the hog are carefully cleaned, processed, and made into chitterlings, an inexpensive food to be fried like oysters, much favored by colored people.

Stomachs are used as sausage containers, the lining being first removed and used as a sort of pepsin.

Something like 7 per cent of the weight of the hog is represented in inedible by-products in the raw state which are afterward manufactured into glue, soap, glycerine, blood meal, tankage, curled hair, and fertilizer material. In the finished state these products represent only about 4½ per cent of the weight of the hog.

Glycerine, a by-product of soap making, was in great demand during the war as an ingredient of nitroglycerine and other explosives. Glycerine itself possesses no explosive properties, but serves as a medium for powerful nitrates in much the same way as cotton serves in the manufacturing of gun-cotton.

Even the rinds from skinned hams and bacon, as well as the back skin of the hog, are utilized, pig skin leather being made from them.

Blood is used in small quantities in blood pudding. Some of it is dried and ground into blood meal, a valuable feed for poultry and livestock. Calves fed on skim-milk without blood meal are subject to scours. The great outlet for hog blood, however, is an ingredient of fertilizer.

Tankage, a bone and fiber residue from the rendering tanks, is valued chiefly as a hog and poultry feed, and finds a ready market.

The hair is curled for upholstering purposes. Hoofs are ground into hoof meal, a quick-acting fertilizer for florists, grape growers and others.

Every part of the hog is handled or processed in such a way as to bring a maximum of value. Even the waste waters from the packing plant are evaporated into a thick brown wax, known as "stick" because of its adhesive properties, and used in fertilizer for its high nitrogen content. The bone meal left after the extraction of glue from feet, tails, ears and miscellaneous bones, goes into fertilizer. It is also used in making phosphates for baking powders and other compounds. Bone ash is used in making crucibles for glass making, metal refining, etc. Bones are also burned to a charcoal for use in the purification of syrups in the manufacture of sugar.

Pig Tails with the Right Curl

Written for Pacific Rural Press.

Just as soon as pigs are strong enough to follow their mother get them out on pasture, if possible. Following the sow in the open is one of the safest treatments ever given pigs, and a sure preventative of thumps.

Begin feeding the pigs as soon as they will eat, giving them a little slop daily to supplement the sow's milk.

It is better to carry pigs looking a little thin, but lively and hungry, than to scour them by getting them over-fat, but if they have plenty of exercise there is little danger. They will eat heavily, but if properly fed the feed will go to make bone and muscle instead of fat. The pig that is a good grower is necessarily a good eater.

Keep pigs of one size together. If you don't, the smallest will not thrive. Push them all they will stand, and make them show good growth every day.

Feed at a regular time morning and evening. Pigs know when meal time comes, and are on hand at the established hour. If they have to wait too long they become impatient, lose their temper, and worry off a few pounds of flesh at your expense.

Educate yourself to know whether or not they are doing well. See that they are active, eating regularly, and gaining properly. If they do not clean up their feed promptly they are being over-fed, thus wasting feed and upsetting their digestion.

If pigs are trained to eat slop before they are weaned there will be no setback at weaning time, and they will develop into big pigs at an early age.

Never let yourself think that the weaned pig is raised. He still needs lots of attention besides proper feeding. Give him minerals, worm treatment, crude oil for lice—a fair chance to make a hog of himself.

Only a few breeders wait until after weaning to castrate cull boar pigs. Better do it a week or two before the sow and pigs are separated; then there won't be too much of a setback at one time.

The most profitable gains are made by the young pigs, and they should never be forced to live on pasture without grain. Give them at least two pounds of grain for each 100 pounds of body weight. It will pay.

Look out for wet bedding. It causes scours and other ailments, and a waste of feed and a loss of pigs is the result.

One of the cheapest necessities for the growth and development of the pigs is water. They should have access to it at all times. They need a great deal during the hot months. Plenty of water and pasture cheapens the feed cost.

If the hogs are on soft ground, watch their feet and trim them if the toes grow out too long, or you will have them down on their pasterns when there is no need of it.

Look Out

—for—

Winsor Ranch DUROCS

SEE THEM AT THE STATE FAIR

We are breeding the Largest Sows in the West to

Winsor Giant Orion

By the World's Champion, ORION CHERRY KING, JR.

Winsor's Giant Orion is 82 inches from between eyes to root of tail, 40 inches high, and weighs 965 pounds.

FRED DE VORE SAYS: "I tried to buy Winsor's Giant Orion for Ed Kern's own use before I learned you had an option on him."

Winsor's Giant Orion is assisted by

Great Model

The most popular sire on the coast.

Great Sensation III

The largest-boned fall boar in the world. He is by Great

Sensation and the \$5,000 world's record sow, Uneeda Lady.

BRED GILTS FOR SALE.

Also a few real herd boar prospects by Top Sensation and Great Model.

Winsor Ranch

Address R. K. Walker, Bonita, San Diego Co., California.

Greenwood Durocs

Herd Headed by the Great Young Boar

Johnson's Defender, Jr.

SIRE—Johnson's Defender, Junior Champion and Reserve Grand Champion at California State Fair, 1917.

DAM—Cherry Chief Lady, Grand Champion State Fair 1917.

Both selected and shipped west by Fred De Vore.

JOHNSON'S DEFENDER, JR., is being mated to a choice herd of sows, daughters and granddaughters of such boars as KING THE COL., COL. PROTECTION, MODEL COL., KING'S COL., KING OF ORIONS, BURKE'S GOOD ENUFF, LONG WONDER MODEL, CRIMSON MONARCH 2ND, CHIEF'S COL. JR., MODEL'S CRIMSON WONDER.

JOHNSON'S DEFENDER JR. is siring a uniform lot of long, stretchy, smooth pigs of the correct type. See some of his get at the State Fair, or, better, see them at the farm on highway, 8 miles north of Marysville. Write us when you want real good Durocs. Herd cholera immune.

Greenwood Farm

Witherow and Stafford, Props.

LIVE OAK,

R. F. D. 1,

Sutter Co., Cal.

In the Swine Word

Written for Pacific Rural Press.

H. C. Shinn of Tulare has a great young Poland-China boar pig by Bidges' Bob Wonder that already measures 26 inches high and 42 inches long.

H. D. McCune, Lemoore, has sold 2 Poland-China bred gilts to L. J. Woodhead of Stratford; also a daughter of Massive Orange bred to McCune's Buster. Mr. McCune has a litter out of Surprise Prospect that certainly is great. One of the boars weighed 70 pounds when 82 days old.

E. D. Elliott of Strathmore has made fine start in the purebred Duroc business by securing two bred gilts from R. C. Sturgeon of Tulare. At the same time he took home one of Sturgeon's fine young Holstein bulls.

E. S. Myers of Riverdale is mourning over the loss of his herd boar President Jr., who died recently from heat. To take his place Mr. Myers has purchased from John Bernstein the young Eastern Poland-China boar, Big Square Jumbo's Equal, from the famous Meharry herd of Tonolo, Ill. We all know what Big Square Jumbo is doing for Meharry and Mr. Myers expects this young boar to do as much for him.

Until 2 months ago R. C. Sturgeon of Tulare was in the habit of feeding rolled barley dry to his hogs, but after this it is always to be fed moist. He says that it did not take long for the smaller pigs to show that they liked the change and although the grown hogs may not show any difference, the moistened barley is evidently better for them too. If the small pigs continue to show the benefits of the change of feed until they are mature they will be wonders, because their parents are top stuff as it is. The barley for evening feeding is put to soak at noon, that for the morning feeding in the evening. Then after milking, the separated milk from the registered Holstein herd is mixed with the moistened barley and the whole thing fed as a slop.

Hog shipments from Kings county have amounted to more than 400 car-

loads during the last year and recent prices have reached the same figures as those paid in Chicago on the same dates. The 30,150 hogs shipped during the year brought the breeders approximately \$1,005,000, and the amounts received for registered animals would swell this figure greatly. The one shipment of 1,200 head made from Hanford still remains the largest ever made at one time by any county in the State. Kings county certainly has a secure place on the map as the swine county of the State.

HOW PIGS ARE LOST.

That the heaviest losses of young pigs are largely preventable by proper housing arrangements and care of the sow before farrowing, is proved by the list of percentages in the following table, which is the summary of data secured from 192 farms in Illinois.

	Per Cent.
Overlaid by sows	29.13
Farrowed weak	22.34
Farrowed dead	15.88
Killed	10.09
Eaten by sows	4.59
Aborted	4.55
Scours	3.43
Thumps	1.78
Necrobacillosis	1.56
Cholera	1.01
Miscellaneous	5.64

Have you put up guard rails in your farrowing pens? If not, better get busy. No need of your losing 29 per cent of your pigs when 2x4 scantlings placed 8 inches from the floor and 6 or 8 inches from the walls will almost entirely prevent over-laying.

For fencing off a portion of a field in pasturing hogs temporarily, use 32-inch or 36-inch woven wire stretched and tacked to stakes driven in the ground. Well-fed hogs are easily kept in place, but underfed ones will require more substantial fencing.

Pino Vista Durocs

Easy keepers, quick developers, large litters. The best blood lines in our herd. Bred sows and gilts, and weanlings of both sexes for sale.

Satisfaction guaranteed.

Pino Vista Ranch

H. C. BAUM,

PLACERVILLE, CAL.

IF YOU ARE LOOKING



for size, combined with quality and finish, you cannot afford to overlook getting some of this boar's stock.

My sows are strong in the Colonel and Defender lines, combined with Orion blood. Size and quality are essential. I will not tolerate anything but economical feeders.

Inquiries invited.

Visitors welcome.

CALIFORNIA ORION KING.
His sire is by Orion Cherry King.
His dam is by Joe Orion 2d.

Harvey M. Berglund
Dixon California

H. P. SLOCUM

CLAYTON N. SLOCUM

Uneeda Glenn County Herd

—of—

Duroc-Jersey Hogs

Key Herd of the Pacific Coast

Produced More Champions Bred by Exhibitor at California and Oregon State Fairs than any other herd on the Pacific Coast in 1918.



UNEEDA QUEEN MODEL,
Grand Champion State Fair, 1918.

Get This Royal Breeding

The Males

Outstanding individuals and prepotent breeders of King's Colonel, Defender, Orion Cherry King and Sensation breeding.

The Females

Prolific brood sows carrying the blood of the Golden Models, Crimson Wonders and Barker's Premier Gano.

The Combination

A herd of unsurpassed quality, combined with great size, heavy bone and plenty of stretch. The best-footed herd on the Coast.

H. P. Slocum & Son
Willows, California

Glenn County for Durocs

Showings of Swine

Written for Pacific Rural Press.

A. D. McCarty of San Francisco, who used to make such a cleanup with his Yorkshires from Riverina Farm, Modesto, will show Poland-Chinas for the first time this year and will have a great herd of 21 head filling nearly all classes. This will include his great senior yearling boar, King Jones Over.

Shinn & Elliott of Tulare have a great lot of Poland-Chinas, and they should make a very successful round of the fall shows. They have some excellent Eastern stock, as well as California bred stuff, that cannot help but attract attention.

Another one of the young breeders who has "shed his hat into the ring" this fall is J. H. Cook of Paradise. He has been interested in the registered hog business for a long while and has some dandies. So look out for the "pigs from Paradise."

Langhorst Bros. of Lodi are among the new breeders who will enter Poland-Chinas for exhibition at the State Fair this year. Their herd sire, Golden State King, is a great breeder and many of his get will be shown at the fall shows both east and west.

Eugene Miner of Lodi is keeping his herd strictly fashionable in type and breeding. His senior herd sire is now to be followed by California Big Bone Bob, a great junior yearling. These boars, with such sows as Molly Giantess and a number of younger sows of equal merit, cannot help but produce what breeders are looking for these days.

N. K. Horan of Lockeford will show a few Poland-Chinas of great substance and quality. This herd is strong in the blood of Big Bone Bob and Major Hadley Wonder, two of the great sires of this breed in California.

Among the veteran Poland-China breeders of California who can always be counted upon for an exhibit at the State Fair is W. A. Young of Lodi, and this year is no exception, as he expects to be there early with 37 head. From boars down to junior pigs he will have representatives in nearly all classes. If we judge the future by the past Mr. Young's entries will be formidable competitors, and it will be found that Mr. Young has not been "asleep at the switch" when the judge inspects the Poland-China classes.

With a bunch of 14 classy tops from his Poland-China herd, J. F. Lehman of Lodi will be at the State Fair this year. Among the young boars that he will show will be several full brothers of the "Big 10 Litter" shown by Mr. Lehman last year that caused so much favorable comment.

J. W. Wakefield of Acampo has entered 19 from his Poland-China herd that well might be termed Wakefield's Wonders, they are so good from the viewpoints of size and quality. One of the young boars that Mr. Wakefield will show, sired by Big Bone Bob, is a very smooth youngster and weighed 180 pounds at 5 months and 6 days old.

Rancho Del Sur of Lancaster, Donald Graham, proprietor, is coming up from the south with his great herd boar Orion King Gano and a lot of females just as good to make a bid for first honors at the State Fair. Mr. Graham has an excellent herd and will no doubt take his share of the ribbons back with him.

DUROC GILTS

Orion, Long Wonder and Volunteer Breeding.

Also young pigs by a son of Johnson's Defender. For prices and particulars write

GUY H. MILLER

E. 1., Modesto, Calif.

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM.

P. O. Box 177, Lancaster, Cal.

Harvey M. Berglund, Duroc-Jersey breeder of Dixon, will be in the ring with 18 of his red beauties that are bred, fed and finished just about right from the fashionable viewpoint. Mr. Berglund recently purchased the entire herd of Fred M. Johnson of Napa, which gives him a larger number of tops to draw on for exhibition and breeding purposes.

Gardiner Ranch of Sacramento will make a small showing of 6 head, but they will make up in quality what they lack in numbers and surely will be heard from.

The Winsor ranch herd of Durocs, Bonita, will be shown at Sacramento, San Diego, Riverside and Los Angeles this fall and will prove one of the attractions of the swine exhibits.

W. F. Sandercock of Sacramento will be the largest exhibitor of Berkshires, having entered 26 head, most of which are daughters of Baron Duke 201st. Mr. Sandercock has his stock in fine shape and expects to win his share of the awards.

It does not seem to make much difference what age the Chester Whites bred by C. B. Cunningham of Mills may be; they may rightly be termed Billiken boosters, for the blood of this great boar shows very strong in the herd and with their strains have almost made a new Chester White that finishes at any age and still retains its prolificacy and constitution. Mr. Cunningham will have a large showing at the State Fair.

When you get tired of looking at hogs take a walk over to the Calco Farm exhibit of the California Corrugated Culvert Company and see some up-to-date metal hog troughs, watering tanks and automatic grain feeders. They are time and money savers.

WINSOR RANCH MAKES LARGE DUROC IMPORTATION.

The Winsor Ranch, Bonita, has just made one of the largest importations of registered Duroc-Jersey hogs ever brought to the Pacific Coast. R. K. Walker has spent the last six weeks in the East and traveled over ten thousand miles hunting for the finest specimens of the breed. The fact that he paid as high as \$800 for sows and \$2,000 for one under-year boar speaks well for the class of stock he secured.

The purchase includes 85 sows and gilts and two boars. Eighty of the gilts—real brood sow prospects in both breeding and individuality—will be bred to three Winsor Ranch herd boars, Great Model, Great Sensation 3rd, and Winsor Giant Orion. The latter, one of the new boars just purchased, is the sort the Duroc breeders have been trying to produce—of tremendous size, but absolutely smooth, deep and showing exceptional feeding qualities. He is 82 inches long, 40 inches high, and weighs 965 pounds. Great Sensation 3rd, a fall boar, has a 9-inch bone, and is 65 inches long and 36 inches high already. He is by Great Sensation, out of the \$5,000 Uneeda Lady. Some swell breeding.

BOAR DON'TS.

Don't let boar pigs run with gilts after they are four months.

Don't grow a boar for a herd header with a lot of others. He'll not get the individual care he should have.

Don't stuff a boar pig at any time. Give him good feed, but make him clean it up at once—not any time before the next meal.

Don't let him gain over a pound and a half a day. And make this growth, not fat. Plenty of protein will do the trick.

Don't let him rant. A fence walker never makes a good herd boar.

Don't get in the habit of scratching the boar's back. He likes it and he humbly lowers his back as a petition for more rubbing. The first thing you know he has formed this habit of dropping his back, which spoils his looks and lowers his value in the eyes of a pure-bred breeder. It disqualifies him for the best hog society, arched back."

Grape Wild Farm

BERKSHIRES

GUERNSEYS

At present we have no Guernseys for sale except some

Young Bulls

up to nine months of age.

In Berkshires we can offer only

Young Boars and Gilts

of Spring farrow. Most of these are sired by **BIG LEADER**, the greatest son of Grand Leader 2nd, World's Fair Grand Champion.

All of our younger entries at the **COMING STATE FAIR** are sired by this boar.

We invite the public to look up our herd of **GUERNSEY CATTLE** and **BERKSHIRE HOGS** while at the State Fair—opening this year on August 30th.

A. B. Humphrey, Prop.

ESCALON, San Joaquin Co, Cal.

Butte City Ranch

SHORTHORNS, BERKSHIRES
SHROPSHIRE AND PONIES

Our cattle, hogs, sheep and ponies are grown under natural conditions—are not pampered. They make good for those who buy them. We have bought the best for foundation stock, and select breeders with great care.

If you are in the market for stock of the breeds we raise, it will pay you to write for descriptions and prices before buying.

Butte City Ranch

BUTTE CITY,

Glenn Co.,

CALIFORNIA

W. P. Dwyer and W. S. Guilford, Owners

RUSSEL ORION BOY

No. 265993

This boar runs in the blood of such pigs as Brown's Orion, No. 126677, Chief Col., No. 22875, and the Lucy Wonder family on his sire's side; Colonel S. E. 126361, Gladys X. L., No. 263328, on his dam's. Watch his get at State Fair this year. JACK BORGE, Owner. Dos Palos, Cal.



Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER

GARDINER'S KING-COL.

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH
ROUTE 4, BOX 735. SACRAMENTO, CAL.

PLAN TO ATTEND THE LOS ANGELES LIVESTOCK SHOW.

In presenting the premium list of the Second Annual Livestock Show to be held in Southern California, the directors of this enterprise wish to assure exhibitors, breeders and the public that no effort has been spared to make the display one that shall reflect the best in every phase of the farm stock industry. While Southern California offers various advantages in breeding, it has not been until recent years that systematic, coordinated effort has been made to bring its herds to the high standards set by the older communities of the Nation. It is believed that the second annual show will demonstrate conclusively that a wonderful beginning has been made toward bringing Southern California stock to the highest class—to make it rank with the horticultural and agricultural products of this section.

Our shows are co-operative enterprises, designated to stimulate breeders to better efforts and to educate the people at large to the full meaning conveyed by the word "thoroughbred." We trust that exhibitors and the public will meet us in the same spirit and with equal enthusiasm for the cause.

Board of Directors, Los Angeles Livestock Show,
C. R. THOMAS, Manager.

New Light on Worms in Pigs

Recent researches into the life history of the common round worm in pigs has brought to light knowledge which should be of great interest not only to hogmen, but to people generally. Wallace's Farmer. It seems that the round worm which infests pigs may also infest children, and that rats sometimes act as carriers. More astounding yet, it appears that pneumonia, thumps and similar lung troubles in young pigs, and possibly oftentimes in children as well, may be due to this parasite.

For most up to date information is to B. H. Ransom, of the U. S. Department of Agriculture. He has the worm eggs as they are excreted in large numbers in hog manure, to rats, mice, guinea pigs, rabbits, pigs and lambs. In every case except that of the older hogs, the eggs seemed to hatch in the intestines into microscopic worms less than one twenty-fifth of an inch in length, and these minute worms then follow their way through the intestinal tract soon reaching the lungs and causing pneumonia. In pigs the symptoms often seem to be identical with those of thumps. At this stage of the disease, many of the animals were killed and carefully examined. The microscopic worms were found in large numbers not only in the lungs but also in the trachea, esophagus and stomach. Further study indicated that in rats, mice, guinea pigs and rabbits these microscopic worms passed from the lungs back into the intestines again and out with the manure. In the case of pigs, sheep and human beings, however, these microscopic worms go from the lungs to the intestines and grow into typical worms several inches in length. At this stage they lay more eggs, which pass out with the manure. The eggs are extremely long lived.

Ransom states that in laboratory experiments they have been stored for years and still have retained their vitality to cause infection. The microscopic worms, which may be given off in the manure of rats, mice, etc., do retain their vitality very long, and it is thought that ordinarily the infection is by way of worm eggs passed out with the pig manure rather than with microscopic worms passing with rat or mouse manure.

It is not definitely known that all pneumonia and thumps in pigs is caused by the microscopic form of the round worm when it migrates to the lungs, but preliminary investigation indicates that a great many cases are due to this cause. It is interesting to know that young pigs are very susceptible to infection, whereas older pigs are practically immune. It is believed that the young pigs are particularly infected by the dirt clinging to the sow's udder. It seems to be a fact, therefore, to keep the nursing sows as clean as possible, and to have clean pasture free from holes or in buildings with cement floors that can be cleaned out frequently and thoroughly.

Another point to be kept in mind is that the worm eggs may live for a number of years, standing winter cold and summer drouth. The mere fact of hogs having been on the place one time is no insurance against infection unless the premises

have been very thoroughly cleaned and the lot deeply plowed.

After the round worms reach their adult form in the intestines, the stage with which most of us are familiar, they may be dislodged by any one of a number of proprietary worm remedies. The standard home-made preparation is calomel and santonin, at the rate of 5 grains of calomel and 7 grains of santonin per hundred pounds of pig weight. In view of the fact that the lung trouble so often caused by the microscopic, immature worms is fully as serious as the intestinal trouble caused by the adult worms, it would seem the part of wisdom not to rely altogether on curative measures, but to take sanitary steps to reduce the number of worm eggs around the lots, buildings and hog wallows. Precautions of this sort would seem to be doubly worth while in view of the fact that this parasite may also infect children.

BURY DEAD ANIMALS.

The carcasses of animals which have succumbed to infectious diseases like anthrax, hog cholera, blackleg, tuberculosis, etc., are charged with myriads of virulent disease germs, and just as long as they remain where animal scavengers can reach them and portions of them can be carried away promiscuously, they are a dangerous menace. Even carcasses of animals which have died from other causes than infectious diseases, unless they are disposed of in a proper way, are a source of danger. Left on the surface of the ground, their odor soon invites scavengers to congregate and to bring with them the infectious material with which they may have become contaminated by eating carion elsewhere.

Dead animals on the farm should be buried deep enough to prevent them from being dug up again, or they should be burned. To burn large carcasses like those of dead horses and cattle is difficult and laborious and requires a large quantity of fuel. In most instances it is most economical to bury them. All animals which have died from infectious diseases and are buried should be covered with a heavy layer of lime before the graves are closed.

Everywhere farmers not only should attend to the safe disposal of their own animals which unfortunately die, but they should insist on the proper disposal of the bodies of all animals which die anywhere in the regions in which their farms are located.

The healthy, vigorous pig is armed to defend himself against attack of disease and repulse it. Therefore keep him in vigorous health for profitable growth and to escape disease.

Rural Press Takes Place of Farm Advisor.

Enclosed find check to renew our subscription for three years. I am comparatively new at the farming game and cannot succeed without the Rural Press. It is very helpful. We have no farm advisor in our county at present, but your paper takes the place of one.—H. G. Merrill, Paso Robles.

MONTELENA HERD —OF LARGE— YORKSHIRES



LAKE PARK KING 25211

Grand Champion Boar—California State Fair, 1917.

Due to the ever-increasing popularity of the breed, Yorkshire breeders are almost entirely sold out, and it would behoove the prospective purchaser to place his order soon.

We are only able to offer at the present time a very exceptional lot of fall pigs, some sired by "Lake Park King," others by "Montelena Prince 2d." They are out of such sows as "Deer Creek Nena 8th," present Grand Champion sow of the State, who has averaged a fraction over 17 pigs per litter for nine consecutive litters; "Riverina Nena 9th," one of her best daughters, and "Lake Park Lady Frost 291st," the top sow at the Thomas H. Canfield sale last year.

We solicit your correspondence.

A. L. TUBBS CO.
CALISTOGA CALIFORNIA

LLOYTON HERD REGISTERED YORKSHIRES

DO YOU KNOW

That the Yorkshire Hog produces more pounds of growth for feed consumed than any other? That the Yorkshire is more prolific, hardy, and prepotent than our native breeds?

We have some choice gilts, open and bred.

GREAT MONEY-MAKERS.

LLOYD & TOINTON,

R. F. D. No. 1, Box 402, SANTA ROSA, CALIFORNIA
San Francisco Address: P. O. Box 2250

Hampshire Swine

We are offering three fine boars, whose direct ancestors were of such correct conformation that they won Grand Championship honors. These three boars are long, deep, with well-arched backs and strong, heavy bone—they are a credit to the grand champion blood that produced them.

GENERAL ALLEN'S COUNTERPART 64733. Sire General Allen 1061 (the undefeated Grand Champion). Dam, a daughter of High Roller 5279 (a Grand Champion boar). General Allen is now dead, so this is probably the last opportunity to get one of his sons.

DRAPER LADDO 69927. His sire Draper Lad, both grand sires and all four of his great grandsires were grand champions. In this boar is combined the blood of Hawkeye Lad (the greatest son of Cherokee Lad). General Tipton (Grand Champion from New York to Missouri) and Lookout (the \$5000 son of Blythedale Jim).

TIPTON SENATOR. Sired by Young Senator (Grand Champion), who was by The Senator (Grand Champion). His dam was Tipton's Missle (Grand Champion), she by General Tipton (Grand Champion).

A few big roomy arch-backed sows and gilts of choice breeding for sale. They are bred for October and November litters.

Weanling pigs of Good Type and Richly Bred.

For full information, in regard to these animals, write to

THOMAS T. DINSMORE, Manager.

Better yet, visit the ranch and see the animals themselves.

O. U. R.

ORTEGA UNDERHILL RANCHO, Santa Barbara, Cal.
Francis T. Underhill, Prop. Thos. T. Dinsmore, Mgr.

Along the California Livestock Trail

[Written for Pacific Rural Press by Thos. F. McConnell.]

Charnock Feeding Methods.

Some successful swine raisers say that they can't grow hogs well unless they slop them, but Chas. H. Tyler, manager of Charnock Ranch at Hemet, is a firm believer in dry feed and all of the Duroc-Jerseys at this ranch receive concentrates in dry form. Plenty of clean, fresh water is accessible at all times in covered troughs with only drinking space open. Cement feeding floors are used so that waste of feed is reduced to the minimum.

There are dirt floors in the farrowing pens and Mr. Tyler claims that if a sow is taken with milk fever the removing of the old earth and replacing it with fresh wet earth so as to form a mud bath, will quickly cure such a case. The pens are cleaned regularly and the dirt floors are sprinkled lightly with crude oil on the top of which bedding is used.

At present the ranch is carrying 700 head of Durocs, but registration is kept up on only the best of the females, and only a very few of the males escape the knife. From the senior herd sire, Cherry Friend, down to the smallest suckling pig, great size and excellent quality predominate.

Cook Had to be Shown.

It is interesting to know that very many of our breeders of registered livestock have first thought that grade animals were "just as good" and that the registered stuff was a fad to be indulged in by a few who wanted a hobby to ride.

Among such is J. H. Cook, the Poland-China breeder of Paradise, who first started as a boy in a small way with a cheap pig or two at a time of no particular breed. After a rather long feeding period the pig or pigs would be sold and a margin of profit was made possible by the low first cost. However, Mr. Cook, being a reader of the Pacific Rural Press, had noticed an advertisement of a local breeder of Poland-Chinas and mentioned his longings to his mother, who, being a lady of unusual foresight, encouraged her son so much that he commissioned her to buy him two pigs at this breeder's on her next trip to Chico. So upon Mrs. Cook's return she brought two weanling Poland-Chinas, but when the price of \$45 for the two was mentioned the young breeder, who had been paying from \$2 to \$3 apiece for grade pigs, was in the depths of despair by this load of debt.

After thinking it over, however, he concluded to try them out and put them in a pen with a few grade pigs. Much to his surprise and gratification the pure-bred pigs rapidly left the grades behind in growth. The difference was so marked that he thought the pure-breeds must be robbing the others and separated them, but the difference still existed; in fact, was more marked after separation than before.

Mr. Cook gives the Pacific Rural Press credit for getting him started on the right road in the pig game, both through its reading columns and its

SWINELAND FARMS

Tamworths and Durocs

The two great breeds of swine. Tamworths are the greatest bacon hog in the world today. They are the largest breed, combining great length and depth with exceptionally strong backs. The best gleaners and grazers of grain fields. The hams and bacon have a very large percentage of lean, juicy, sweet-flavored meat and bring a premium over the same meats of other breeds.

W. O. PEARSON,
Woodland, Calif.

Ranch 2 miles west and south of Yolo.

advertisements of high-class stock.

Polands at Peake's.

The last of the grade Poland-Chinas at the ranch of H. B. Peake, near Riverside, have been sold to make room for the increase of registered stock. The blood lines of these animals represent the best herds of California and the corn belt, and included in the pedigrees are found the names of Blue Valley, I. B. A. Wonder, Superba and Big Orange.

Three herd sires of the popular big type indicate progress. The senior sire, Greenfield's Special, shows his Superba breeding in size, vigor and prepotency. Peake's Blue Valley Model, who is just coming into service, ought to leave a good lot of stock, and H. B. Superior Giant, a line-bred boar sired by Superba, promises to become a corker. Mr. Peake will show at the Riverside Fair and has a litter from Greenfield's Big Sis 2nd that will furnish lively competition in the futurity classes.

Durocs at McMillan's.

Ray McMillan of Ethanac certainly has some dandy good Durocs and lots of them. The herd sire is Crescent Prince by Great Pathfinder, out of a Prince Albert sow.

Mr. McMillan feeds his hogs alfalfa and grain, and supplements the grain ration with a small amount of prepared buttermilk which he likes very much. Mr. McMillan is new in this State. He has raised Durocs for years back in Iowa and he brought his herd with him, so we really have a whole Eastern herd transplanted to California.

Durocs' Delight.

The above ought to be the name of the ranch of F. D. Burr Co., located at Orland, for Mr. Burr and his herdsman, Mr. Jerome, aim to make things as comfortable and sanitary for their hogs as possible. The latest addition is a cement-lined irrigation ditch that forms the division between the alfalfa pasture and the various feed lots. It certainly is a plunge de luxe for the happy Durocs. This ditch is large enough for all of the 300 hogs and pigs to bathe at once. Fresh water is passed through the ditch at least once every 4 days and it is so built that about 10 inches of water remains in the bottom for wallowing when the water is not running.

Mr. Burr purchased a gilt at the last Tulare Duroc-Jersey sale, bred by Joe Chinoweth of Visalia, that is a beauty and is of the type that gives excellent results for the feed consumed. However, she is not the only good one in the herd, as there are 250 spring pigs that are a great lot of youngsters, hard to beat as a whole or individually.

Hollingshead Herd Headers.

With the exception of tankage, Hollingshead & Sons of Orland raise all the feed for their Duroc-Jerseys. Ground barley and milo maize, with alfalfa pasture, make an ideal ration in combination with a small amount of tankage. In order to make up for the lack of alfalfa at present they are trying cow pea pasture in a small way. The grain is fed in the form of a slop twice a day, with plenty of water to drink.

Their senior herd boar, Sammy King's Col., traces back to King's Col. and Golden Model on the sire's side, and to Cherry King Orion on the dam's side. He is fully as good an individual as his breeding warrants and gets fine pigs. Along with this boar is a line-bred Defender boar that will be a year old in September and promises great things as a sire if he reproduces himself reasonably well.

Hog Husbandry at Rancho Del Sur.

Donald Graham, proprietor of the above named ranch at Lancaster, likes to use a self-feeder for certain phases of his swine business, but he found that the wind and birds get more of the feed than the hogs. In order to overcome this he had the students of the manual training department of the Lancaster High School make a self-feeder after a design of his own that is a pronounced success. This feeder

The Hampshire Hog

The Hampshire has become America's most popular hog by sheer force of merit. At the 1918 International he won Grand Championship over all other breeds, and sold for \$2.25 per hundred above his nearest competitor. And when it comes to high dressing percentages the Hampshire is in a class by himself. The picture below tells the story.



Chilled Fat.
300 POUNDS.

Chilled Lean
129 1/2 POUNDS.

Chilled Bone
29 1/2 POUNDS.



IDEAL FOR CALIFORNIA CONDITIONS

The Hampshire is a natural foraging, green feed hog, and thrives particularly well on California's alfalfa and other succulent grasses, therefore requiring less grain than other breeds. Send for free information about the progress of the breed and its adaptability to California conditions.

AMERICAN HAMPSHIRE RECORD ASSOCIATION.
E. C. STONE, Secretary. PEORIA, ILL.

LLANO VISTA HERD Champion Hampshire Swine

Pure-bred Prize Winners

You will eventually buy and make big profits.



JUDITH,
No. 126448.

Sire,
California Lad
45021

Dam,
Mabel
113078

Every animal in our herd is a Champion or their sires or dams have been Champions at some of the leading Expositions of the United States.

Boars and Sows of all ages for sale at all times.

F. V. GORDON,
Owner

Perris,
Riverside County,
California

F. A. LANGDON,
Manager

has the ordinary arrangement of hopper with adjustable feed slot at bottom opening into a shallow tray or trough that extends horizontally, so as to meet a perpendicular line dropped from the upper outward edge of the feed hopper. From this edge are hung on hinges and opening inward a system of doors extending from one end to the other of the feeder. When the hogs are not feeding these doors rest at the bottom against the outer

prevent litter, wind or birds from disturbing the contents of the feeder. When the hog wishes to eat he comes up and simply pushes in on the lower end of the swinging door and at once has full access to the feed.

If you are dehorning any calves or cattle this season, be sure you do not allow the flies to deposit their eggs in the wound. Use a protection of some kind—either a covering or a

Keep the Hogs Cool

Written for Pacific Rural Press.

Every time a hog gets too hot he pants away a good lot of meat. And a hog gets hot very easily. During the summer special care should be taken to have the hog quarters well shaded. If no natural shade is available a very good shelter can be made of boughs placed about 4 feet high, or if there are no trees from which boughs can be cut, make a framework and cover it with straw. If there are several fields in a row such a framework can be built over a dividing fence, using the fence for a center prop and having half of the shelter on one side of the fence and half on the other, thus protecting the hogs in two fields with one shelter.

All hog raisers know the value of fresh, clean water for their animals to drink during the hot weather, but here is a difference of opinion as to the value of wallows. Some breeders have concrete wallows, others merely provide shade and fresh water to drink and claim that wallows are not necessary. Experiments are being carried out at the experiment farm of the Department of Agriculture at Beltsville, Md., to determine whether or not a good "swimmin' hole" reduces feed bills. At present there is no concrete wallow with a covered frame from which it provides shade. It has been noticed that during the heat of the day the hogs do not get in the water, but prefer to lie around the edge of the pool in the shade. Another pool has just been built in an adjacent hog lot, but the shade will be provided several yards away. Hogs are to be kept in both lots and it will be noted whether they prefer to get in the water or lie in the shade during the heated part of the day. Weights will be kept to see which lot of animals makes the most economical gains.

Probably the majority of California breeders favor wallows, but wallows should not be allowed unless they are

kept sanitary. A permanent mud wallow with stagnant water is a great breeding place for disease germs and will do more harm than good. Better no wallow at all than a filthy one.

SUCCESS SECRETS FOR SWINEMEN.

Cultivate an interest in your hogs and give them more than passing attention.

Careless methods cause failure even though royal blooded stock is selected. In fact, blood lines mean nothing without good care.

Kind treatment causes contented, gentle, docile hogs. The hogs are responsive, and return your kindness in like kind.

The breeder who cares for five brood sows in the best shape with right feed and exercise, will make more money than the one with ten brood sows neglected or improperly handled and fed. The man who is a poor feeder can never become a successful breeder.

Pure-bred breeders have had it proved that immunizing against cholera not only saves the herd, but adds many dollars to the selling value of the hogs. Buyers for hogs not immunized are limited nowadays.

HAMPSHIRE BREEDERS ORGANIZE.

The Hampshire breeders of this State are determined to put their hogs to the front in a big way and are willing to pay the price. This was proved at the get-together meeting held at the Underhill sale at Santa Barbara, August 6, when it was proposed to make the dues of the California Hampshire Swine Breeders' Association \$1 per year. The plan was ridiculed; the fee was set at \$5, and the way the money was shelled out by the dozens of breeders who joined shows what may be expected when the funds are used along promotion lines.

The officers elected were: F. V. Gordon, Los Angeles, president; Francis T. Underhill of Santa Barbara, L. A. Denker of Sangus, H. Braly of Los Angeles, W. S. Morton of Gardena, and F. J. Costello of Los Altos, vice-presidents, and C. J. Gilbert of Lancaster, secretary-treasurer. These officers will form the executive committee.

It was decided to hold a banquet at Los Angeles October 20 during the Livestock Show, and to have a special show of Hampshire hogs on the 21st. Keep your eyes on this live bunch. Or, perhaps, we should say, keep your lamps on the Hamps.

POLAND-CHINA BREEDERS—GET BUSY!

Here is a chance to develop foreign trade. The acting director of agriculture at Manila, Philippine Islands, sends to the Poland-China Journal a list of swine breeders in the Philippine Islands who are prospective purchasers. But why should they buy from corn-belt breeders when they can secure just as good stock here in California and save the cost of expressage half-way across the continent? California breeders should get after these prospects with some forceful business-bringing letters. The list is as follows: W. C. Hart, Camp Stotsbug Angeles, Pampanga, P. I.; Alfonso Tuason, Bureau of Agriculture, Manila, P. I.; Charles Mitschek, Trinidad Stock Farm, Baguido, Mt. Province, P. I.; Carlos X. Burgos, Alabang Stock Farm, Alabang, Rizal, P. I.; Dr. Vincente Ferriols, Bureau of Agriculture, Manila, P. I.; Dr. Frank C. Gearhart, Sta. Mesa Dairy Farm, Manila, P. I.

To drive hogs, use a piece of garden hose eighteen inches long, mounted on a twelve-inch length of broom handle. This smarts when applied, makes a noise, does not bruise or injure the hogs, and is much better than a whip or stick.

OAK KNOLL Chester Whites

The Breed Progressive Farmers Want

Large Litters--Quick Maturity Easy Feeders--Top Prices

AT the Chicago International, 1918, this breed again won over all breeds on carcass tests. Either straight bred or crosses, the Chester White has for six years proven superior to all other breeds in Open Competition at these Internationals.

We have the Largest Herd on the Pacific Coast
The Finest Blood Lines in America



HIGHLANDER—The Boar You Can't Forget.

This great boar is at the head of our big herd of over 100 mammoth brood sows. He is a son of William A. and Our Maid 3rd, both undefeated Grand Champions at three International Shows. He embodies all your ideas of a perfect boar, and stamps his pigs with his superior qualities.

This is the blood you need to insure your success. A wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs. Prices reasonable. Write us your wants.

OAK KNOLL FARM
Lakeport, Calif.

San Francisco Office

601 Balboa Bldg.



The Billiken Herd
OF
Chester Whites

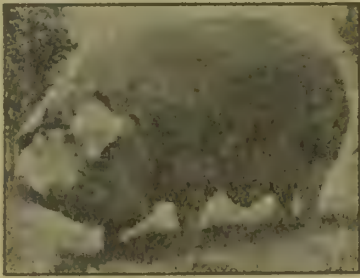
Easy feeders, very prolific breeders, finish at any age, dress the highest percentage. They have strong bone without coarseness, and the best of disposition.

See my herd at the State Fair and do not miss seeing the 3 barrows included in my exhibit.

C. B. Cunningham
MILLS,

SACRAMENTO CO., CALIFORNIA.

Lakeside Stock Farm Big-Type Poland-Chinas



MATCHLESS BIG BOB
284639

This herd headed by Matchless Big Bob and Lakeside Defender. These sires are of the type and breeding that are so popular today.

Young stock from these boars and sows of A Wonder, Chief Defender's Choice and Major Hadley Wonder breeding, on exhibition at the State Fair and other fall shows. Also a great consignment at the San Joaquin County Poland-China Breeders' Sale on September 19th at Lodi.

Inquiries cheerfully answered and visitors always welcome.

Geo. V. Beckman & Sons
LODI, CALIF.

YOUNG'S Poland-Chinas

For nearly 40 years we have been raising Poland-China hogs and think we can say that we have now the best we ever raised.

GOLDEN STATE KING is the best breeding boar we ever owned. He sires large, even, easy-feeding litters of the right type.

Long Big-Bone Jr., the Junior Champion, has to his credit some of the best pigs we have this year, with lots of stretch and quality.

We have, we think, some of the best sows the breed affords.

You can get foundation stock here as good as the best.

Come to the San Joaquin County Breeders' Association Sale, September 19, at Lodi, and get them at your own price.

Young & Clark
Lodi, Cal.

San Joaquin County Poland-China Breeders Association

J. F. LEHMAN, Pres.
Lodi, Cal.

SHERWOOD BECKMAN, Sec'y
Lodi, Cal.

First Public Sale

Hogs in this offering are animals of the choicest breeding along very fashionable lines of the big-type. They have all been passed on by a judging committee of very conservative breeders so that the sale will include nothing but tops from the various herds.

20 Bred Sows and Gilts 40 Boars

The boars and gilts offered are either sired by or bred to some of the most noted boars of the Poland-China breed on the Pacific Coast, such as Major Hadley Wonder, Matchless Big Bob, Big-Bone Bob, Golden State King, Ursus Junior and others of equal note.

The Consignors are as follows:

BECKMAN & SONS
JOHN HAGEL,

N. K. HORAN,
LANGHORST BROS.

J. W. WAKEFIELD
J. F. LEHMAN,

EUGENE MINER,
J. E. STEELY,

YOUNG & BARTON
YOUNG & CLARK

—at—

Lodi, California Friday, September 19th

Do not miss this sale if you are in the market for either a boar as a herd header of registered sows, or for service in a market herd. The offerings will improve registered herds and are of such constitution and prepotency that they will give uniformity and the well-known easy-feeding qualities to your grade herds.

Come early and make your choice before the sale starts. Those not attending may send mail bids to Thos. F. McConnell, Field Man for the Pacific Rural Press, in care of the Secretary.

Lunch at noon.

Sale starts promptly at 1 o'clock.

COL. ORD L. LEACHMAN, Auctioneer.

SAN JOAQUIN COUNTY POLAND-CHINA BREEDERS' ASSN.

SHERWOOD BECKMAN, Secretary

SEND FOR CATALOG

Lodi, California

GOLDEN STATE KING

This greatest of Poland-China sires is at the head of our herd with a foundation of I. B. A. Wonder and Big-Bone Bob sons. Three boars and 1 sow sired by this great boar that are well worth placing in any herd will be offered on September 19th at the Poland-China Sale at Lodi.

LANGHORST BROS., LODI, CALIF.

PROFITABLE POLAND-CHINAS

Herd headed by the 1000-pound boar, **URSUS JR.**, with the great sow **MOLLY GIANTESS**, first prize in class at Sacramento in 1917, on the female side. Pigs from these great animals will be shown at the State Fair this year. Look them up and see some fashionable type youngsters that have plenty of quality. **CALIFORNIA BIG-BONE BOB** is the junior herd sire that will be used on the Ursus Jr. stock. It promises to be a great cross.

Eugene Miner
LODI, CALIFORNIA

Strictly Big-Type Poland-Chinas

THE ONLY KIND I BREED.

Boars with high, strong backs.
Boars with lots of stretch.
Boars with plenty of bone.
Boars that are right on their feet.
Boars with plenty of quality.
Sired by **GOLDEN STATE KING**.
Sired by **BIG-BONE BOB**.

Do not miss seeing them at the State Fair before placing your order.

A consignment reserved for the coming Poland-China Boar and Gilt Sale on September 19th at Lodi, where you can buy them at your own price.

Inquiries solicited.

Inspection invited.

J. F. Lehman
Lodi, Cal.

Palm Ave. Stock Ranch



MINERVA 813774
Sire Big-Bone Bob
Dam Classy Price

If you want stock of this kind look me up at the State Fair. Plenty of bone, size and the best of feeding quality cannot help but please you. Stock in Lodi Poland-China sale, September 19th.

J. W. WAKEFIELD
ACAMPO, CALIF.

MAJOR HADLEY WONDER BIG BONE BOB

Young boars ready for service, sired by the above great Poland-China sires will be on exhibition and for sale at the State Fair.

If you want big ones that will breed big ones do not fail to see these. They will surely please you.

A consignment also in the Lodi Poland-China sale of September 19.

N. K. HORAN
LOCKEFORD, CALIF.

Doings in the Swine World

Written for Pacific Rural Press.

Poland-China prices are again skyrocketing. Wm. Wrigley, Jr., of Lake Geneva, Wis., the millionaire chewing gum man, recently purchased from Silver Brook Farm, Muncie Ind., for \$15,000, the sensational boar, The Mansman. This was a record price for the breed, but it held for only a few days, as on August 8 at the Halard-Hassler sale at Manning Ia., the boar Mabel's Jumbo was purchased by H. W. Hey for \$18,000. What will be the limit be?

W. S. Morton, the veteran Hampshire breeder of Gardena, has an attractive sign out in front of his ranch with suitable wording on it and a picture of a Hampshire hog. He says that it brings him lots of business. How many pure-bred hog breeders are making this simple means of letting assessors know about their stock?

El Dorado county Durocs are replacing gold mines. There is a live Duroc breeder's association and just as many a Duroc pig club. Twenty-five pig club members began their work with an investment of \$650 and in the year they have sold \$650 worth of Durocs for cash, have on hand \$1,200 worth of young stock and the original sows which they now value at \$600. Not many producing mines excel that record.

Swine breeders in the Newlands irrigation project, Nevada, are making co-operative shipments of hogs to San Francisco. A representative of the U. S. Department of Agriculture arranges with the farmers to deliver their surplus porkers on a certain date, so that the animals can be shipped in carload lots. The total shipping and marketing expenses range

from 1 1/4 to 1 1/2 cents per pound, so the producers realize a much greater net income than when selling hogs locally.

Young & Clark of Lodi have a pig sired by Golden State King and out of Bob's Smooth Model that gained 22 pounds in 7 days. This is a very promising April gilt and she looks as though she will continue to make very rapid gains.

J. E. Steely of Clements is one of the new Poland-China breeders who has recently gotten into the game, but does not expect to show this year. He will have 3 young boars in the coming sale at Lodi, Sept. 19th.

Geo. V. Beckman & Sons of Lakeside Stock Farm, Lodi, have recently made some additions to their herd that will materially strengthen an already strong herd. Their young boar, Lakeside Defender, is a crackerjack and will have to be reckoned with in the show ring this fall.

Loma Rica Ranch near Grass Valley has sold 2 classy Berkshire hogs to the Gossard Breeding Estates, Indiana, according to a report. The animals were Loma Rica Leader and Loma Rica Belle, both raised on the ranch. Representatives from the East came out to pass on the animals and bought them at high prices.

W. O. Pearson raises a large number of market hogs in addition to his registered Durocs and Tamworths. He has 1,600 at his Maxwell ranch and 1,600 at the Orland ranch. It is a pretty good proof that his registered hogs are money makers when he can make a good profit from those sold for market hogs.

THE BEST HERD OF Big Type Poland-Chinas ON THE COAST

They Are All Talking
about the Great Boar

King Jones Over

You Will Have to Like
Him



And when you see the type, quality and bone of the BIG, STRONG-BACKED SOWS we are mating him with, and the outstanding stretchy pigs he sires, you will want some of this blood in your herd.

Let's Get Acquainted at Sacramento

WE WILL SHOW 22 HEAD

MCCARTY & STARKWEATHER

433 California St., San Francisco
Ranch at Modesto.

MARSH'S BIG TYPE Poland - Chinas

The home of Champions. Herd rich in the blood of the two great show boars and sires of prize-winners—**MODEL MAJOR** and **I. B. A. WONDER**.

SEE THEM AT THE STATE FAIR

I will have a herd at the Fair that will show you the quality of the stock I raise. Hogs with heavy bone, good feet, strong backs, lots of stretch, well-sprung ribs, and as smooth as a peeled onion.

Come and look them over. You will like them.

H. I. MARSH,

MODESTO, CAL.

WAUKEEN HERD BIG TYPE POLAND-CHINAS

THE HOME OF
KINGS BIG BONE LEADER



This great boar was Grand Champion at the 1917 State Fair, and is the highest-priced boar that ever went through a California sales-ring. He is just as great as a sire, and his pigs are everywhere in demand at the highest prices. His sons are heading some of the best herds in the State.

Bred Sow Sale in October

If you want stock from the home of champions, wait for the big bred sow sale October 4th. Watch this paper for particulars.

LES McCRACKEN

RIPON,

CALIFORNIA

DISPERSAL SALE of Poland-Chinas

The well-known herds of

Dimmick Bros. and C. G. De Raad 90 Head Without Reserve

16 OUTSTANDING SOWS, bred to President 2nd, Young Jumbo, Yankee Jr., Kings Massive Orange and California Smooth Jumbo.

5 GREAT BROOD SOWS with litters, two being Eastern sows bred to a son of Big Orange.

16 TOPPY GILTS, old enough to be bred for spring litters. All sired by noted boars, such as Kings Timm.

26 CLASSY SPRING PIGS—20 of which are sows. They include a litter from a daughter of The Yankee, and pigs sired by a son of Smooth Jumbo 2nd.

20 WONDERFUL SUMMER PIGS out of real large sows with quality.

6 BIG BOARS, including sows of Model Fellow Jr., Smooth Jumbo 2nd, President and Kings Timm.

KINGS COUNTY FAIR GROUNDS

HANFORD, September 30th

Be sure to attend this sale. A chance to get real foundation stock—the kind breeders will not ordinarily sell.

Dimmick Bros.

LEMOORE, CAL.

C. G. De Raad

LEMOORE, CAL.

COL. GEO. W. BELL, Auctioneer.

Showings of Swine

Written for Pacific Rural Press.

J. E. Thorp of Lockeford will show 14 head of Durocs, including a junior yearling boar that is a crackerjack, 2 aged sows, a junior yearling sow, 9 futurity pigs and a senior sow pig.

Tagus Ranch, Tulare, will show 7 head of Durocs sired by California Defender.

Henry Cummins, Visalia, will exhibit a Duroc-Jersey junior yearling and a senior sow pig on which he is willing to bank his last dollar.

Hale I. Marsh of Modesto, who is always one of the big winners with his Poland-Chinas, will show 10 head, including a senior yearling boar by Model Major and a half sister to the grand champion sow of 1917.

Mark Bassett, the veteran Poland-China breeder of Hanford, will show his usual large herd. This will consist of 35 head, including a futurity litter by Kings Timm out of a Model Fellow sow, and the senior yearling boar Kings Gerstdale Jones. Most of the stock will be sired by Model Fellow. Mr. Bassett has also entered 6 very fine barrows to compete against all breeds.

John M. Bernstein of Hanford, whose boar President has made him famous, will have a fine show herd of 11 head of Poland-Chinas, including the outstanding junior yearling sow, Carrie Hadley.

C. A. Vaughan of Hanford has entered 12 head of Poland-Chinas and expects to do well on his first appearance in the State Fair show ring.

H. D. McCune of Lemoore will show a great herd of Poland-Chinas headed by Kings Massive Orange. It will include a futurity litter by this boar; also an October boar pig, McCune's Buster, by the great Eastern boar, Giant Buster.

W. L. Haag & Son of Lendorris Ranch, Hanford, will show 12 head of Poland-Chinas. The great sire Long Jumbo will be shown again; also a futurity litter sired by him and out of Lorraine B. The sensational Eastern boar, Lendorris Liberty Bond, will also be shown and ought to prove the center of attraction.

W. T. Dice of Hanford will show a great Poland-China futurity litter of late March pigs by Dice's Orphan. He will also exhibit a junior sow pig, a junior yearling sow and 2 March

pigs out of a litter of 16 sired by Big Knox Boy. He is making a great hit with his "Right-Type" Polands.

Elmer Lamb of Ceres has reduced his herd considerably during the last year, but has kept up the quality and will show a small herd of very high-class Durocs.

Cross Brothers of Merced will show what good breeding can do in a Poland-China futurity litter by President out of Long Letty, and 2 Rosebud gilts by Long Jumbo.

Jack Borge of Dos Palos will show 16 head of Durocs featuring the get of his great sire Russell Orion Boy. If you want to see big, high-backed hogs, be sure to look over this exhibit.

A. Buckland & Sons, Fresno, will be out with a great Poland-China show herd this year consisting of 15 head, including their two great herd boars, Blue Valley King and California Jumbo Buster. They will also show a futurity litter by Jumbo Buster.

J. Francis O'Connor of Castleview Ranch, Santa Rosa, who probably has more world champion Berkshires in his herd than any other coast breeder, will have a great herd at the State Fair this year and expects to win his share of the blues.

Greenwood Farm, Live Oak, will prove the breeding ability of their great Duroc sire, Johnson's Defender Jr., by showing at the State Fair some of the finest pigs ever exhibited. Be sure to look them up.

To merely say that A. B. Humphrey of Grape Wild Farm will be on hand with his Berkshires is the same as saying that he will win a good share of the ribbons, for Mr. Humphrey's Berkshires are known throughout the country and he always gets his share of the awards. The younger entries this year will be sired by Big Leader, the greatest son of Grand Leader 2nd.

Geo. V. Beckman & Sons of Lakeside Farm, Lodi, will be out with a great show herd this year and expect to capture a big lot of ribbons, especially in the younger classes.

Diamond Bar Ranch, Spadra, will have a great show herd out this fall, and will make all of the shows, starting at the State Fair. Walter T. Gatton, superintendent, says that they may possibly send a few head back to the National Swine Show at Des Moines. A great bred sow sale will be held at the Diamond Bar Ranch in January.

Poland-Chinas lead in the number of entries this year at the State Fair, there being 295 head entered.

The Boys' Pig Club will exhibit a large number of registered hogs this year, and the entries on the whole are double those of any previous year.

STATE FAIR JUDGES.

The list of judges in the livestock division this year includes some of the leading men in the United States. The judges are: John C. Burns, College Station, Texas, draft horses and beef cattle; E. A. Trowbridge, Columbia, Mo., horse show; Hugh Van Pelt, Waterloo, Iowa, dairy cattle; James F. Wilson, University Farm, Davis, sheep and goats; Guy C. Putnam of Tecumseh, Neb., Thos. A. Shattuck of Hastings, Neb., Wynan Lovejoy of Roscoe, Ill., and Prof. J. I. Thompson of University Farm, Davis, hogs; R. V. Moore of Oakland and W. S. Russell of Concord, poultry.

ELDERSLY FARM BIG TYPE POLAND CHINAS

Possessing wonderful length, splendid depth of body, high-arched backs, good feet and worlds of quality. The kind that will put quality into your herd and convert high-priced feed into profit.

BLACK BIG BONE WONDER, our senior herd boar, is a great individual with the most wonderful back you ever saw. He has the blood of grand champions from both sire and dam. In **JUMBO BUSTER**, a young boar of much promise, he has an able assistant.

Remember this Herd when you buy Polands.

J. H. WARE,

LIVE OAK, CAL.

TOP SALE OF THE SEASON

OCTOBER 7th, 1919

Bassett, Crawshaw & Ross

Join Forces to Sell

75--Poland Chinas--75

Bred Sows and Herd Boars.

Every animal double treated.

The greatest assemblage of the best blood produced in Poland-Chinadom.

Don't miss the opportunity to attend this sale and take home some of these fine hogs.

Kings County Fair Grounds

Auctioneer, Ord. L. Leachman

For Catalog or Information, write to

F. D. ROSS, Sec'y.

HANFORD, CALIF.

Eighth Semi-Annual Sale

—of—

Kings County Poland-China Breeders Association

Saturday, October 11th, 1919.

KINGS COUNTY FAIR GROUNDS,

Hanford, Calif.

80 Bred Sows, Gilts and Boars

To be sold without reserve from the best herds in Kings County.

Consignors:

G. I. McCUNE,
G. NEHLS,
C. L. NEWPORT,
H. E. McMAHAN,
W. L. HAAG,
T. J. WOODWORTH,
R. G. HAMBLIN,

H. D. McCUNE,
R. L. WALTZ,
C. A. VAUGHN,
W. T. DICE,
W. S. HUBBARD,
J. A. CRAWSHAW,
M. BASSETT,

C. G. DE RAAD,
W. D. TREWHITT,
C. DIMMICK,
J. M. BERNSTEIN,
E. G. MEYER,
W. BERNSTEIN,
F. D. ROSS.

Auctioneer, COL. BEN. A. RHOADES.

For catalog or information write to

F. D. Ross, Sec'y.

HANFORD, CALIF.

Lendorris Ranch Poland - Chinas

GREAT HERD BOARS

YOUNG JUMBO (see picture), the great son of Jumbo Bob; and the sensational young boar, **LENDORRIS LIBERTY BOND**, a son of Liberty Bond, for whom \$10,000 was refused. Keep your eye on this young epoch-maker.

BRED SOW SALE

With J. M. Bernstein we shall hold a sale September 17, and shall offer 12 head of outstanding gilts, mostly by Young Jumbo, and bred to the great Lendorris Liberty Bond. This is the blood you need to insure your success. Be sure to attend.

W. L. HAAG & SON
Hanford, Calif.



EL PROFITO HERD

Big Type Poland Chinas

They have the size, bone, stretch, spring of ribs, heavy quarters, smoothness and mellowness found in easy-feeding, money-making hogs.

EL PROFITO, our great herd boar, stamps his offspring with his superior qualities. To make the right start get one of his pigs.

Inspection or correspondence invited.

VIOLA L. RENWICK,

Santa Barbara, Cal.

Why Not Stallion Associations?

Written for Pacific Rural Press.

For some time the Government has been recommending co-operative bull associations for dairymen who would like to use pure-bred bulls to improve their herds, but who cannot afford to purchase such animals alone. Considerable literature has been issued on the subject, and Government agents have even been instrumental in forming such associations.

But why not a similar association for farmers who want to breed up their horses? And why not Government or State aid? Valuable suggestions along this and other lines were made by President White at the last annual meeting of the Percheron Society of America.

He referred to the horse situation in Europe where, according to information he has recently received from members of the Agricultural Commission sent to Europe to study the situation respecting livestock and farm products, there is a great shortage of work horses, the balance of which cannot be restored except by the shipment of large numbers of horses from this country. He cautioned breeders, however, not to expect too sudden a response in values on account of the fact that ship space will not be available for ready exportation of horses before spring, and even if there was available space at the present time it would not be advisable because of the lack of grains and forage for horses over there.

The need for intelligent action on the part of individual breeders in eliminating unsound horses and those of faulty conformation was specially dealt with. Breeders were urged to weed out rigorously and castrate the inferior stallions and to sell the mares of inferior character as grades to the end that the standard of the breed might be steadily improved. The President emphasized the fact that in America the Government cannot do

the thinking for individual breeders and that it would be undesirable if this were to be attempted, as it would merely tend to hamper the initiative and study of livestock breeding now characteristic of our American breeders. Not every farmer or stockman is competent to become the breeder of pure bred livestock. Those who do should first become cognizant of the desired types of animals they expect to breed and familiarize themselves with soundness and blood lines. Those who fail to safeguard themselves with this preliminary preparation are certain to suffer financial loss early in their career as breeders of purebred livestock.

State aid in the form of subsidies to a limited number of high-class stallions, to be approved by the stallion boards, was urged. The need for this grows out of the fact that no one farmer owns enough mares to justify keeping a stallion for his own use, and farmers are too busy to stand stallions for public service. A good sire worth using should have the mares from at least twelve or fifteen farms and this requires that some State aid be given to men who are to purchase and stand such stallions for public service in order that the attention of the farmers may be sufficiently concentrated on these particular good sires to make certain their general use. Mr. White says ample justification for State aid is found in the fact that when any particular State produces a surplus of high-class horses the wealth accruing to the farmer who produces and sells such horses is distributed in the form of purchases to merchants, wholesalers, and so on throughout the entire State.

Should we have State aid here in California?

Ewe's milk is much richer in fat and casein than cow's milk and contains 7 per cent less water.

WAIT FOR THE TREWHITT-VAUGHAN SALE

Of Registered, Big-Type

Poland - Chinas

Wise farmers will wait for this great opportunity to get breed improvers at their own prices. We will drive into the sales-ring the greatest lot of Poland-Chinas ever offered in California. There will be foundation sows and gilts sired by the breed's most noted boars, and bred to boars of the same caliber. Also some outstanding herd boar prospects.

52 Bred Sows and Gilts---a Few Boars

Trehwitt Consignment

Vaughan Consignment

W. D. Trehwitt will sell 40 of the finest sows and gilts he has ever offered, purchased on his recent trip to the Corn Sired by Big Ben, Jumbo Equal and MyBelt. The Poland-China Journal said that Choice, and out of Jumbo Nell, Queen Wonder 2nd, Miss Jumbo Wonder, Anona Wonder and Jumbo Dairy. Bred to Model Jones, the great Missouri boar of Gerstale Jones breeding, and Iowa Wonder, the Iowa boar by Big Long Wonder.

C. A. Vaughan will offer 12 bred gilts purchased on his recent trip to the Corn Sired by Big Ben, Jumbo Equal and MyBelt. The Poland-China Journal said that Choice, and out of Jumbo Nell, Queen and bought only the very best, and that there were many future prize winners in the lot. They combine extreme size and quality and represent the last word in Corn Belt breeding.

Hanford, October 18

If you want something tip-top, wait for this big event. You will like our offerings. The animals will embody all your ideals of profit-producing hogs. You can't go wrong in buying them. The only way you can lose is to stay away.

W. D. TREWHITT,
Hanford, Cal.

C. A. VAUGHAN,
Hanford, Cal.

McCUNE'S

Big Type Poland Chinas

KING'S MASSIVE ORANGE,

At the head of our great herd, assisted by
McCUNE'S BUSTER.

Be sure to see our stock at the State Fair.

"Seeing is Believing."

H. D. McCUNE,

LEMOORE, CAL.



BLUE VALLEY KING at 10 months.

Buckland Ranch
POLAND CHINAS

GREAT HERD SIRES
California Jumbo Buster,
By Buster Buster, out of a Long
Jumbo sow.

Blue Valley King,
Son of King's Big Bone, and grand-
son of Missouri Blue Valley, Grand
Champion of Missouri in 1916.

Stock for sale—the kind that makes you money.

Write your wants or call and see our stock.

A. BUCKLAND & SON

Fresno,

California

The Satisfaction Gained

-WILL MAKE IT WELL WORTH YOUR WHILE TO

Attend This Great Sale

40—Bred Sows and Herd Sow Prospects—40

JOHN M. BERNSTEIN & W. L. HAAG & SON

JOINT SALE OF

BIG-TYPE POLAND-CHINAS

Wednesday, September 17th, 1919

HANFORD FAIR GROUNDS

The sows and gilts in this offering have been selected from the leading herds of the East and West. These sows are sired by PRESIDENT, YOUNG JUMBO, KING'S BIG BONE LEADER, GIANT JONES, FRAZIER'S TIM 2ND, K'S BIG PRICE 2ND, MOUW'S BLACK WONDER and MILLER'S LONG CHIEF, and bred to such noted boars as

President and Young Jumbo

and the two sensational young boars

The Yankee, Jr. and Lendorris Liberty Bond

Lunch at 11:30. Sale starts at 12:30 sharp. Send mail bids to either consignor or to the auctioneer. Everything doubly immuned.

JOHN M. BERNSTEIN,
Hanford, Calif.

W. L. HAAG & SON,
Hanford, Calif.

H. M. Bernstein, Auctioneer
Hanford, Calif.

A sheep has four stomachs, all of them containing around five gallons. The first stomach, or "paunch," holds about three gallons; this is the part stabbed in bloat. The intestines are over a hundred feet in length. "Cat-gut," so useful to the long-haired fiddler, is made from sheep "casings" or intestines.

LIVESTOCK DIRECTORY

Rate in this directory 3c per word each issue.

SWINE.

Berkshires.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. R. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH—Top Berkshire gilts. Bred right, prices right. Satisfaction guaranteed. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

FOR SALE—4 Berkshire sows and 4 boar pigs, three months old, from extra fine registered sows, sired by son of Star Leader, \$25.00 each. Longe & Sons, Nevada City, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Cal.

RIVER GARDEN FARM BERKSHIRES—They are sure to please. E. H. Whiting, Ukiah, Calif.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

REGISTERED BERKSHIRES—Write R. D. Hume, Des Palos, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

POLAND-CHINA RANCH

Five and six months old boars and gilts by Greenfield's Special, an eight-hundred-pound boar of Superba and Big Orange breeding. Special price on this stock now. It won't last long. Satisfaction sure. H. B. Peake, Manager, 358 Eleventh St., San Bernardino.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

POLAND-CHINA GILTS FOR SALE—10 read of 180 to 200 lbs., 8 mos. old gilts for sale. Some of these from Big Bone Bob, nice, smooth pigs, half large, half medium type. Will sell these open for \$60.00 each, or bred to Barton's Big Korver for \$75.00. Recorded your name, F. O. B. Lodi. This is a nice lot; better act quick. W. A. Young, Lodi, Cal.

EL PROFITO—Our great herd boar, will put profit-making qualities into your herd. His offspring have size, stretch, boned backs and feet, and easy feeding qualities. To make the right start with big-type Poland Chinas, get one of his boar pigs. Prices right. Correspondence cheerfully answered. Viola L. Renwick, Santa Barbara, California.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-Chinas. Also will book a few orders for bred gilts, February and March farrow, and a few good serviceable, aged boars. Hale I. Marsh, Modesto, California.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas. D. H. Forney, Route 6, Fresno, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write P. E. Fay, Tipton, California.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

SOWS FOR SEPTEMBER FARROW—Nebraska boar of prize-winning blood lines. March gilts. Prices right. E. W. Jickling, Elmira.

WAKUEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Lee McCracken, Prop., Ripon, Cal.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Rt. 1, Box 39, Watsonville, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for sale. Giant Buster and President Stock. Prices right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

ELDERSEY FARM—Big-type Poland-Chinas hogs and Aberdeen Angus cattle. J. H. Ware, Live Oak, Calif.

POLAND CHINAS. See my boars at Lodi sale. J. E. Stealy, Clements, Calif.

FOR SALE—Poland-China boar, age 14 months. Priced right for quick sale. Box 332, Healdsburg, Cal.

BIG-TYPE POLANDS—Spring pigs from prize-winners. J. H. Hainsbrough, R. A., Box 22, Modesto, Cal.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old—"A Wonder" bred boar.

BEAOKAS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

POLAND-CHINAS—Young stock for sale. H. E. McMahon, Lemoore, California.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Nothing this month. Eight spring boar and 5 spring sows pigs to offer during August. All young stock is new immune. At the State Fair this year will show a full exhibit of good ones. Drop in and see them and get some real big type ones. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

RANCHO BOWDEN DUROCS—Extra fine litter weanlings, ready for delivery Sept. 1st. Dam, granddaughter Orion Cherry King, sire, son University Farm Keen 5th. 14 in litter. Raising 8 sows, 2 boars. Real quality. \$15 each, registered. Address, J. L. Bowden, 510 Market St., San Francisco; E.A. Bacon, R. F. D. 1, Denair.

HORINE'S REGISTERED DUROC JERSEYS—I sell weanlings and buy gilts. Don't fool with scrubs and don't buy elsewhere until you knew my plan. Write today for full particulars of a guaranteed profit-making weaned pig. Geo. L. Horine, Winton, Cal.

DUROC JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

REGISTERED DUROC JERSEYS—Open and bred gilts, August and November bears. Great herd head. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Des Palos, Cal.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Etnahac, Calif.

DUROC JERSEYS—Smooth, long, strong-backed, big-boned type, with lots of quality. The kind you will eventually buy—why not now? F. D. Burr Co., 235 Montgomery St., San Francisco.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

PATHFINDER AND KING'S COL. stock—immune. Weanlings, \$25 each. Bred gilts and service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento, Calif.

WE WON MORE MONEY in Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winner Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

DUROC JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

DUROC JERSEY GRADE gilts 5 months \$22.50 up. B. Redaker, Napa.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Unecda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

Miscellaneous.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

FOR SALE: 140 head pure-bred, bred brood sows and four pure-bred boars. Sows principally all Poland Chinas, a few Durocs. Will average about two years old. This is an exceptionally fine lot of very carefully chosen sows, the entire lot averaging better than seven pigs each, weaned, this past spring. Box 128, Lancaster, Cal.

DAIRY CATTLE.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered, all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

AYRSHIRES—Quality bulls at farmers' prices. Redwoods Ayrshire Farm, La Honda.

Guernseys.

EDGEWOOD FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgewood Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from higher record dams. J. W. Gemmer, Ripon, Cal., R. 2.

You Need This Boar

HANFORD ORPHAN JR., a growthy, outstanding young Poland-China boar, farrowed February 3rd. Sired by King's Massive Orange, he by Illinois Blue Valley Orange and out of Massive Lady 2nd. Dam, King's Orphan Lass by Jumbo Orphan and out of Pawnee Girl 2nd.

Why Send East for Poland-Chinas?

Don't gamble on an uncertainty when you can get a boar of just as good breeding, type and individuality here at home. You can't beat this boar's breeding in the Corn Belt, and his type and individuality embody all your ideals of a real herd header.

Come and See Him. If you can't call, Write at Once.

WALTER C. FICKLIN

ROUTE A, BOX 189,

FRESNO, CAL.

PALO ALTO STOCK FARM, Palo Alto—Breeder of registered Guernseys; both sexes; prices reasonable.

Jerseys.

SERVICE JERSEY BULL, bull calves, Financial King blood. Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2½ years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Fecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. E. Freeman, Route B, Modesto, California.

CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, Box 437, San Jose, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spires, Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif. Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeder of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. B. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS and Duroc Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. E. Dibblee, Santa Barbara or Lompoc, Calif., John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-bodied, thick-meat. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

REGISTERED SHORTHORNS—Julien Ranch, Grenada, Siskiyou Co., California.

SHORTHORNS—Carruthers Farms, Live Oak, California.

HOPLAND STOCK FARM—Registered Shorthorns Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Bparto, California.

HORSES AND MULES.

FOR SALE—Pure-bred imported German coach stallion. Awarded first premium at State Fair. For particulars, address P. O. Box L 141, Dos Palos, Calif.

FOR SALE—A-1 Breeding Jack. Bargain. Have quit raising mules. W. P. Harkey, Gridley.

PERCHERONS—Registered Stallions, Mares and Fillies; three, four, and five years old. Cora S. Secret, Escalon, Cal.

SHEEP AND GOATS.

PURE-BRED RAMBOUILLET RAMS, large smooth frames, extremely heavy shears, from the very best strains of this country and France. Immediate delivery from ranch at Ord Bend, Glenn county. P. O. address, Windell Orchards, Glenn, Calif.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet, Hanford, California.

CALLA GROVE FARM, MANTHA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale, Shorthorns; Shropshires; Berkshires; Ponies. Next sale April 17, 1920. All breeds.

Baron Duke 201st

GRAND NATIONAL CHAMPION

SEE HIS PIGS

AT THE STATE FAIR

Some very choice boar pigs from 650 pound sows of World Champion blood at no higher prices than asked for ordinary pure-bred pigs. All animals immunized against cholera and swine plague.

Get free catalog with many pictures and full history of one of the greatest herds in the United States, just off the press.

Sandercock Land Company

23 Montgomery Street, San Francisco

In Charge of Natomas Land Sales.

Special Livestock Market Report

Written for Pacific Rural Press.

San Francisco, Aug. 20, 1919

CATTLE—There is a feeling of nervousness and uncertainty in the livestock market both here and in the East, though in the latter markets the feeling is more pronounced and has resulted in the development of a most erratic market. This abnormal situation is induced by the Government's drastic action in investigating the "high cost of living," accentuated by its seizure of meats in cold storage. The strike troubles in the packing houses and on the railroads are also a complicating factor. Buyers are therefore marking time, and taking on supplies for immediate needs only. Of course, this has a bearish effect on the market and the trend of prices is downward. Cattle are plentiful, except as to the choice grades. Calves are scarce. Quotation follows:

GRASS STEERS—
No. 1, weighing 950 to 1100 lbs. 10@10 1/4 c
No. 1, weighing 1100 to 1300 9 1/2 @ 10 c
Second quality 8 @ 8 1/2 c
Thin 6 @ 7
Cows & Heifers, No. 1 8 @ 8 1/2 c
Second quality 6 1/2 @ 7 1/2 c
Common to thin 4 @ 5 1/2 c
Bulls & Stags Good 5 @ 6
Fair 4 @ 5
Thin 3 1/2 @ 4

CALVES—
Lightweight 12 1/2 @ 13 1/2 c
Medium 12 @ 12 1/2 c
Heavy 10 1/2 @ 11 1/2 c

SHEEP—The mutton sheep market is on a healthy basis, although a slight decline in local quotations is noted. Quietness in the wool market and the feeling in wool circles that the price wave has reached the crest, prompts growers to show less indifference about parting with stock. Even in the sheep trade buyers are in a waiting attitude.

LAMBS—
Yearlings 10
Milk 12 @ 13 c
Sheep Wethers 8 1/2 @ 9 c
Sheep, Ewes 6 1/2 @ 7 c

HOGS—While the hog market has manifested a decidedly erratic tendency in the Eastern markets from the same causes, affecting in some measure other lines of livestock, locally the market has eased off a little during the week and a decline of \$1 a hundred is announced by packers. The highest price paid for prime, grain-fed hogs weighing from 150 to 250 pounds, is now \$19.50 per cwt.

Hard, Grain fed 100 to 150 19
Hard, Grain fed 150 to 250 19 1/2 c
Hard, Grain fed 250 to 300 19 c
Hard, Grain fed 300 to 400 18 1/2 c

DRESSED MEATS—
Steers No. 1 14 @ 15 c
Second quality 13 @ 14 c
Cows & Heifers 11 1/2 @ 14 c
Calves as to size etc. 21 @ 25 c
Lambs, Suckling 22 @ 23 c
Lambs, yearling 20
Sheep, Wethers 16 @ 18 c
Sheep, Ewes 14 @ 15 c

BUTTER.
All grades of butter showed a remarkable steadiness during the past week. Since Monday week there has been a change of only a half cent in extra butter, while prime firsts and firsts show no fluctuation during that period. While all the local dealers proclaim that the "H. C. L." investigation cannot touch the local butter market, there is certainly not the demand or interest in butter that is usually shown. The local storage movement showed an excess of 70,000 pounds in the movement out of storage over the movement in. The large Eastern centers showed that the movement of butter into storage had not stopped, as the reports show an excess of a million and a half pounds over the reports of a week ago.

Th. Fri. Sat. M. Tu. Wed.
Extras 53 52 1/2 52 1/2 53 52 1/2 52 1/2
Prime firsts 52 1/2 51 1/2 51 1/2 51 1/2 51 1/2 51 1/2
Firsts 52 50 1/2 50 1/2 50 1/2 50 1/2 50 1/2

WOOL.
The local wool market is quiet, as is usual at this season of the year, though the price situation is strong and the small lots traded are held at extreme prices by sellers.

Humboldt 52 1/2 @ 60 c
Mendocino 50 @ 57 1/2 c
Sacramento 45 @ 47 1/2 c
San Joaquin 42 1/2 @ 47 1/2 c

HIDES.
The hide market is somewhat unsettled following the rapid advance in prices of the past weeks. Country hides are in active demand at good figures.

Wet Salted:
Steers 37 @ 42 1/2 c
Cows 35 @ 37 1/2 c
Kips (15 to 30 lbs.) 60 @ 70 c
Bulls 20 @ 25 c
Horse Hides:
Large 7.50 @ 10.00

Small 6.50 @ 7.50
Medium 5.50 @ 6.50
Colts .75 @ 1.25

CHEESE.
The market was dull, with very little change in prices. Almost no Oregon product was traded in and the volume of trade in California was not enough to affect prices. The demand was somewhat lighter than the previous week. Fancy California, flats per lb. 32c
do, Firsts 30 1/2 c
Oregon Triplets 32c
Oregon Y. A. 33c
Monterey cheese 24 @ 25c

HAY.
Receipts of hay for the past week were 2818 tons compared with 2727 the previous week. Most of this hay is coming in by boat and arrivals by rail are lighter than they have been for years. Cars have been very difficult to obtain in most sections and box cars are practically unobtainable for hay. Alfalfa is the leader in the market, and commands the best price of any hay. With better shipping facilities it might command even a better price. Several large lots of alfalfa changed hands during the week at prices in excess of quotations. There is no demand for straw, with large offerings.
No. 1 Wheat, per ton \$15.00 @ 18.00
No. 2 Wheat, per ton 12.00 @ 15.00
Choice Tame Oat, per ton 15.00 @ 18.00
Wild Oat, per ton 10.00 @ 14.00
Barley, Hay, per ton 12.00 @ 16.00
Alfalfa, per ton 17.00 @ 22.00
do, new, 1st cutting 9.00 @ 12.00
Stock Hay, per ton 9.00 @ 12.00
Barley Straw, per bale .50 @ .80

FEEDSTUFFS.
The market was very dull with a marked falling off in demand earlier in the week.
Bran Not being marketed
Shorts Not being marketed
Cracked corn \$79.00 @ \$1.00
Rolled barley \$68.00 @ \$7.00
Rolled oats \$64.00 @ \$6.00
Alfalfa meal \$36.00 @ \$7.00
Cocoanut meal \$48.00
Oil cake meal \$72.00 @ \$7.00
Millmex \$59.00 @ \$6.00
Millrun \$49.00 @ \$5.00

Los Angeles, Aug. 19, 1919.

CATTLE.
Per cwt. f. o. b. Los Angeles:
Beef, steers 1000 @ 1100 lbs. \$11.50 @ 12.00
Prime cows and heifers 9.50 @ 10.00
Good cows and heifers 9.00 @ 9.50
Canners 4.00 @ 9.50
Per cwt. f. o. b. Los Angeles:
Heavy av. 270 @ 350 lbs. \$16.00 @ 17.00
Heavy av. 225 @ 275 lbs. 17.50 @ 18.00
Light 19.00 @ 20.00
Rough docked 20 lbs piggy sows 40 per cent

SHEEP.
Prime wethers \$8.50 @ 9.50
Prime ewes 8.00 @ 8.50
Yearlings 8.50 @ 9.50
Lambs 13.00 @ 15.00

ALFALFA HAY.
The Alfalfa Growers of California, Inc. 525 Central building, Los Angeles, furnish the following quotations on alfalfa hay which are selling prices to purchasers of carload lots, f. o. b. Los Angeles.
The grower to arrive at his selling prices f. o. b., his station should deduct the carload rate of freight from quotations below:
No. 1 dairy \$27.00 @ 28.00
Standard dairy 24.00 @ 26.00
Standard alfalfa 21.00 @ 23.00
Stock alfalfa 17.00 @ 19.00

BUTTER.
Creamery extra. Produce Exchange price, 56c lb.; price to retail merchants, in 1-lb. squares, 62 @ 64c.
CHEESE.
California 34c; Wisconsin dairies 42c; Wisconsin twins 36c; Wisconsin long horn drums 40 @ 42c singles, 36c; Tillamook triplets, 41c; Coos Bay triplets, 39c; limburger 33 @ 35c; cream bricks, 42c; block Swiss, 45c; wheel Swiss 55c.

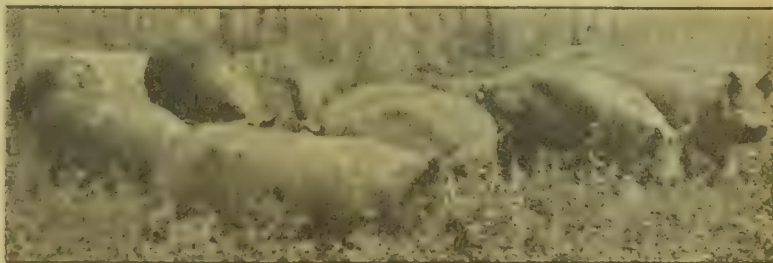
Portland, Ore., Aug. 19, 1919

CATTLE—Steers, best, \$11.25 @ 11.75, good to choice 10.00 @ 11.00; medium to good, 9.00 @ 10.00; fair to good, 7.50 @ 8.50; common to fair, 7.00 @ 7.50; good to choice cows and heifers 8.00 @ 9.00; medium to good, 7.50 @ 8.00; fair to medium 6.00 @ 7.00; canners, 4.00 @ 5.50; bulls 6.25 @ 8.00; calves, 10 @ 15.
HOGS—Hogs steady; receipts none. Prime mixed, 20.00 @ 20.50; medium, 19.50 @ 20.00; rough heavy, 19.00 @ 19.50; pigs, 18.50 @ 19.00.
SHEEP—Sheep steady; no receipts; East Oregon lambs 12.00 @ 12.50; valley, 11.00 @ 11.50 fair to medium, 9.00 @ 10.00; yearlings 7.00 @ 8.50.

"In the grease" denotes the fleece as it comes from the sheep's back. A hundred-ounce fleece will contain about 17 ounces earth and sand, 8 ounces manure and dirt, 14 ounces fat, 13 ounces water, 5 ounces potash, 8 ounces sheep oil, and 35 ounces pure wool fibre.

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Our Anchorage Farm Berkshires are money-makers. They are strong in the blood of our world's reserve champion, Star Leader, and have size, type, quality, vigor and easy-feeding qualities.



BRED GILTS WILL START YOU RIGHT

We offer a choice lot of gilts, like those shown above, bred to the great Star Leader, to his splendid son, Anchorage Leader 2nd, and to our new boar Champion Value 10th, from the E. J. Barker herd at Thorntown, Ind.

These gilts have good bone, well-sprung ribs, strong backs and heavy hams. They are right in every way, and all ready to go ahead and make money for you. Order quickly. If you want further information, send for free illustrated booklet.

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ORLAND,

CALIFORNIA

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Herd Includes

RIVERBY PRINCESS, Grand Champion sow of the World.
ROOKWOOD LADY 100TH, Grand Champion Sow of America.
MAYFIELD LAUREL 15TH, Grand Champion Sow of California.

Herd Headed By

Mayfield Rookwood 2nd

A Grand Champion Boar and sire of the Grand Champion Barrow at the 1919 Berkshire Congress.

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are the kind you are looking for. We have to offer at the present time some exceptionally good young boars. They have the best of breeding, lots of size for age, and long deep bodies, with high backs.

Write us for price and further particulars.

R. J. MERRILL & SON,

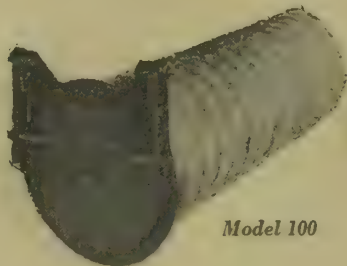
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It gives the age, breeding, price, particulars, etc. on service boars, bred sows and gilts, unrelated trios of Spring pigs, and young pigs of both sexes. See me at the State Fair, or if you don't see me you will meet Jack Finlay, who will take you to the ranch and show you the Catalog offerings.

FRANK B. ANDERSON, Sacramento, Cal.

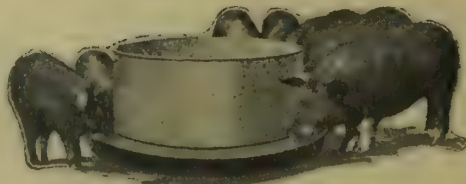
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An inexpensive, reliable metal irrigation gate. Diameters from 8 to 15 inches. Furnished with or without bulkhead. Write for price list.



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See these different advertised products. Competent men will be ever ready to advise and inform you, and to take your orders if desired.

THE PACIFIC RURAL PRESS

SAN FRANCISCO

AUGUST 30, 1919

LOS ANGELES

Experts Discuss Best Type of Big Prune

Written for Pacific Rural Press.



MOST IMPORTANT gathering for improved cultural methods as applied to the California prune industry was held at Leonard Coates' home at Morganhill, August 21. It was that of a committee named by the Nurserymen at the Riverside Convention for the purpose of investigating bud-selection for the best types of prunes in regard primarily to size, quality and consistent maximum yield.

The committee served its function well in many ways. The interest shown in the matter was evinced by the presence of a large number of uninvited growers at the field conference; searching questions were presented; and the insistence of the representative of one whole county that a start be made forthwith was an earnest of the strength of growers' demands.

The chairman of the committee, Leonard Coates, Nurseryman of Morganhill, was supported by the following members of the committee: H. A. Hyde, of Watsonville; J. W. Gandy of Modesto; George C. Roeding of Fresno; A. J. Elmer of San Jose, and William T. Kirkman was represented. All these are nurserymen. Other members of the committee were Dr. J. C. Whitten, Professors E. B. Babcock and W. L. Howard, repre-

Dr. J. C. Whitten, as head of the University delegation, offered the suggestion that growers must select types and determine what they want, though the nurserymen should lead the movement.

Henry C. Holden, chairman of the Growers' Committee of the Napa County Farm Bureau, advanced definite suggestions and named a selection of desirable and undesirable prunes for consideration. He knew exactly what his growers wanted and made those wants known in a very clear and unmistakable manner. "This thing must start some time and now is the time to start—not some-day," he said.

George C. Roeding, President of the Board of Agriculture, agreed with Mr. Holden that the most highly improved types of prunes were desirable, but pointed out many pitfalls and difficulties encountered by those who would willingly carry out Mr. Holden's suggestions—the supply of just the right budwood, the willingness of growers to part with it, the men to cut it, and, above all, the records of tree performance (of those selected) carried over a period of years. This will take time.

J. W. Gandy delivered a message from Wm. T. Kirkman, President of the Nurserymen's Association, unavoidably absent, that the matter of bud-



This shows one of the groups of growers discussing the relative merits of selective types of prunes in one of Leonard Coates' experimental orchards. The inset is an illuminating comparison between an average 50 prune and a Giant French selected from a bud sport. courtesy of M. H. Gray of San Jose.

It looks like an Imperial, but it is a true French. This picture is published by the

sending the University of California; R. H. Taylor, representing the State Board of Agriculture, H. A. Dunlap, representing the Prune and Apricot Growers' Association (and who was chosen chairman for the day.) A number of non-member nurserymen were present, as well as representatives of the San Jose Chamber of Commerce and business men, and an unexpectedly large number of growers. Professor Shamel sent regrets that he could not be present, as did Professor E. J. Wickson of the Pacific Rural Press, who was, however, represented.

The questions at issue were: (1) Is the demand on the part of the growers sufficiently wide and insistent to demand special concerted action by the Nurserymen? (2) If so, how can it be met and carried out? Nothing had been definitely outlined by the nurserymen, the growers, or the scientists, but the field conference which followed a field examination of selected types of prunes, provided data and left room for a definite line of action to be pursued by these three separate bodies. The nurserymen, the growers and the scientists will doubtless each of them outline a list of suggestions and recommendations to be presented to the Fruit Growers' Convention at Chico next November from which a workable plan can be evolved.

selection will be taken up at the November Convention at Chico, and that he himself would like to see "certified buds."

Wm. Howard suggested that a group of nurserymen undertaking such work would need some safeguard on the part of the growers by growing contracts and otherwise.

Professor Babcock said nurserymen must decide if it is going to pay to propagate trees of all varieties from performance records. There must be, for this, close co-operation between the nurserymen, the Agricultural Commission and the Experiment Station.

The University of California Agricultural Experiment Station, in accordance with former suggestions, may be asked to perform all the work necessary to obtain data on tree performance on trees selected, etc.

The outcome of this meeting gives us these positive facts. The prune grower wants selected prune wood for propagation—extent of demand unknown; the nurserymen must attend to and supply that demand; it is only practicable in any degree with the aid and co-operation of trained men connected with the Deciduous Fruit Experiment Station in charge of the University of California.

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EDITORIAL.

WHY WE ARE IN FOR LIVESTOCK.

OUR LAST issue was largely given to the State Fair in anticipation; our next issue will naturally be largely given to the State Fair in realization. In both these undertakings of this journal to seize the passing moment for efficient description and exhortation the animal industries figure largely, not because they are our greatest industrial activities, though they truly are now very great and will be much greater in the future, but because they are more picturesque and powerful in their expository materials and suggestiveness. An agricultural fair without ample live stock exhibits and parades of them is a very quiet and subdued affair—flowers, fruits, fine sewing, snowy bread and flaky pie-crust. Such a fair appeals to us as feminine—refined, exquisite, beautiful beyond words, except as a man may pass the descriptive task from his head and heart to his stomach, that last court of masculine resort, and declares not only the creation but the creatrix herself to be “nice enough to eat.” Quite otherwise is the attitude of a man towards a fair which is rich in animal displays. Unless he is molly-coddle, he feels all his creative endowment of power and passion rising within him as he gazes upon the lordly beasts of every kind passing before him and is apt to exclaim “They are all proud enough to fight!” And we have read in books that the feminine aspect of the case differs only in one detail, to wit, that she covers her eyes and thinks of three words to be added to the formula: “proud enough to fight for his mate!”—three words not to be spoken to save her life, but still to be thought with a thrill unknown to man. And therefore it came about that the columns of our last issue were pawed and bellowed, kicked, snorted and grunted, plunged, butted and charged and in general was made to resound with the battle-cries of all the beasts of industry. And therefore it will come to pass that our next and following issues will contain the lists of the victors in the great contests for supremacy which the fairs provide. Later still will come the propaganda for the two great special live stock shows in Los Angeles, October 18 to 25 and in San Francisco, November 1 to 8, and the achievements at these two great events. And while all these things are transpiring during the coming months, if a man does not regularly read the Pacific Rural Press he will not get the news nor the interpretations thereof which will keep him abreast of the actions and thoughts which are essential to his success with California live stock and the industries which are builded upon the animals and their functions in this State.

CALIFORNIA FRUIT INDUSTRIES.

But while this journal is laboring with its staff of expert observers and writers to adequately set forth the significance to the State and to individual producers of our live stock activities we never for a moment lose sight of the fact that our fruit industries lead all the rest and are still greatest in our outlook for fuller development, population and in every way for a richer statehood, as fruit pro-

duction has always been since it entered upon its great and confident forward movement, about forty years ago. It began to go forward seventy years ago, of course, but required about thirty years to strike its gait which has never since been slowed down except to catch new breath, now and then. This fact has been deeply impressed upon this writer, for during nearly a year past he has expended all available time upon the revision and freshening up to date of our book: “California Fruits and How to Grow Them.” As the manuscript for the Eighth Edition is now in the printer's hands and the work thereupon well advanced so that it will appear on October 1 as already announced, it may be timely to mention a few things which the fact suggests. The actual writing for the first edition began in 1885 and the book appeared in 1889. The actual start in 1885 was preceded by a decade of observation and of research to determine what had been done by pioneer growers, and the four years of actual preparation of the first edition were given to revision of all preceding operations in the light of what was currently being done and how it was being done by those, who from 1885 to 1889, transformed the experiments of the pioneers into the foundations of the superstructures of the fruit industry as we now see them in their wonderful breadth and height. But the up-building of these superstructures required much modification and extension of the foundations as well as modification of the superstructures themselves from their original plans and purposes. The California fruit industries have always gone forward though they have made many changes in points of view in methods and in products. Gains unforeseen have always exceeded losses which were not anticipated. Even the greatest producing upset, the loss of the wine and brandy product, will not change the plus sign of the grape, though it will be a sad loss and hardship to many growers of it. And thus, while always advancing, the fruit industries have been always plastic, extending into new opportunities, employing new methods, conceiving new purposes, multiplying products and developing new commercial forms and demands for them. These changes have required that our book should be seven times “thrown in and re-set” before the eighth revision and re-statement, to which we have referred, was undertaken. And the always-forward march loses no speed by advancing but is an example of wonderfully accelerated movement. Take for instance, the commercial value of the combined fruit products, which we have carefully estimated, for the year which preceded each new edition of this book for two decades, viz., 1898, thirty millions; 1906, sixty millions; 1908, sixty-nine millions; 1910, seventy-four millions; 1914, one hundred millions; 1918, two hundred and thirty-five millions. If it is realized that each of the foregoing progressive steps is not merely the measure of an annual commercial achievement but is also an exponent of the human interest involved, the time and money permanently invested, the lands, waters, systems, structures, machinery, labor, transportation and trade facilities, etc., one may calculate for himself the permanent productive and taxable wealth the fruit industries have created for the State. Such a one may calculate also what it is reasonable to estimate as the future of a going concern of such output and outfit working under natural conditions which have no rivals in America and moving toward opportunities of which even the nearest boundaries have probably not yet been approached.

FRUIT OUR GREATEST STATE BUILDER.

Five years ago when we estimated the annual commercial value of our fruit products at one hundred millions, the war had just broken out, our European outlet for cured fruits was encumbered by embargoes; buyers did not hesitate to prophesy worthlessness because of unsaleability and growers were naturally alarmed because they had to recognize at least uncertainty. But the progress of the war demonstrated that California fruits in their marketable forms are not luxuries to be rejected but staples to be built upon—a good, wholesome, nutritive foundation upon which a threatened world could work, worry and fight upon to the victory which was attained. This was demonstrable because of the inherent virtues of the products and the available volumes of them and state develop-

ment value was assured because growers, rallying to co-operative organizations which they already had and establishing newer ones as required, secured for themselves returns much nearer to their real share in values produced than would have otherwise been possible. In fact if it had not been for the growers' co-operative handling of their own products the trade-gamblers would probably have found better profiteering in prunes, peaches and raisins than in more explosive munitions and would have ruined the growers in their greed. The result has been that four years later, in the year of the armistice, our fruit products are reasonably estimated to have reached a value more than 230% greater than four years before—in spite of the fact that our oranges and prunes were both less than half the normal production.

The effect of this fortunate consummation is now visible on every hand. Fruit properties have notably advanced in value. There has arisen practically a new basis for valuation of them which buyers seem ready enough to recognize. A new interest in planting has been awakened. Improvement and planting of lands, for later subdivision into small farms of bearing trees, is being taken up in large tracts in various places. All our old stand-bys among the fruits are rated A 1—a few of them having risen from the dumps to places of honor because the growers protected themselves in the way we have cited. Other fruits which have always been of high hopes but rather of small account are now the basis of confident planting for direct profit and for land development through colonization. In fact in more ways and for more reasons than we have space to enumerate, the present enthusiasm for fruit growing as the greatest single factor in our State development because our fruit products are distinctively our own and beyond the natural powers of other American commonwealths to either successfully imitate or equal, reminds us of the enthusiasm of forty years ago. And it is surely a more reasonable enthusiasm now than then, for we are building now upon a realization of nearly a quarter of a billion annual output, while then not a full trainload of any kind of fresh or cured fruit had ever been shipped from the State! To such realization as may come upon so good a foundation as we now have, we are very glad to make our little contribution in the forthcoming Eighth Edition of “California Fruits and How to Grow Them.”

THE LIFE OF THE CALIFORNIA FRUIT GROWER.

It seems better that a disinterested observer should picture the opportunity in California fruit growing than that an admiring resident should try to film it. We find in an exchange a floating paragraph as “from a Britisher indulging in his national sport of writing to the London Times.” And this is the complimentary peal which “The Thunderer” puts forth:

“As the result of my extensive tour, and after countless interviews with Canadian and American ladies, officers, and men, and with Canadian and American bankers, doctors, lawyers, merchants, officials, tradesmen and others, and also with numerous persons engaged in California in the various branches of the fruit industry, I have no hesitation in saying to the Briton who is willing to live under a foreign flag: ‘For health, prosperity and happiness go to California and become a fruit farmer.’ California is the empire of enrichment, the land of boundless opportunity. With its diversity of resources, infinite varieties of soil, endless water supply, cheap and efficient transportation and good markets—not to mention its shooting, fishing, golf, tennis and other sports, and its pleasure resorts—California is without a peer.”

When California was new the pioneers laid many plans to secure publicity in distant journals of facts about California and the opportunity California offered to capable persons to invest capital and effort in building up enterprises which would yield profit and joy in living. We of this generation are realizing the fruits of their public-spirited efforts, for the time has come when California conditions and attainments are speaking for themselves!

ANOTHER SHY AT THE WHITE HOUSE.

We hope it will not be looked upon as a part of our lemon shipments, but nevertheless we propose to put forth as candidates for election to the presidency of the United States all the Californians who can get through the submarine zones of the local

political managers. Some weeks ago we expressed the belief that California would forego her satisfaction over her senatorial representation by Ex-Governor Johnson if he should be needed in the White House. And now, just as we are writing, there comes a cable from Paris that "Herbert S. Hoover, head of the interallied food commission, is receiving hundreds of letters from friends in the United States asking him to consent to be a candidate for the Presidency on the Republican ticket." The cable then proceeds to say:

Mr. Hoover has replied that he "preferred" not to be a candidate for office, as he has given more than five years to public life and had intended to return to California in September with his family and retire. Mr. Hoover also said that he "disliked the idea of going into politics, because he feared political life would require him to abandon certain of his principles and that he could never consent to do." The cable writer continues that certain well-informed persons, familiar with the contents of the letter, declare it is not a refusal to become a candidate, however, and that if Mr. Hoover receives assurances from the G. O. P. that he will be able to maintain his ideals and principles as a political candidate he very likely will decide to run.

That does not look so bad. Senator Johnson is reasonably busy setting forth his "ideals and principles" and we see no reason why Mr. Hoover should not also make his known. Both of the old parties are considerably shifty and Mr. Hoover might come as near being an "old line" Republican as Mr. Wilson can measure to an "all-wool" Democrat. This country ought to have a Californian for President—with or without reservations as the national convention may decide. The chief thing now is to have candidates enough and we shall not be surprised if we have a chance to endorse several other Californians, and we may be able to improve the chances of the Democratic party a little.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Not Poisonous to Sheep.

To the Editor: I am enclosing leaves of two different bushes. Will you kindly inform me as to what they are and whether or not they are poisonous to sheep.—Subscriber, Columbia.

The specimens are not adequate for identification. They can however be seen to be woody shrubs or brush and we know of no plant of that class which sheep will eat that will poison them.

Peaches on Japanese Plums.

To the Editor: I have some Burbank and Wickson plum trees which I wish to work over. Would cling peaches be all right on them, or what would you advise outside of the plum line and when?—M. W. B., San Fernando.

We should not hesitate to try a few trees for we think they would take, but we would not risk a commercial acreage of peaches because even the best results you could get would not be so good as the uniform peach orchard which you can get so quickly by starting over with good yearling trees on peach or almond roots. You can put buds in now on this year's shoots or cut back and graft next winter, wherever buds do not promise to start.

Walnut Grafts at a Stand-still.

To the Editor: I understand grafting, but have no success in top working the English walnut. I made the grafts with dormant scions, as the buds were swelling on the stock. The scions have remained green for several months, but act as though there was not sufficient sap pressure to force the buds. The trees are young and vigorous. Others experienced in grafting fail with the English walnut. Can you suggest what might be the trouble.—C. H. H., Watsonville.

We cannot do much more than guess at it without seeing the things you describe. We guess that you took scions with "blind buds"—that is with buds so undeveloped that they might not have started even in the place where they grew. You must have made a pretty good graft or else the scions would have darkened, dried and come loose long ago. Walnut scions should have buds which seem just ready to pop.

Manure-Spreader on a Rainfall Farm.

To the Editor: Does it pay to own a manure-spreader from a labor-saving and crop-benefitting point of view? I have been advised that manure is of no benefit in dry grain farming. I farm 400 acres at Linden with mules, and also have 200 head of sheep, and considerable manure accumulates

each year. The land is a heavy loam—neither sand, sediment nor adobe.—H. R. L., Linden.

You have had poor advice. We are not ready to say that there might not be land so light and rainfall so slight that one could not get manure decomposed and a crop grown with one year's rainfall. In such a case, however, all the manure a man can get ought to be worked in the summer fallow year. Farming in Linden is not dry farming, for you get a good rainfall and enough in the winter to rot fall-spread manure and keep a crop growing on it also. Get a spreader and spread every accumulation you now have in your corrals on the land you will crop next, while you have spare time this fall. After that keep the spreader handy, clean the stalls into it and start it to whizzing over the summer fallow land every time you get a load all winter.

Making Plums into Prunes.

To the Editor: Please give me a recipe to cure about 50 lbs. of plums for prunes. Would it be necessary to dry them in a dryer, or do you think the weather conditions good enough for that purpose around the bay on the north side of Redwood City? I would prefer to dry them out-of-doors.—M. E. F., Redwood City.

It is not possible to make a good sweet prune out of any kind of a plum. A plum must have as much as 15% of sugar in its juice to dry with the pit in place without souring. Plums with less sugar than that must be cut in halves and made into "dried plums," not into "prunes," and some plums have so little sugar that they do not make even decent "dried plums." If you have a plum which can be handled as a prune, dip the fruit for a few seconds only in a boiling solution of concentrated lye—two tablespoonfuls to a gallon of water. Then dip in fresh water to remove the lye and put out the fruit (in a single layer on a board tray) in the best sun you have. It ought to dry well enough in a few days. If the weather is dark or foggy cover with paper or boards until the sun returns.

A Sterile Elder.

To the Editor: After dreaming for two years about elderberry pies, I have the bush with great clusters of blossoms and no fruit! Two years ago I got from an Eastern dealer a root of the Eastern black elderberry (*Sambucus Canadensis*) and planted it well. Last year's growth was not much to brag about, but this year it made huge, strong shoots and such blossoms! But there is no fruit. Now, then, what is the matter and who has the plants that fruit? I have heard that there is an improved variety—if so what name has it? This California climate ought to do the trick and I think it will if the root is right.—J. A. S., Stockton.

We do not know just what is the matter with your elder. If you secured the plant from the Northeastern States they would send you of course one of their varieties, improved by selection in the way of bearing great masses of flowers for ornamental purposes. No one in our old time back there would grow elderberries for pies, for anyone could go out along the roadside or any old back lot and get buckets full of them. But we have understood that their selected, big-blooming plants also fruit freely—therefore we do not know what is the matter with yours. It is possible your plant will fruit when it gets over growing so rankly. Meantime you had better enjoy your posies and buy your elderberries in a can at the grocery. The botany of your plant is all right; the big-flowering kinds are varieties of the species *Canadensis*.

Red Spider's Ground Connections.

To the Editor: Red spider has done some harm to our prunes this year, but I cannot find any spiders in our prune trees. I have been informed they are in the ground now. If so, when will they come up into the tree again and at what time of year? Do they lay their eggs in the trees? If we should put a band of tangle-foot around the trunks of the trees would it keep them down if done soon enough?—D. J. R., Gilroy.

There is no such connection between the red spider, the ground and the tree as you have been told. There are often so many spiders on the ground that the clouds seem to be alive with them, but the tree is not dependent upon their ground connections for a supply of the pests. They lay their eggs on the tree until the bark becomes almost crusted with them, the eggs stay there all winter and the young spiders hatch out when it becomes warm enough in the spring. The eggs are so small that you can hardly see clearly the shape of them as round, ruby-colored bodies, without a magnifying glass, and the spiders are also

IS THIS YOUR PROBLEM?

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so small that it requires a magnifier to see them clearly. No matter how many you may keep on the ground by banding the trunk, the tree will have plenty from its own stock—therefore you cannot get ahead of the spider that way.

California Crop Rotations.

To the Editor: Please advise me as to the best book dealing with the subject of rotation of crops applicable to California conditions.—C. B. R., Santa Barbara.

There is no book which treats of the availability and desirability of specific rotations in California. Our possible crops are so many and our regional (and in fact small district) adaptations so many and diverse that to get anything closer than mere generalizations, each of them should have a book of its own adaptations and profitabilities. Until there shall arise a group of men wiser than any we now have, the best way for inquiring land-handlers to proceed is to inform themselves as fully as possible, by observation and by careful reading of our agricultural journals, books and station publications, about the characters and relations of crops and fit them as closely as possible to their own natural and commercial conditions and requirements. Every serious man should always study what he reads about the success or failure of crops from the point of view of its adaptability to his own growing and use or sale conditions and should try various things in a limited way to demonstrate the accuracy of his conceptions. In this way he may learn rotation for his own location and become wise—for it is really a very wise man who knows how to turn around right on his own ranch.

Overflowed Land Pasturage.

To the Editor: We have slough land on which the water stands too long to produce natural grass. What kind of grass do you suggest that would not drown out and the best time of the year to plant it? The ground is clear of water at this time of the year, but after it rains much it could not be planted. The water stands on it from an inch to four feet. It has been planted to beans the last seven years, but the water had to be pumped off in order to plant the beans in time. The renters have become tired of that since the beans dropped in price. If the grass would be good for pasture it would suit me the best; otherwise I would have to make hay of it.—J. E., Elk Grove.

The best plants we know of to grow on wet land and to stand overflow are rye grass and red clover. They have been grown in the Stockton district for many years. We were told once that red clover which went under on one of the islands, when the levee broke and the reclamation was abandoned, was the first plant to show green when the land was reclaimed again several years later! We do not pretend to say how it came back. Our informant believed it was a submarine and simply waited on the bottom. We believed that the seed might have done the waiting. But that does not matter. The plant did come back when the land showed up again. Rye grass will go under all right also, but we do not know how long it will wait. Rye grass will also hold on through any summer drying you are likely to get on wet land. Red clover will not go through so much drouth but will hold on pretty hard if the soil is retentive.

California Weather Record.

The Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending August 26, 1919.

Stations—	Past Week	Rainfall		Temperature	
		Seasonal To Date	Normal To Date	Highest	Lowest
Eureka .....	.00	.02	.16	66	50
Red Bluff .....	.00	.00	.00	104	68
Sacramento .....	.00	.00	.00	98	60
San Francisco ....	.00	.01	.01	74	51
San Jose .....	.00	.00	.03	90	48
Fresno .....	.00	.00	.00	108	70
San Luis Obispo ..	.00	.00	.03	90	50
Los Angeles .....	.00	.00	.00	86	60
San Diego .....	.90	.00	.00	78	64
Winnemucca .....	.00	.00	.32	96	50
Reno .....	.00	.00	.34	98	56
Tonopah .....	.00	.34	.65	92	66

Shall We Plant Barley or Wheat?

Written for Pacific Rural Press by R. E. Hodges.

WHERE IT IS REASONABLE to expect either wheat or barley to mature a good crop, which shall we plant for the harvest of 1920? We will plant whichever seems to us likely to make the most money per acre. If our farms are wet and likely to rust wheat, we can't count on a good crop. If they are dry or subject to the summer northwinds, we may choose barley because it matures earlier than old-established varieties of wheat and consequently stands a better chance of maturing the crop.

If one kind of grain has been grown on the same land year after year, there is a much better chance next season for the other to make a good yield, because the soil may have become pretty well saturated with substances and diseases injurious to the old crop. But these and others are local questions largely having to do with the possibility of getting a good crop, which is assumed in our opening paragraph.

This paper is to discuss local and world markets, the demand and supply which pretty largely determine prices on such staple, easily-shipped, easily-graded products as grain.

The best figures extant on world crops are those compiled by the International Institute of Agriculture and accepted more or less completely by the U. S. Department of Agriculture. They are incomplete and not entirely reliable, but the best obtainable. For American crops, the Department of Agriculture's "guesstimates" are based on such numerous, representative and reliable reports that the commercial world depends chiefly on them and they are good enough for our purpose.

World Wheat Crops.

The 1918 figures on the world wheat crop are in most cases accepted as final estimates. Countries which harvested over 100,000,000 bushels are named below to show their relative importance when we mention the condition of their crops and their exportable surplus. Striking an approximate average between estimates, the total world crop in 1918 was about 3,885,000,000 bushels.

WORLD WHEAT PRODUCTION AND ACREAGE.

COUNTRY	1919 BUSHELS	1918 BUSHELS	1919 ACRES*	1918 ACRES
United States	940,000,000	917,100,000	71,526,000	59,110,000
Russia and Siberia* ..	721,106,000	721,106,000		
British India	278,021,000	379,829,000	23,403,000	35,497,000
France	233,781,000	11,779,000	10,850,000	
Argentina	184,268,000	219,431,000	16,976,000	17,875,000
Austria-Hungary	199,220,000			
Canada	189,075,000	16,958,000	17,354,000	
Italy	176,368,000	10,502,000	10,798,000	
Spain	138,396,000	135,709,000	10,228,000	
Australia	80,835,000	114,866,000	8,648,000	9,678,000

*1917 Estimates.

In the countries for which we have both 1918 and 1919 production figures the production this year will be 145,415,000 bushels less than in 1918. This is a decrease of 8.2 per cent. These countries produced over 45 per cent of the total world's crop in 1918. The countries for which we have both 1918 and 1919 acreage figures produced over 57 per cent of the world's crop in 1918. Their combined acreage in 1919 was reduced 1,570,000.

Condition of Wheat Crops.

Crop prospects in the United States dropped 221,000,000 bushels during July, 1919, bringing the estimated figures down nearly to those of 1918. Russian, Roumanian, and Austro-Hungarian prospects are hardly to be guessed at. The yield in India is expected to be over 100,000,000 bushels short of last year; in Argentina, it is expected to be 35,000,000 bushels less than last year; the acreage in Canada is smaller, but the latest report (May 31) indicated slightly better condition than last year, so the yield may be about the same. The French acreage was increased about 1,000,000, according to one set of figures, while another shows a decrease in total

WHEAT IS A BETTER BET THAN BARLEY FOR 1920 MARKETS.

The world will be at the line of wheat emptiness when the crop of 1920 is harvested. Our wheat will sell at prices made on the basis of short world supply and insistent demand. Foreign countries will not buy our barley except for brewing. If we raise as much barley in 1920 as we have this year, and if we ourselves consume the average amount of 13,000,000 bushels, we will have to sell outside of the State about 17,500,000 bushels. But the demand in California and America has already slumped and the demand from Europe will slump as soon as Europeans can grow their own barley. Hog feed is to be our principal barley market in 1920 if reasonable world conditions prevail—but hog feed will not take our surplus unless we reduce our acreage. Wheat planting this fall is a better bet than barley where wheat may reasonably be expected to make half as many sacks per acre.

acreage. Its condition May 1 (latest report) was 63 per cent. of normal as against 74 per cent a year ago, so the French crop will be shorter than last year. The Italian acreage decreased slightly and the condition was "average" at last report, so we may expect a decreased crop here. The Spanish crop at last estimates was expected to be over 3,000,000 bushels better than in 1918. Australian acreage decreased over a million and crop prospects indicate a decrease of about 34,000,000 bushels.

The 1918 crop itself for the whole world was about 36,000,000 bushels less than the average for the three years 1911, 1912, and 1913.

Exportable Surplus.

Each country aims first to feed itself and then export the surplus. More important than the amount produced is the amount available for shipment to countries which have not produced enough for themselves. Their demand and the price they will pay for the surplus, however small that is, will determine the price on the whole crop.

Russia, Siberia, Roumania, and India used to be large exporters of wheat, but they have none for export this year. India, instead of exporting 35,000,000 bushels as she did last year, will import 50,000,000 bushels, thus reducing the amount on the world's market 85,000,000 bushels less than last year in the case of that country alone.

Before the summer drouth reduced

World Will Be Wheat-Empty.

The world is going to be at the line of wheat emptiness by the time the 1920 harvest is ready for distribution and the world will eat wheat at whatever price it must pay. It would be cheap in comparison with many other staple foods if its price should double. There is every reason to expect the price to strengthen when supply and demand are permitted fuller play than at present.

World Barley Crops.

Barley crop figures are less complete, but are enough to give a fair indication of world conditions. The countries which produced over a million acres of barley in 1918 are in order of their acreage importance: United States, Spain, Germany, Canada, Japan, Algeria, Morocco, United Kingdom, France, and Tunis.

Figures for 1919 are available on the countries which produced considerably more than half of the world's tonnage in 1919. Their combined acreage this year has fallen off 8.2 per cent from their combined acreage in 1918. These countries do not include Germany or the United Kingdom, which may have increased enough to wipe out the 8.2 per cent and make the world acreage equal that of last year.

World Barley Markets.

Three uses of barley affect the commercial marketing of the crop. For human food, Americans have learned decisively that it cannot compete in any way with wheat except in price. Europeans like it but little if any better than we do.

For brewery purposes there will be practically no demand in the United States. Certain European countries may indulge in brewery products a little more on the 1919 crop than they did on the 1918 crop, but despite all that the brewery interests would say, beer drinking in Europe is on the decline if looked at in terms of years. Our recent barley inflation was caused by the opening of European countries to barley imports; but even with that, if exports from America are any criterion, Europe has imported far less barley of the 1918 crop than she did of the 1917 crop and she is likely to raise a larger percentage of her own requirements hereafter.

It seems true that Japan is increasing the use of barley for brewing, but it is also true that her 1919 acreage is greater than her 1918 acreage, and we have shipped practically none of our crop to Japan.

No Export Barley for Feed.

But our barley export business is a little peculiar in that the barley varies greatly in quality, and only a small proportion is of high enough

quality as a rule to ship.

The terms "shipping barley" and "brewing barley" are synonymous in California because the only barley we ordinarily ship is that which is most fit for brewing. But on the other side of the water this is separated into malting barley and feed barley, the latter grade often comprising more than half. This still further militates against any expectation of shipping barley to Europe for feed.

A great proportion of this year's crop has been bought up for shipment, but not a great proportion has been shipped yet and prices for future delivery are weakening daily. It seems inevitable that the barley market should get weaker month by month and year by year, occasionally taking a spurt as it has in the past few weeks, but forming no justification for permanent cropping to as great an acreage as in the past.

With barley, our California home consuming power has for years averaged around 13,000,000 bushels. The 1919 crop is 31,536,000 bushels as last reported. So we must export from the State about 17,500,000 bushels. Can we do it?

Barley Chiefly into Hogs.

For livestock feed, there is no doubt that barley is as good as corn in pork-making and finds corn its chief competitor in this field. The U. S. grows four times as much corn as the rest of the world combined. The U. S. corn crop promises to be two or three hundred million bushels greater than last year, and recent rains in the cornbelt have improved prospects since the estimate was given. This corn moves freely to Europe, in quantities many times greater than our barley exports, and is a determining factor in export prices. With so much more than usual of corn to export during the coming year, prices will not be likely to rise. Practically no barley is shipped to Europe primarily for feed.

For poultry feed great quantities of wheat are used and barley is fed to chickens only under protest when wheat is not available. We can scarcely hope to develop a market in this direction.

For horsefeed, all that anyone needs to say is that everybody admits a rapidly decreasing demand in this direction with no hope of revival.

For cattle feed there may be developed an increased demand in California and neighboring States for the California crop.

Hog feed seems the most promising market for barley and the man who would be hopeful to sell his 1920 barley may well look into the hog situation in the Western States as affected by local and Eastern conditions and base most of his hope on what he finds in this possible consuming agency.

Figure for Yourself.

Wherever there is reasonable assurance that either wheat or barley will make good crops, next year's biggest dollars will come from wheat. One interested party figures out the relative profits on the following basis, which may be altered to suit the probable yield on each man's own farm. This party believes that 1920 wheat will go around \$4 per cental, and barley will be not over \$2.25. Assuming that the barley will yield twice as many sacks per acre and that sacks will cost 20 cents:

RELATIVE PROFITS PER ACRE FROM BARLEY OR WHEAT IN 1920.

Reasonable Income Per Acre.	Cost of Harvest.	Net Profit Per Acre.
Wheat: 10 sacks at 130 lbs. total 1300 lbs. at \$4, bringing ....\$52	Ten bags at 20c.....\$2 Threshing .....\$3 Total .....\$5	Wheat. \$52 — \$5 equals \$47 net per acre
Barley: 20 sacks at 100 lbs., total 2,000 lbs. at \$2.25, bringing .....\$45	Twenty bags at 20c ..\$4 Threshing .....\$3 Total .....\$7	Barley \$45 — \$7 equals \$38 net per acre

Concluding a run of 20 days, the longest run on Tuscan cling peaches in the history of the California Packing Corporation, the plant at Yuba City has finished 67,000 cases of the fruit.

Control of Anthracnose on Loganberries.

Written by Prof. H. I. Schnabel, Agricultural Director, Union High School, Sebastopol.

Spraying for the control of anthracnose on loganberries was begun in August of 1917, on the farm of H. A. Chinnook. After the old canes had been removed a 4-4-50 Bordeaux spray was applied. A second spray was applied March 4th, and a third on April 25th. The same strength spray was used in each case. The results obtained were as follows:

Check row—no spray applied—contained only.....	14% good vines.
Row which received 1 spray (Fall) contained	28% good vines
Row which received 2 sprays (Fall and Spring)	35% good vines

The above results do not show very good control. However, the yield on the sprayed parts was 3 or 4 times as good as on the unsprayed part.

Results on the F. P. Doyle Ranch.

This field of logans was almost dead in the Fall of 1918. It contains about 5 acres. Many ranchers told Mr. Morgan, the tenant, that it would not pay him to put up the canes. However, he was very anxious to get something out of them, if possible. He inquired about a spray and wanted to know if it would help the crop the first year. This was expecting a great deal from such a poor field, but we thought best to give it a trial. The first spray was applied, to about one-half of the field,

just before growth started in the spring of 1919. A second spray was applied when the new shoots were about 6 inches high. Lime-sulfur was used for both sprays. Two and one-half gallons to 50 gallons of water were used for the first spray, and 1½ gallons to 50 for the second. Two rows received no spray at all, 54 rows one spray, and 43 rows two sprays. The total cost for spray material was about \$5 per acre, and was considered a prudent expenditure.

Results of Spraying Logans.

(a) Average no spray row produced	60 lbs. of berries
Average one spray row produced	123 lbs. of berries
Average two spray row produced	155 lbs. of berries

The total production was 13,400 pounds. This is a low yield, but it must be remembered that this season (1919) has been a very poor one. The

total amount of berries shipped this year by the Berry Growers, Inc., was at least 50 per cent short of last year. Considering the poor season and the

very poor condition of the vines when the first spray was applied, the yield was much more than the owner expected.

Average check row (no spray)	40% diseased.
Average one spray row	18% diseased
Average two spray rows	15% diseased
Average three spray rows	11% diseased

The presence of diseased new canes was noted on July 29, 1919.

Control of Disease on the New Canes.

From these figures it appears that one spray is almost as good as two. However, the comparison is not exactly fair, because the vines were more diseased at the start where the two sprays were applied than where only one was applied. If it had not been for this fact there might have been better control where two and three sprays were applied. When the sprayed rows are compared with the check row it is very evident that the spray checked the disease. Another year of spraying should bring the disease under control and the vines in good condition.

Conclusions.

The experiment certainly convinced the owner and tenant that it pays to spray. In fact Mr. Morgan believed in it so much that he came very near not leaving any check rows. The adverse weather conditions make it impossible to make any positive statements, but it does appear that Lime-Sulfur will not only control the disease but increase the yield as well. On very bad fields two sprays are recommended.

- 1st. Prune out the old canes early in the Fall and burn.
- 2nd. Spray with Lime-Sulfur, 2½ gal. to 50 of water in the Spring before growth starts.
- 3rd. Spray again, using 1½ gal. to 50, when new shoots are 6 inches high.



In the left-hand picture, the vines to the left of the lady have been sprayed and the ones to the right are unsprayed. The right-hand picture is self-explanatory—the vines to the left having been sprayed and those to the right unsprayed.



and the ones on the right are unsprayed. The right-hand picture is self-explanatory—the vines to the left having been sprayed and those to the right unsprayed.

A Block of Black San Pedro Figs

The market for fresh figs is yet limited and easily supplied. Winters and Newcastle have a good trade and with good luck in weather these fresh figs generally pay well as they do from the South. The Black Mission shipped so largely from Northern California is the oldest fig in the State and because it does so well under such varying conditions of soil and climate, is so prolific and grows to such magnificent and symmetrical proportions it is a universal favorite. But fresh figs have to be handled and packed as if they were eggs, only in smaller containers, and are therefore likely to remain in the luxury class, while the dried figs and the canned or processed figs are likely to become staples.

A friend recently told us of a block of Black San Pedros, and we went to the Honora Realty Company's orchards at Lemon Cove, Tulare county, to see them. The manager, C. E. Goodale, was away, but we had a talk with the foreman about the Black San Pedro figs on the place. It is only a small side line here, for this company has 200 acres of Valencia oranges—from newly planted trees to those six years old; also 300 acres of Washington Navels and 100 acres of Lisbon lemons. In reply to our questions the foreman told us of their manner of handling the Black San Pedro, which

is believed to be the largest fig grown—white, black, or brown, and a very fine fruit for fresh table use. The company picks and ships all of these figs green, the first crop being ready about June 15. After this has been cleared there is an interval of two or three weeks, after which there is more or less continuous picking right up to frost. The figs which drop to the ground are gathered up twice a week and dried. Last year from this small lot of trees 4,000 eight-pound crates were shipped in addition to which four tons of dried figs were sold. The fresh figs were said to have brought from \$1.25 to \$1.50 per crate on the Eastern market.

We asked the foreman how they dried as compared with the Black Mission. He said they dried well and were of good flavor—no souring in that locality. The only drawback to the fruit as a shipper was that owing to its exceedingly short stem, this was likely to break off from the fruit unless great care were exercised in picking and then the fruit might shrivel a little in the crate. Though this does not injure the flavor of the fruit it takes away from its attractive appearance. This fig is a purplish black with a green neck and a smooth skin. We spoke afterwards to a packer about these figs and he said, "Yes, it is a very good fig, but was somehow never propagated on a large

scale because we had the Mission, which is a good old standby and has been in vogue ever since it was brought here by the Mission Fathers and is hard to beat. I did not know there were as many as 11 acres of Black San Pedros in the State."

This whole place, which is irrigated once a month, is kept in the best state of cultivation with four Samson tractors and six teams—for over 600 acres of fruit.

From the statement of facts about the Black San Pedro it will be evident that this young orchard creates no record. Plenty of Missions have done as well and perhaps better. It is a simple statement of what we gathered of this interesting variety.

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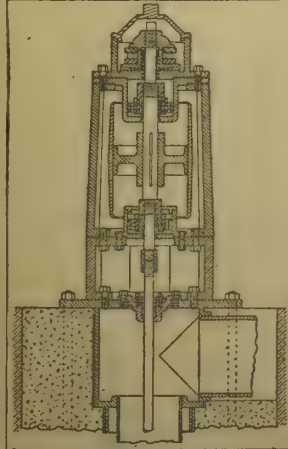
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Concerning the Importance of Sulphur

(Written for Pacific Rural Press.)

Sulphur is one of the seven mineral elements in the soil which are believed to be absolutely indispensable to plant growth. As pointed out in a previous article, the teachings of the past fifty years, due largely to Liebig and his followers, have emphasized the importance only of nitrogen, phosphorus, and potassium on the assumption that those are the only three of the seven elements mentioned which were ever deficient in ordinary soils. These teachings have formed the basis of the fertilizer practice which has been in use for fifty years or more and which is still in use, perhaps more widely and intensively than ever.

How Sulphur Was Overlooked.

The development of scientific investigation and the critical attitude among some soil investigators in the last ten years has called in question many of the old assumptions and among them the idea that the addition of chemicals to soils for their improvement shall be limited to those containing any one or more of the well known three elements—nitrogen, phosphorus and potassium. The result has been that among the other essential elements sulphur received considerable attention at the hands of investigators. Hart and others at the Wisconsin Agricultural Experiment Station have shown in the first place that the analytical method for sulphur in plants, prior to their work, had been such as to volatilize much sulphur and, therefore, to give very low figures for the sulphur content of plants. In the second place, those investigators have shown that an addition of sulphur or sulphur containing materials to soils may be productive of considerable increases in plant growth on those soils. This has been confirmed by experiments at the Kentucky, Oregon, and other agricultural experiment stations. The increases in crop yields noted are not necessarily to be accounted for, as all of these investigators have assumed, by the hypothesis that sufficient sulphur as an indispensable element for plant growth was lacking in available form in the soils in question. Such increases in plant growth may have been induced by certain chemical reactions in the soil solution which result not necessarily in making more sulphur available to the plants but of making larger quantities of other essential elements available in a properly balanced form with the other elements.

How Can Sulphur be Applied.

Assuming, however, that sulphur applications to many soils may result in considerable crop increases, regardless of the mechanism or theory involved, the practical question is how it may be best applied to soils. Many of the materials now used as fertilizers contain sulphur which has not been commercially valued to date. For example, sulphate of ammonia, sulphate of potash, the gypsum present in acid phosphate, and the magnesium sulphate present in some of the german potash salts. For supplying sulphur to soils, however, we have other relatively cheap materials which make unnecessary the use of the substances just named. Thus, we may employ flowers of sulphur, gypsum as such, sodium sulphate, possibly sulphuric acid, and possibly also sulphide ores. On soils on which we are convinced that sulphur gives undoubted increases in crop growth, fifty pounds of sulphur

per acre may be used. Its practical equivalents in the other forms named would require about three hundred fifty pounds per acre of gypsum, and one hundred fifty pounds per acre of sodium sulphate. The other two materials need not ordinarily be considered since sulphuric acid is difficult to handle, and sulphide ores are usually difficult to obtain. Aside from these considerations, the cost of material should always be the final determinant of the choice of the material and the amount to apply.

How Sulphur Acts in the Soil.

It may assist perhaps to understand the fate of sulphur when applied as such to soil. There are bacteria in the soil of a specific group which oxidize sulphur to sulphuric acid. The latter reacts with the minerals of the soil and renders them more soluble and in that reaction forms sulphates with the bases of the minerals attacked. These sulphates furnish such sulphur as the plant needs for its uses but are also active in maintaining further reactions. Such reactions would, of course, be induced directly by the gypsum sodium sulphate or any other metallic sulphate application like ferrous sulphate or copper sulphate and partake of the following nature. They are practically the same as the reactions induced by sulphate of potash which I have endeavored to explain in a previous communication. Thus, the metallic sulphate in solution dissociates into the metal and the acid combines with the dissociated water. This results in the production of more active solvents than the ordinary soil water, and hence, the resulting increased concentration of the soil solution and the addition thereto of increased amounts of specific acids and bases theretofore not present. This indicates clearly that the addition of either sulphur or a sulphate to a soil may accomplish many reactions in the interests of plants and among its many missions, the supply of available sulphur to plants is only one.

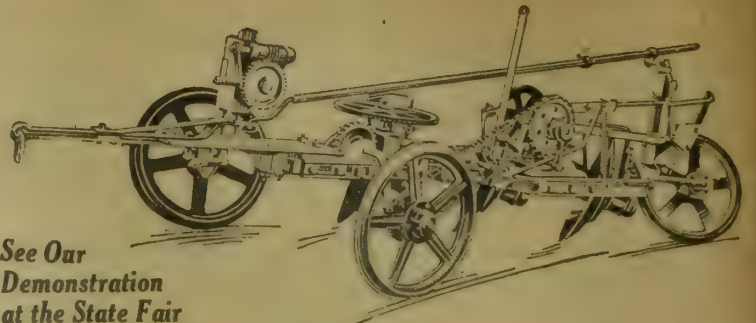
All of these considerations make it appear that we shall be obliged to accord to sulphur a much more important place than it has heretofore received in the theory and practice of soil chemistry, and a place which, in my opinion, should be that of a distinct and unequivocal parity with phosphorus, with potassium and with calcium.

Owing to the cool ripening season it is possible that prunes may not weigh up to grade. Growers generally are keeping the first pick separate until they are thoroughly dried. A good many people throw the muddy colored ones out entirely—a good plan, for they are poor stuff even when dried out.

WILL SOME ONE PLEASE DEFINE PROFITEERING?

(Written for Pacific Rural Press.)

The following is taken from the letter of a small prune grower. It came to the office August 23: "I don't quite like the outlook for our fruit associations. I see in today's paper that a California Fruit Growers' Exchange man in Ohio has been arrested for profiteering and that Attorney-General Palmer has made representations to Congress that penalties should be imposed for profiteering on producers' organizations conducted for a profit. Are we supposed to conduct them for our health? Labor fixes the price of what it has to sell to us; are we to suffer them to fix the price of what we have to sell, too, though our greatest overhead cost is labor in some form? We do not hoard—our produce is marketed and we have to spend most of the money directly the crop is harvested. If consumers are held up by hoarded and dribbled-out supplies, the producer is not to blame. Is not the profiteer the man who exploits our products for unwarrantable profits? We have many lean years and dead losses to make up and when a year arrives that this becomes possible, the farmer is jumped on even though the price is based on supply and demand. Does Attorney-General Palmer want to hand our producers' selling-organizations back to the tender mercy of the few professional packers again? If so, why?"



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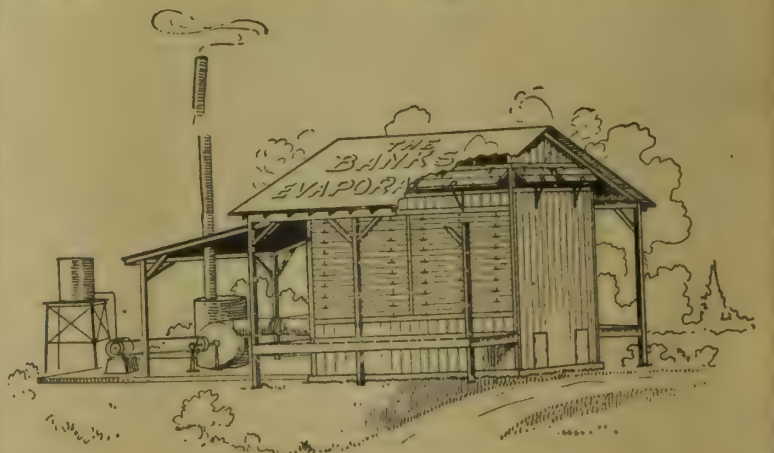
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HORTICULTURAL JOTTINGS

Fruit growers of Sutter county are paying grape pickers \$3.25 a ton, and 12½ cents a box for picking prunes.

Shipping of Tokay grapes has commenced in the San Joaquin district. The fruit seems to be ripening nicely.

Some sales have been made to the trade of this year's crop of almonds at 35 cents a pound for Nonpareils, it is reported.

Elmer Betteton and Oscar Lane of College City (Colusa County) sold their Muscatel grapes for \$225 a ton, the highest price ever received here.

A Japanese strawberry grower in the Santa Clara Valley is said to have sold \$45,000 worth of fruit from 15 acres—an average of \$3000 an acre, or 200 chests at the present price of \$15 a chest.

Around Clovis a very heavy crop of peaches is being cut and dried, and fig picking is starting. The Indians are coming in from the hills to pick the raisins and to date there has been no shortage of labor.

Geo. McWilliams, a local representative in Cleveland, Ohio., of the California Fruit Growers' Exchange, was charged last week with violation of Ohio's Anti-Trust law by the grand jury investigating food price profiteering.

George Hudson, acting for the Department of Justice, has obtained evidence of alleged profiteering on raisins by a Fresno jobber. The California Associated Raisin Co. was relieved of all responsibility for high prices in a report made to the Dept. of Justice.

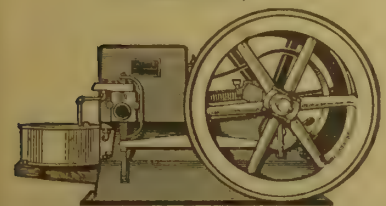
It is estimated that about 1500 carload of table grapes will be shipped from the district between Etiwanda and Ontario (Riverside Co.) this season. The grapes will not be ready much before Sept. 10. Last year picking started Aug. 27.

Seventeen thousand dollars was paid for labor on the Apricot crop and the amount paid for labor on peaches will be several times greater according to Paul C. McAbee of the Porterville Canning Company speaking of this company's activities.

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One ton of dried peaches to the acre is expected by Mrs. F. W. Weeks and Son on their 50 acres of Elbertas, Muirs and Lovels at Red Bluff and Los Molinos (Tehama County). Next year they intend to have a tractor to keep their orchard in good cultivation.

In the Colfax pear region this year the crop is very light. Last year was a dry year in this mountain district and a 70 per cent crop resulted. This year the crop is only from 50 per cent to 60 per cent on most ranches but the size is good. They run from 135 to 150 the box.

Eighteen to twenty tons of peaches to the acre are not unusual in Sutter county this season. E. T. Barrett showed three mid-summer peaches in Yuba City weighing three pounds, five ounces. He expects over 18 tons to the acre. Many growers are realizing \$1,000 to \$1,500 an acre.

The fastest peach cutter of the State is employed in Sacramento canneries. Miss Etta Corey is averaging \$15 a day with Tuscan clings and expects to average with Phillip clings which are larger from \$20 to \$22 a day. Her record for this season is 82 boxes in nine hours, which at 20 cents a box, netted \$16.40.

Owing to the depreciation in English currency and the fixed maximum prices that are set for apples imported into the United Kingdom some slight check of business has resulted. The par value of a 38-pound box of apples at the set price being \$4.80, the exchange value is only \$4.31—the pound sterling having depreciated that much.

"A light truck, either new or converted from an old outomobile is the best thing yet," said a grower from the Auburn district—J. A. Teagarden. "There is no bruising of the fruit in transit, no ripping of trees or running away on the part of horses, and you can make half a dozen trips where you only do one with a team. We are all getting them now."

The Woman's Land Service has opened an office at 333 Kearny street, San Francisco for recruiting women for grape-picking in the Lodi section. The wage scale is 35 cents an hour and overtime. A nine-hour day at \$3.25 is guaranteed. The camp has been laid out by the Immigration and Housing Commission. The crop is large and picking will continue for two months.

A gross return of \$1,150 per acre, or \$7,000 on six acres of Bartlett pears and apricots is the return that A. B. Harden on Stanislaus river bottom land near Oakdale received this season. From one hundred and sixty 20 year-old-Bartlett pear trees 38 tons of green fruit sold for \$3000. A second picking was sold green. The apricots from less than four acres sold to the canner green for \$3,004.

According to J. L. Nagle, manager of the California Fruit Exchange there will be a big demand for wine grapes for shipment next month, provided the government rescinds war time prohibition. He states that he can secure orders for 1000 car loads to be shipped at prices ranging from \$50 to \$55 per ton lugs extra. In case wine can not be made, many of the grapes will be dried, for which a price of 10 cents per pound will be paid.

The Banks Evaporator (W. A. Banks, San Jose) reports among a number of recent sales that the following places have been furnished plants for fruit drying. Orchardists and orchard companies, at Hollister, Campbell, Cupertino, Woodbridge, Cucamonga, Mt. Diablo, Canada, Honolulu and the Australian government. At the present price of trays it is claimed that the expense of sun-drying 250 tons of prunes would about equal the cost of installing an Evaporator.

The Elk Grove Vineyard Association Growers have signed three-year contracts for the sale of their crops to the Virginia Fruit Products Co. of Oakland. The price paid for this year's crops of wine grapes is \$30 a ton, the two succeeding years at market price. The grapes are to be crushed at the Elk Grove Winery and

will be made into a non-alcoholic beverage. The crop will amount to about 3,000 tons from 1,000 acres of black grape vines.



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Here and There in the Fruit Business

An Elderly Vineyard.

A little vineyard near Clements (San Joaquin County) that was planted by Edward Putnam in 1859 from imported grape cuttings is still alive and is yielding profitable crops of grapes. It was submerged in the flood of 1862-63 but came up uninjured after several weeks of immersion. After 60 years of usefulness a fair crop is to be garnered from the veteran vineyard this year.

Uncle Sam in the Show Game.

The U. S. Department of Agriculture has gone into the show game. It has recently issued films showing all the phases of the fruit-growing industry in California. These 'movies' will prove of great educational value all over the world as they set forth all operations of growing, harvesting processing and packing the fruits. Peaches, apricots, prunes and cherries are the chief fruits shown. The peach growers have sent out very complete movies of their own, while the raisin and citrus industries have also had wide publicity.

Mount Vernon Packing "Bee."

The Mt. Vernon Community Packing house at Auburn closed last week after a record breaking run. The solution of their labor problem was solved by their own Women's Club assuming the duties. All the members (150) were thus able to get their fruit packed by practised hands at a minimum of cost as J. A. Teagarden superintended the management and growers were released to devote their entire attention to harvesting. As time goes on it is expected that the system will be enlarged and perfected.

Treating Crown Gall Successfully.

F. B. Smith of Saratoga, some of whose apricot trees were badly affected with Crown Gall, dug down and chopped off the affected portions clean, even chopping off some of the roots. The wounds were well bluestoned and the trees have recovered and healed over the wounds very nicely. Mr. Smith is well pleased with the work for his trees look healthy and bore large crops of fruit this year.

Pruning Course at Davis.

A two weeks horticultural short course will be given at the University Farm, Davis from Dec. 8 to 20. The principles and practice of pruning both young and bearing trees and advantages of some pruning in early summer will be expounded that fruit growers may become familiar with the new method employed. A number of growers will take advantage of this special course.

Going After Business.

By co-operation we are able to find new markets for our produce and our people are doing this. But we are not the only ones. See what British traders are doing: "The newly organized Federation of British Industries including in its membership about 17,000 manufacturers and other producers of Great Britain, is behind the scheme to send British trade commissioners to every part of the world and to establish a most far-reaching and effective service of information. It is designed to have this organization render service both to the members of the Federation in Great Britain and to their customers in the various fields throughout the world."

Heavy Bearing Raisins.

The 1919 crop of Thompson seedless grapes on the Bassett property at Terra Bella will amount to four or five tons to the acre according to an estimate in the Terra Bella News.

The vines were planted four years ago and the following year Mr. Bassett sold his crop of one ton to the acre at \$140 a ton. A portion of the crop this year has been sold at 9c. a pound fresh. Some crop!

July Crop Estimate.

The Fruit crop estimate based upon conditions July 1st, and made by J. E. Richards of the Bureau of Crop Estimates of the United States Department of Agriculture is condensed as

follows: "All crops combined show a condition of 102 per cent, counting a ten year average as 100." Following are conditions of various crops as reported July 1 on such average.

Prunes	131.6
Apricots	127.5
Peaches	126.5
Walnuts	126.5
Pears	115.4
Apples	112.7
Grapes	109.8
Lemons	107.2
Hops	105.5
Watermelons	104.5
Olives	78.8
Oranges	92.8
Blackberries	97.8
Blackberries	100.0
Cantaloupes	101.1

Breach of Peach Contract.

Suit has been filed at Modesto by the Pratt-Lowe Preserving Co. against Dr. C. W. Evans asking \$534,000 damages, charging that defendant has repudiated his contract to sell all peaches grown on his land near Modesto for the season 1919-1920 at prices up to \$25 a ton. Dr. Evans recently sold these peach orchards on which there is said to be a 1000 ton crop.

Quick Turn On Apples.

J. P. McDonnell of Sebastopol bought a 21 acre apple orchard near Graton this summer. Eleven acres of which are Gravensteins and the rest late stuff. The purchase price of the orchard was said to be \$22,000 and the Gravenstein crop has brought him \$12,000 with the late apples yet to sell; another instance of where seller and buyer both make money.

Cantaloupes in Imperial Valley.

Horticultural Commissioner Waite says of Imperial Valley:

"This season there were 14,088 acres of cantaloupes, and up to July 18, 7800 carloads had been shipped. Last year there were 10,942 acres and 4405 cars were shipped. The largest number of cars shipped previous to this year was in 1917 when 5080 were shipped. "With the acreage and shipments as stated for this year, making an average of about 175 crates to the acre, there seems to be little cause for alarm. Estimates for a next year's crop runs as high as 25,000 acres. If the acreage is anything like the estimate, it might be a benefit to have root knot or some other pest to reduce the shipments."

Two Strings to One's Bow.

"It is a fine thing to have two different ways a man can handle a crop. An Exeter man arranged to ship his Elbertas green and the shipper impressed upon him the necessity of picking them green enough. He followed instructions and they culled out a whole lot of his fruit because it was too green, so he just naturally quit picking; let his fruit ripen and dried it.

Manufacturing Syrup on Shares.

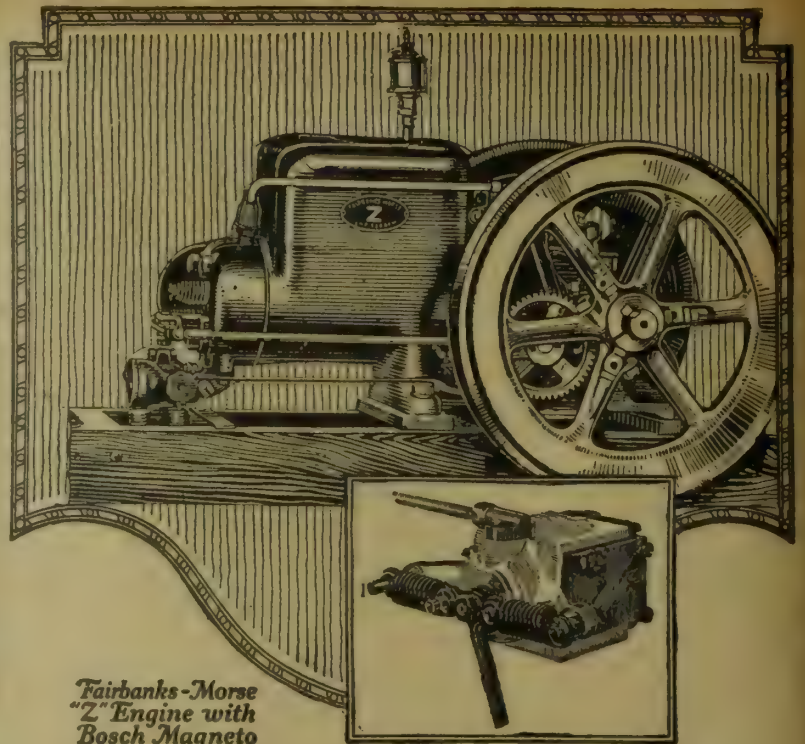
Levi Lunquist of Lake County has a small plant at Middletown for reducing grape juice to syrup. A ton of grapes produces about 32 gallons of syrup for black grapes and 40 gallons from the Golden Chasselas. In crushing grapes for neighbors, he makes the syrup for half the product giving the grape grower 16 to 20 gallons per ton of grapes. He does not go into details but says he has applied for patents for his process.

A Goodly Stand of Trees.

Geo. W. Brown near Dairyville, (Tehama County) has 12 acres of young prunes in their fourth year of growth that run 16 feet high. A fifth year almond tree measures a foot through at the butt. A deep sediment soil, plenty of water and good cultivation does the trick.

Don't Waste Peach Culls.

Although clings are strictly a canning peach it should be remembered in a year of high prices like this that culls are worth far more dried than wasted. Not only can small fruit be saved, but large, ripe fruit that falls to the ground and becomes unfit for canning can be dried nicely.



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Bosch Magneto

Greater Engine Value

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Buy only Melilotus seed that has a quality tag on each sack. It protects you against the low germination seed so general on the market this season. This seed is above 99 per cent pure and above 90 per cent germination.

Varying Results in Blasting in Orchard

(Written for Pacific Rural Press.)

We recently called on Harry L. Bell of Napa to see a young orchard of No. 1 prunes he set out three years ago. We had occasion to inspect these trees when they were bought. There are several No. 1 prunes on the market and they are all good. One of them has all the characteristics of the Imperial and the curing quality of the French. Mr. Bell, who has forty acres of prunes—young and old—is a strong believer in the importance of bud-selection, as are most men who have given the matter thought. We found he had a very even stand throughout except a few adjacent to some large oaks, and the young trees are in shape to start producing in a small way next year. This by the way.

What Do You Know About Blasting?

"Come over here and I'll show you some trees I blasted for," said Mr. Bell. "Now, you see that bare space with 'misses' and replants in it. I blasted into the clay there and that is what I got by it. I know if you blast in wet clay you simply make a pot hole. But I blasted that dry and I have a pot hole anyway at each tree." We then told Mr. Bell some of our own observations on blasting. Where clay is within two feet of the surface and the clay is dense and impenetrable, not only is it useless to blast but it is no place for trees. For over that kind of dry clay no tree will ever make a very large size. A good quality of moist clay at that depth is often kindly to apples and pears if the water table is not too high and surface drainage is decent. Stone fruits except some plums don't want it. Two miles to the north of Mr. Bell's we know of a hard-pan land where blasting has excellent results. The hard-pan is from a few inches to perhaps 18 inches thick with a sandy soil beneath. Blasting makes this mediocre grain land into very fair tree land. In the Sacramento and San Joaquin valleys where the cemented hard-pan and clay make a bottom impervious to water, blasting "makes" the ground. The holes should however be cleared out of clay and hard chunks and be refilled with surface soil after the operator has assured himself that the hard-pan has been penetrated. If it has not, another shot must be put in or only a pot-hole like Mr. Bell's has been formed.

Adobe Shooting.

Adobe land should be blasted while it is dry and not planted thereafter till the holes have been well settled

by the winter rains and capillarity restored to some degree. Even at that it pays to tank trees planted on adobe soil the first season as this granular soil easily lets air to the roots of young trees while they are young and near the surface. Two tankings is generally enough if they are well hoed afterwards as soon as ever the ground is fit. Where the adobe is underlaid with a chalky clay marl, a shot from the surface can be put in and it does splendid work if properly carried out. In sections where the adobe is underlaid with clay, the shooting must be done when it is dry and the clay thoroughly cleaned out if trees are to be planted. It is better to do this if drainage for surface crops only is sought. We know of good wheat land in Sonoma County where there is a stratum of clay at a depth of about two feet which is not too thick to handle with a blast. This land never carried even a good grain crop of a very wet year—the soil remains too wet and cold, for the layer beneath is genuine 'gumbo.'

Hard Pan Land.

There are plenty of orchards planted out on good hard pan land that could be perhaps doubled in their productive value by blasting some good drainage holes out in the middles of the rows. But the practicability of the work would have to be investigated first to be sure that its value will be unquestioned. One reason why some men are disappointed and their young trees dry out on some soils is that the ground has not settled back again sufficiently after the blasting to convey moisture. Then without an irrigation their trees may dry out more or less until perhaps the following season. Hard pan land cannot be condemned off hand because of the hard pan. The majority of our valley land has substratum of hard pan in many fruitful sections. Some of the most profitable figland is hard pan land according to the late Henry Markarian. But judgment is needed in handling it, and that would be difficult without explosives.

CARRYING AND RIPENING FRUIT IN STORAGE.

(Written for Pacific Rural Press.)

In the experimental cold storage plant at the University plant, many interesting discoveries were made in the holding and ripening of fruit. Last year pears were late after a hot dry summer. They were put in storage when picked at the usual stage and were found to ripen best at a temperature of 70 degrees to 80 degrees. At a temperature above that, the ripening was retarded so that at 100 degrees say, it would take six weeks for them to ripen. It is also known that apple tissue turns brownish under cold storage as now practised. This can be overcome by storing apples at 38 degrees instead of 32 degrees. The fruit also sweetens better—the starch is turned into sugar and this improves the keeping qualities.

Fruit that is ripe keeps longer, carries better and is more palatable and nutritious than is unripe fruit in storage kept at a degree which prevents chemical changes and which comes out of storage at the same degree of unripeness at which it went in.

Cherries evaporate water through their leaves stems and wood. It cannot be evaporated through the skin of the fruit which is sealed but it can through the stem.

Thus, if cherries are picked unripe, the stem will remain green because it draws sap from the fruit. And the stem will remain green till the fruit is shrivelled. But if the cherry is dead ripe the starch is turned to sugar and then the fruit draws the sap from the stem and remains plump after the stem has become brown and dry. Dr. Whitten also told us that in shipping grapes, any mould found on the stems on opening



The **FARMER** says—
"for stumping
genuine **GIANT**
has no equal"

From recent letters of ten farmers who have used Giant Powders for Stumping we make these extracts:

"1. Your Giant Farm Powders shoot the roots. 2. They have wide breaking power and less bad gases than others. 3. I get the same excellent results from them every time. 4. They are always uniform. 5. I used eleven tons and wouldn't have any other make. 6. I want to sell a lot of other powder that I have because Giant does the work much better. 7. Genuine Giant can't be equalled. 8. I don't have to use so much powder when I blast with Giant. 9. You know what we need for stumping. 10. I save money by using Giant Powders."

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Elephant Grass

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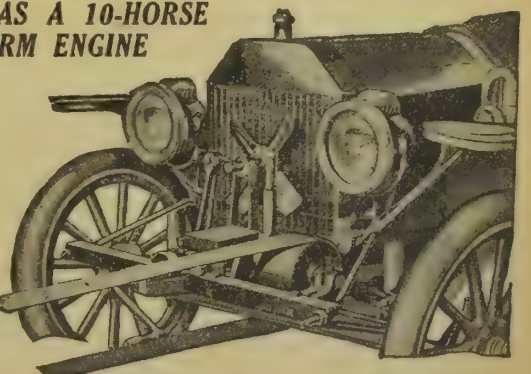
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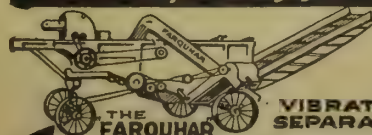
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the package may denote that the fruit was unripe when picked. Dead-ripe grapes would absorb the sap in the stem, which would gradually become withered and dry, leaving the grapes plump and full.

ASSOCIATED RAISIN COMPANY SETS PRICES.

Opening prices on this year's crop have been announced by the California Associated Raisin Growers, Inc., as follows: Sun Maid (seeded, fancy), 15 cents a pound; Fancy seeded, 15 cents; 12-ounce seeded, 11½ cents; Choice seeded, 14½ cents; Bakers' seeded, 13½ cents; Fancy bulk seeded, 14½ cents; 1-crown loose Muscatel, 13½ cents; 2-crown loose Muscatel, 13½ cents; 3-crown loose Muscatel, 14½ cents; 4-crown loose Muscatel, 14½ cents; Thompson seedless in 25-pound boxes, 14½ cents, and Sultanas in 25-pound boxes, 14½ cents.

Layers.—3-crown trade pack, per 20-pound box, \$3.10; 4-crown trade pack, 20-pound box, \$3.20; 6-crown trade pack, per 20-pound box, \$4.05.

The higher prices this year will help to reimburse some of the losses of raisin growers in the past, including last year, when untimely rains resulted in heavy destruction. A large portion of the crop has already been sold. According to Wylie M. Giffen, President of the Association, the price to the grower, reduced to a sweat-box basis, will amount to about ten cents for Muscats, eleven cents for Sultanas, and 11½ cents for Thompsons, if all the crop goes to consumption. These prices have been fixed in accordance with relative value of other products in so far as estimation of the purchasing value of the dollar in these fluctuating and inflated currency can be computed.

"The price of raisins must necessarily be determined both by the law of supply and demand and by the general level of other commodities of life at the time the price is made."

Harvesting and Processing Walnuts

(Written for Pacific Rural Press.)

To the Editor: Will you please send me the latest bulletin on walnut curing, etc., or kindly give directions in the Rural Press for same. I am an old subscriber and have a large crop. Also best way to prop the trees.—V. H., Blocksburg.

Ninety per cent of the growers in Southern California belong to the California Walnut Growers' Association. The hulled nuts are sent into their local packing house or to Los Angeles and washed, graded, bleached and dried and marketed as described in our issue of March 15. The machinery for processing walnuts in a large way is rather expensive. The washing is done in large revolving cylinders of wire netting or perforated iron which slowly revolve and the nuts scrub themselves clean in jets of water or in water.

You may have to make something of the kind or else a "shaker" which, however, would have to be used carefully so as not to break the shells. In bleaching the nuts the sulphuring process has been abandoned as spoiling the flavor of the nut.

You can make a dipping box with heavy mesh bottom. To make your dipping solution the following formula was given out by the University of California Experiment Station: "Six pounds of chloride of lime, twelve pounds of sal soda and 50 gallons of water. Dissolve the bleaching powder in four gallons of water and the sal soda separately in four gallons more. Add the two solutions together and stir well. Let the carbonate of lime settle to the bottom and draw off the clear liquid adding enough water to make up 50 gallons. Put the nuts

in the dipping box or crate and immerse in the fluid and then add 1½ pounds of 50% sulphuric acid and agitate by raising and lowering the dipping box. The bleach is reached in five to ten seconds and the nuts are then washed in water and put out to dry. The same liquor can be used with new batches of nuts so long as the proper effect is produced and small additions of acid will prolong the efficiency of the liquor." This process was first protected from commercial use by patent. Graders with spraying (bleach) devices attached are put out by manufacturers of prune graders. In grading the nuts, No. Ones are those which will not pass through a one-inch square mesh screen. They should also be hand-picked on the trays to eliminate anything that spoils the sample. In your climate, artificial drying may be necessary for a large quantity or they should be spread thin on the slatted trays and stocked at night to prevent their becoming mouldy or discolored by damp or wet weather. In drying, they may be occasionally stirred on the trays so as to dry them out as rapidly as possible. Where they have too long an exposure to the sun they may split open a little. You may dry them by storing (after the wetness has been evaporated) in slatted bins, well off the ground in a dry shed or barn and with plenty of ventilation. If these bins are made V-shaped you can draw off your nuts from a chute at the bottom and settling of dampness is avoided.

Chas. J. Kuhn, walnut grower of San Jose, referring to walnut bleach says: "We are using the Anderson-Barngrover formula (the one referred to above) excepting that instead of immersing the nuts in the solution, we spray it on to them while they are passing through an enclosed prune shaker. The process is not simpler but the results are much better as we get no walnuts soaked full of the solution."

With regard to your last question, propping of walnut trees is rarely necessary. If they are young and pulling apart too much by weight of foliage, lighten them up a little by pruning back to leaders or else wire them in to staples from inside the tree as suggested with prune trees.

LABOR RATES AND THE FRUIT HARVEST.

The game is on! We are right into the fruit harvest—pears, late peaches and table grapes are flooding the packing sheds, factories and railroads with fruit. Seedless raisins are coming right along and the prune picking has commenced in earnest. The high prices obtained for fruit have enabled growers to be generous in regard to wages. Day wages by the hour range from 45 to 50 cents per hour. Forty-five cents is being paid in the prune orchards for all work and from \$6 to \$9 a ton, according to the quality and quantity of the fruit and orchard conditions. Apple and pear pickers are getting the same, or \$3.50 and found. Grape pickers are getting

Cover Crops

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Common Vetch (*vicia sativa*)
Canada Field Peas

Our stocks of these are of the best quality obtainable. Our Melilotus is thoroughly scarified, insuring high germination.

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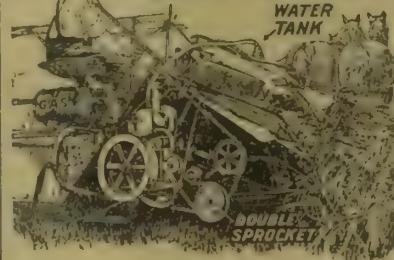
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Very important—The weight of the engine on the rear of the binder, only 167 lbs., is balanced by the simple cone water cooler on the front of the binder. This balancing, and the water cooling, to prevent overheating on all day runs, are necessary to successful work in a hot field.

After harvest Cushman engine does all other work. Very light weight and easy to move around, yet runs more steadily than most heavy engines, because of Throttle Governor and perfect balance. 4 H. P. weighs only 190 lbs.; when stripped for binder only 167 lbs. 8 H. P. only 320 lbs. Also 15 and 20 H. P. sizes.

SAME ENGINE FITS

Corn Binders, Mowers, Reapers, Manure Spreaders, Potato Diggers, etc.

Write for Information.

THOMAS R. BROWNE

Stockton, California

3½ to 4 cents per 22-pound tray—the latter for Muscats. Peach cutters are getting from 7 to 9 cents a lug, according to quality. In the canneries help is paid for by the piece or the hour—the minimum wage which comes into effect September 1 being \$13.50 a week. Some expert women packers have made as high as \$6, \$7 and \$8 a day. In Ripon some growers are paying as high as \$6 a day for expert cantaloupe pickers.

An order for 1100 cars has been placed by the Earle Fruit Co. for the Tokay season at Lodi.

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ARCADIAN Sulphate of Ammonia is the well-known standard article that has done you good service in your mixed fertilizers for years past. Especially kiln-dried and ground to make it fine and dry. Ammonia 25¼%. Made in U. S. A. Arcadian is the great American Ammoniate.

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LIMA BEAN CROP SHORTER THAN WE SAID.

To the Editor: In an article in the July 12 issue of Pacific Rural Press it is stated that the Lima Bean crop is 59 per cent of the normal crop, the reasons for the shortage being lack of moisture at planting time and a fungus disease causing more or less wilt. About the crop average, I am sure your informant was wrong. I will volunteer to cut that estimate right in two and I am willing to back my judgment in a substantial manner. The best fields under irrigation are not going to produce more than your estimate of July 12; and the unirrigated acreage which largely predominates will not produce over a 20 per cent crop.—C. L. Chrisman, Ventura.

[Thank you, Mr. Chrisman. If growers would more generally criticize the material in this paper, as you have done, it would be a still better paper. What our readers write is frequently better material than what our writers write, and we are always glad to hear from our readers on any farm subjects. We will not print names, if requested not to do so.—Ed.]

KING BARTLETT OF LAKE COUNTY.

[Written for the Pacific Rural Press by D. L. Kieffer.]

Eighty-five dollars a ton is the contract price paid Lake County pear growers this year by their local buyers and packers. The average sales were made at \$70, though a few contracts for \$90 a ton have been let on the last orchards bought. These contracts are for straight orchard run. Picking boxes are furnished free by the packer. The crop is of the finest quality they have ever known.

The pear is Lake County's chief claim to agricultural fame. The crop this year is estimated at 4,700 tons, and there are only 500 acres now in bearing. Five thousand acres more are either just planted or will come into bearing in the next few years. Four and five year old Bartlett pear orchards in the Kelseyville district, which is the main pear section, are selling for \$1,000 an acre and little acreage is being offered.

The packing houses all over the county opened on August 15th. Practically every pear in the county is sold to be dried. The shrinkage and drying loss of these pears is about 4 or 5 to 1. The sugar per cent is said to be 6 to 8 points higher than in pears grown in other parts of the state. The Lake County grower has another advantage. Because his fruit is dried, he can allow it to grow longer on the tree and obtain about one-fourth more weight than can growers whose pears go either for canning or eastern shipments. A pear 2½ inches in diameter is of a size best suited commercially for any other purpose than drying. Pear's intended for evaporation are left on the trees till they are of full size and will run up to about 3 inches when they are picked, and cut for drying as soon as they mature to a ripe condition in the pile.

Great care is taken in packing the dried fruit. It is put up in fancy retail boxes right in the county all ready for the consumer. Then it is hauled by truck to the nearest shipping point, which at present is either Hopland or Ukiah. As soon as the state highway is built to Sacramento, nearly all shipments will be made that way. This will constitute a great saving in time because the main markets for this product are found in the east. Canada and the United States take nearly the entire crop each year, very little going abroad. The chief buyers are Chicago and New York. Jobbers throughout the eastern states advertise the fruit under the name of "Lake County Pears."

The packer plays an important part in bringing credit to the pear of Lake County. The pears are cut, sulphured, dried in the sun for one day, left out for one night, then evaporated in the stack till completed. They are then graded into the classes of fancy, extra fancy and jumbo and last of all they are carefully hand packed.

So far all this labor has come from the local people. This summer 400 of them will be employed in the packing houses of the California Packing Corporation. This company has four plants in the county, and expects to pay out \$100,000 for help this season. Their largest dry yard, at Kelseyville, is said to be the largest drying plant in the world. It has been enlarged this year to take care of 3,500 of the 4,000 tons they have contracted in the county. Their pear contracts amount

to \$350,000 this season, according to Manager Renfro.

TIME TO PLANT CAULIFLOWER SEED.

August is the month to plant cauliflower. This delightful vegetable is particular about the temperature when it is heading. Too much warm weather will make the heads open up and toughen. Planting seed now and transplanting not later than October will put heading time during the cooler months.

Shipments of green pears to points outside the State to Aug. 5 were 2382

cars, compared with 1677 cars to the same date last year, according to E. E. Kaufman of the Bureau of Crop Estimates.

The 12-20 Small — Light Weight

Guaranteed oil burner under all conditions.
Oil cooled—no evaporation—no freezing.
Low speed heavy duty motor.
20% overload capacity.
Cut gear enclosed transmission.
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Properly placed belt pulley.
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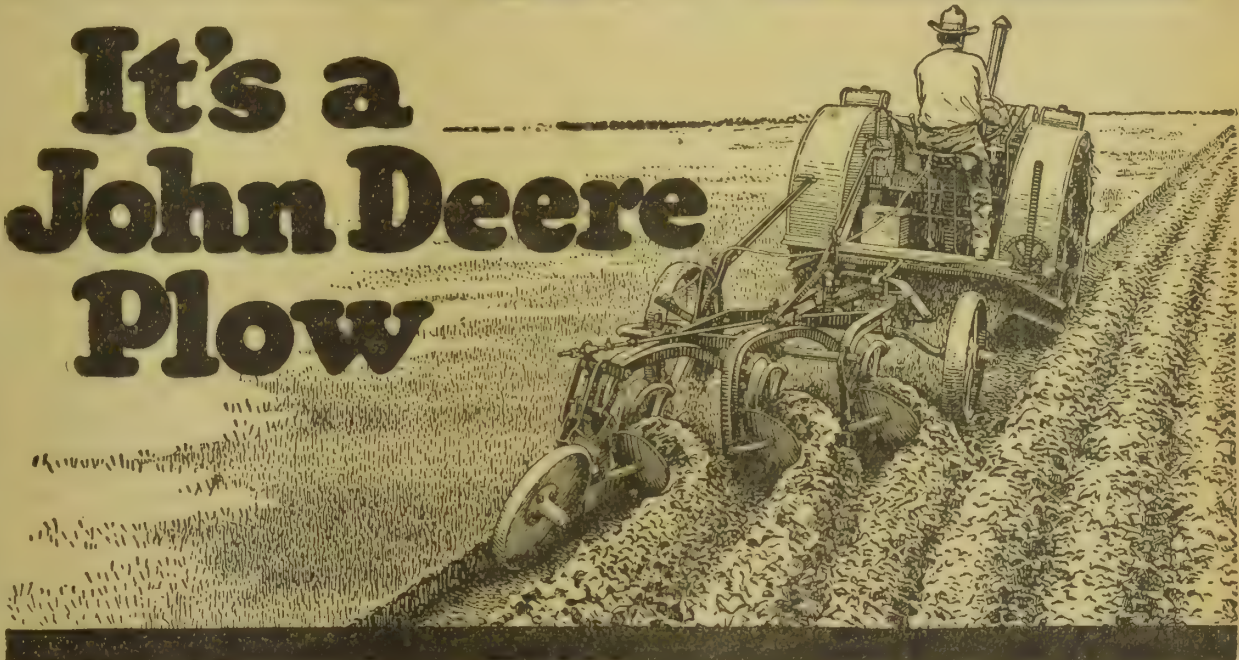
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FOR many years farmers everywhere have associated the name "John Deere Plow" with special plow quality—with better and longer plow service. Getting this quality is especially important when you buy a tractor plow. A tractor plow does work on a big scale—the quality of the work counts in proportion. A tractor plow must stand heavy strains—its ability to keep on doing good work year after year counts strongly in making plow profits. Remember, you get this special quality when you buy a

JOHN DEERE TRACTOR PLOW

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Good plowing is what you are after when you operate your tractor plowing outfit, and good plowing depends upon the plow. That's why it pays—always—to get the best plow you can buy. No matter what standard tractor you buy and no matter what type of soil you have to contend with, you can get a John Deere Plow, suited to your tractor and your soil, and thus make sure of good plowing year after year.

Sizes

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Three-Bottom
Four-Bottom

Equipped With Genuine John Deere Bottoms—The kind that have an established world-wide reputation for long wear, good scouring and thorough seed-bed making. You can get the shape and type suited to your soil.

Holds to Its Work at Uniform Depth—It is locked into the ground at plowing depth through the action of the power lift. The land wheel is set back, balancing the weight of the plow over all three wheels, just as on your sulky or gang plow. Makes plow run steady and assures plowing at uniform depth in uneven ground.

Quick Detachable Shares—Strong and close-fitting. Loosen one nut to remove the share. Tighten the same nut and the share is on tight. It stays tight.

Extra Strong Construction—Extra heavy beams of special John Deere steel. We

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High and Level Power Lift—Lifting mechanism is simple, strong and positive. Parts move only when plow is being lifted or lowered—practically no wear.

Three Sizes—Two-bottom, three-bottom and four-bottom. One of the sizes suits your tractor. And, remember, the adjustable hitch adapts the plow for use with any standard tractor.

Farmers Everywhere are making sure of continued good plow service behind their tractor by getting John Deere Tractor Plows. Your John Deere dealer is ready to furnish you with one. We will be glad to send you a folder describing the John Deere Tractor Plow. Ask for Folder TP-25 Write today for full information.

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AND SERVICE



JOHN DEERE
DEALERS GIVE BOTH

Corrugated Rollers for Firm Seedbeds.

(Written for Pacific Rural Press by P. G. Cunningham of the Dunham Co.)

One of numerous conditions that must be met by the farmers of California is the preparation of the ground to receive seed after dry-plowing or plowing done before seasonable rains have come, or in other words, the producing of a finished seed bed.

The methods used to convert dry-plowed land into a finished seed bed are many, as may suit the idea of each individual farmer.

All will agree that the necessary things to be accomplished in order to produce a finished seed bed are: (1) the eliminating or packing out of the air spaces or voids left by turning over the furrow; (2) the mashing up and pulverizing of the clods; (3) leveling the ground; and (4) leaving the top in a finely pulverized or mulched condition.

When these four things have been properly accomplished the soil condition gives better opportunity to distribute seed more evenly and cover more uniformly thereby, insuring a better stand and crop.

The packing out of voids or spaces left by turning of furrow and bringing plowed ground or seed bed back into close contact with bottom of furrow or sub-soil, provides the opportunity for attraction of moisture from below as well as conservation of moisture supplied from above.

Clods Worse Than Unproductive.

The elimination of clods is a most

essential thing in seed-bed preparation. A clod on a seed-bed when dried out, loses all of its productiveness.

In walking over growing fields left in a cloddy condition before sowing, one at times sees a clod with a plant growing out from under the side and on removing the clod discovers other germinated seed that had been smothered under this same clod. So it must mean that to whatever percentage of that seed bed this condition existed, so had the productiveness been reduced.

The leveling is necessary in all seed-bed preparation and more so when moisture is supplied by irrigation.

Leaving the top of seed bed mulched or pulverized is the best condition for conserving moisture as well as cultivation of growing crops.

The tools used for producing such ideal conditions are many, as best suits each individual's ideas, but the ones used most and in use longest are the disc harrow, spring-tooth harrow, spike or peg-tooth harrow, as well as various designs of drags, rollers, pulverizers, etc. In recent years these are becoming more popular with progressive farmers. Each season various styles of pulverizers and clod-crushers, the most popular of which is the double corrugated roller. This machine is made in various sizes to meet different requirements and works the ground to a space of every two inches. When used in connection with any of the other tools

named above, it produces a more perfect finished condition of seed bed than any other tool or combination of tools will do.

The double corrugated roller is built strong enough to carry any additional weight to meet extreme conditions.

The writer recommends the use of disc harrow, followed by the double corrugated roller, as being the best combination, used separately as horse-drawn tools and in combination when tractor drawn.

While there are exceptional conditions, this combination will apply to practically all conditions and localities and will greatly increase both efficiency and capacity for preparing a seed bed.

Agricultural colleges strongly recommend the use of the double corrugated roller in seed-bed preparation as well as on growing crops of many varieties.

A very interesting booklet, entitled, "Soil Sense," which treats on the many uses of the double corrugated roller as well as on general soil culture, can be obtained free of charge on request at any local implement dealer's place of business, or from Pacific Rural Press.

A San Francisco Grain Trade Association bulletin shows that 52,566 tons of California barley were shipped to Gulf ports by rail in June and 68,306 tons in July. Shipments to the same ports by water were 20,410 tons in June and 20,892 tons in July. Thus during June and July 162,174 tons of our barley went to Gulf ports.



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ARMOUR IN CO-OPERATIVE CLOTHES?

(Written for Pacific Rural Press.)

That Armour & Co of Chicago have been masquerading in co-operative clothes by initiating and financing so-called co-operative concerns in order to tie up farm crops for Armour's profit is charged in proceedings recently instituted by the "Fruit Growers of California, Inc.," asking the Federal Trade Commission to institute proceedings against Armour & Co. and the California Co-operative Canneries of San Jose.

It will be remembered that only this summer Armour & Co. were found guilty of violating the Federal Trade Commission Act by controlling the so-called "Farmers' Co-operative Fertilizer Co." of Kansas City. Now it is charged that the Armour people own most of the California Co-operative Canneries, authorized \$500,000 capital stock, and that they control the crops which local co-operative associations bind themselves to sell to this outfit for a term of years at prices to be determined by its directors, who are chosen by trustees favorable to Armour interests. It is also charged that Armour has been given an option on 60 per cent or more of the output of the California Co-operative Canneries for ten years at prices also to be named by the same directors.

The complaint covers over thirteen long typewritten pages, going into great detail and naming Vernon Campbell, Ralph Crary, and James Madison (formerly manager of the California Associated Raisin Co.) as the three leading agents of Armour in carrying out the plan in the Santa Clara Valley.

This litigation will cost the Fruit Growers of California nothing, as their attorney, Aaron Sapiro, is donating his services. Mr. Sapiro is attorney for several other real co-operative organizations and in his work for them he has collected much evidence which will be used in the present case.

All the expense of prosecution will be borne by the Federal Trade Commission after the present complaint has been formally brought to their attention.

Co-operation in California has been so successful that it seems to have been used as sheep's clothing for other animals. Such masquerading must be stopped abruptly or the whole cause of farmers' co-operation will fall under suspicion and will be unable to hold the necessary farmers' support. Members of farmers' co-operative organizations should be especially watchful and should report all evidence of wolves in the flock.

Firestone

RED PARA TUBE

THE FIRESTONE TIRE & RUBBER CO. AKRON, OHIO.

PREFERRED and recommended by all tire dealers, Firestone Red Inner Tubes are best for most miles per dollar.

These Tubes are made by the antimony cure process. This gives them remarkable heat-resisting qualities, assures longer life to both tube and casing and gives the kind of service which is a real economy.

- Look for the name on the Tube—indication of the best of rubber and workmanship.

Firestone

Suggestive Agricultural Pointers

(Written for the Pacific Rural Press.)

Barley and Malt from New York.

Barley and malt shipped out of New York City during the week ending Aug. 2 totaled 937,223 bushels of barley and 654,344 bushels of malt. South America took 243,875 bushels of malt. The United Kingdom took 444,501 bushels of barley and the Netherlands took 410,569 bushels.

Want Cheaper Farm Tools.

Duty on United States farm tools to Canada will be lifted if the Western provinces win their fight against the manufacturers of Quebec and Toronto. They wish the cheaper American product, but manufacturers do not want to compete without a tariff.

New Alfalfa Association Officials.

G. H. Emery has recently been elected manager of the Cal. Alfalfa Growers Inc. with offices at 525 Central Bldg., Los Angeles, according to Pres't H. R. Moses, who was re-elected to that office. Geo. Morgan, who has had great experience marketing for the Globe Milling Co., is now the Association's general sales manager.

Smut Treatment Made a Difference.

Three neighboring fields were seeded with wheat produced on one of them, which showed about eight per cent smut. The seed was treated before resowing on this field and this summer's crop is entirely free from smut. One of the neighboring fields was sod land. Seed for it was treated and the crop had no smut. The third field was across the road. Seed for it was not treated and the crop showed 25 per cent smut.

Stanislaus Aphis Control.

Aphids enjoy cool summer weather. If you have a spot infested when such weather starts, you had better burn it with straw or oil than to neglect it. Ladybirds and blackleaf 40 kill all the aphids they get at; but in a general infestation of cantaloupes, beans, and other garden truck the cost would be prohibitive. Tobacco-dust dry spray is being tried in Stanislaus county, where blackeyes, bush limas, melons, and cantaloupes became badly infested in the cool weather of late July. The natural check is some more hot weather.

Late-Sown Wheat on Early Plowing.

W. H. Gerlach of Dixon has 250 acres of Club wheat in the Rio Vista country that they finished sowing on the 20th of April last. It is now ready for harvest and promises a yield of 20 sacks per acre according to expert judges. The ground had been plowed early in the season, but was packed very hard by later rains. Instead of plowing again they merely made a surface seed bed and wheat broadcasted on this and harrowed in. The crop is excellent but it would have been enormous if there had been even an inch of rain after sowing. The crop as it is was grown without any rainfall after sowing whatever.

To Hay Sellers.

"You are invited to submit your offer by letter in triplicate, to arrive here not later than August 30, 1919, envelope to be marked 'Overseas Forage Bid, opening 11 A. M. Aug. 30, 1919,' such quantity as you desire to bid on up to 2725 tons of hay for Manila and 1250 tons for Honolulu. Hay will be preferred with mixture 1/2 alfalfa. Delivery to be f. o. b. cars or within reach of ship's tackle by bidders to be stated in bids, between date of award and Dec. 31, 1919, at Government's convenience."—C. A. Devol, Zone Supply Officer, Fort Mason, San Francisco.

Foreigners Trying to Buy Our Wheat.

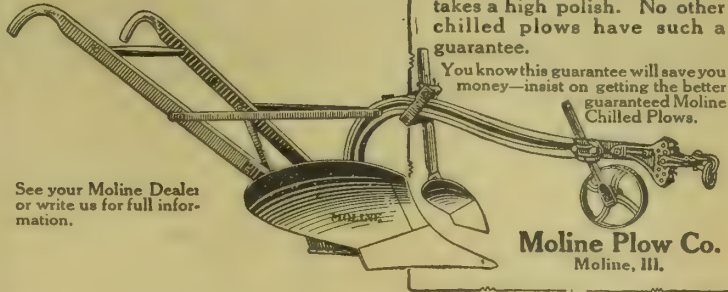
Foreign wheat buyers have been exerting great pressure on Federal Wheat Director Julius Barnes to allow them to buy supplies enough at present prices to last them for months ahead. They seem unable to get supplies from other sources. But the Grain Corporation of which Mr. Barnes is the head is refusing all such business, until the corporation gets enough wheat to assure protection for our future home requirements. Most producers are selling to

mills and dealers, paying them the two per cent which they are allowed to charge, because of their greater advantages. The foreign demand seems to indicate that wheat is likely to go higher before it goes lower.

PACIFIC STATES POTATO ACREAGE.

Lack of punctuation in our potato article published August 16 makes us say that Oregon, Washington, and Idaho have a "combined acreage this year of only 45,000, or about 50 per cent greater than California." This should have read "combined acreage this year of only 45,000 (or about 50 per cent) greater than that of California. Acreages for these States are as follows: California, 88,000; Idaho, 30,000; Washington, 58,000; Oregon, 45,000.

MOLINE CHILLED PLOWS



See your Moline Dealer or write us for full information.

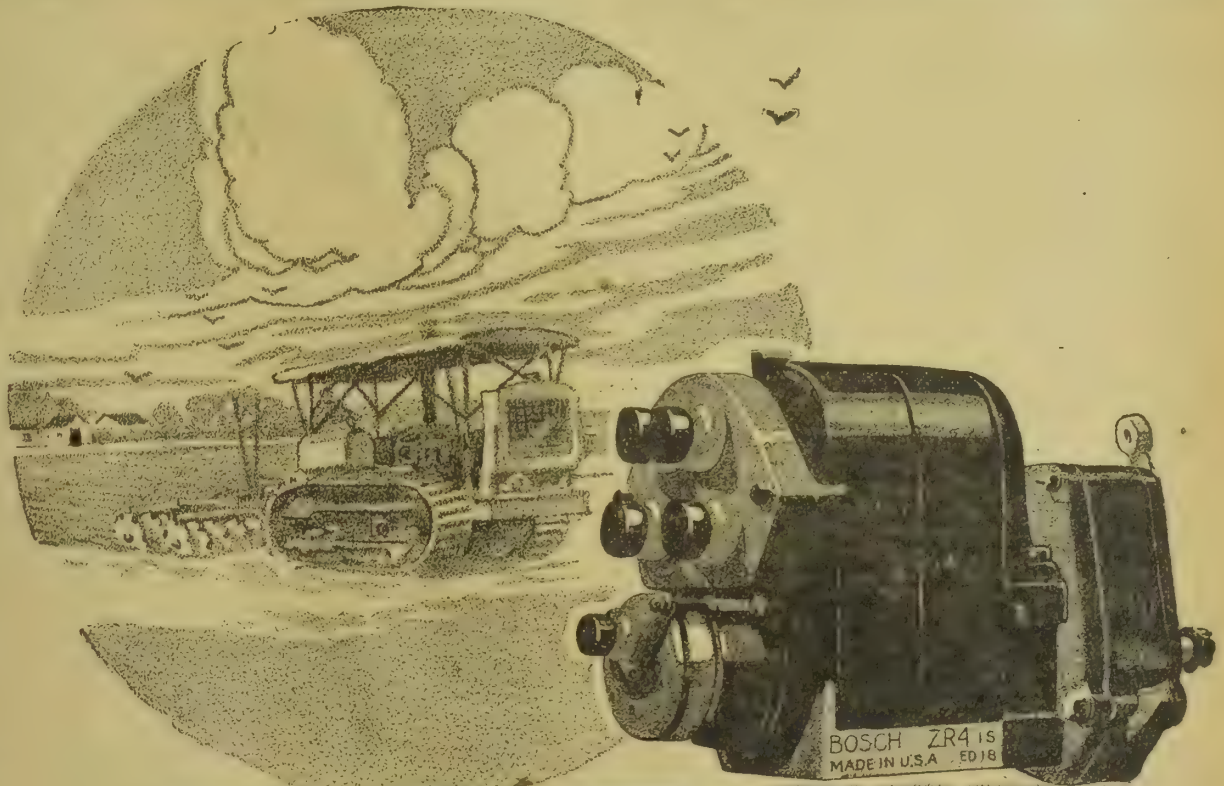
With a Money-Saving Guarantee

We will replace, free of charge, f. o. b. factory or branch house, on receipt of broken parts, any Moline Chilled Moldboard, or Moline Malleable Frog, broken in actual field use.

We can do this because Moline Moldboards have a soft, tough, grayback, which resists shocks and strains, yet the face of the Moldboard is glass hard and takes a high polish. No other chilled plows have such a guarantee.

You know this guarantee will save you money—insist on getting the better guaranteed Moline Chilled Plows.

Moline Plow Co.
Moline, Ill.



BOSCH

The Greatest Dual Farm Service

THERE is one combination that has stood supreme through years of Supreme Service—a properly designed gas engine and Bosch High Tension Magneto Ignition. Under the strain of farm service Magneto Ignition is a necessity. And no magneto can approach the performance record of the Bosch Magneto.

Rip Roaring Bosch Sparks on your tractor—gas engine—truck or automobile, will cut your operating costs, increase the dependability of your engine, and get more power from any fuel.

When you place your order for any piece of gas engine driven machinery be sure it's Bosch Magneto Equipt.

If your engine is not now Bosch Equipt, get in touch with the nearest Bosch Service Station, Distributor or Dealer. He has a Bosch Magneto ready for you now.

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AMERICAN BOSCH MAGNETO CORPORATION
MAIN OFFICE AND WORKS: SPRINGFIELD, MASSACHUSETTS
Branches:—New York—Chicago—Detroit—San Francisco
MORE THAN 200 SERVICE STATIONS IN OVER 200 CITIES

AMERICA'S SUPREME IGNITION SYSTEM

MOTOR TRUCKS - TRACTORS - AIRPLANES - MOTOR CARS - MOTOR BOATS - MOTORCYCLES - GAS ENGINES - ETC.



AGRICULTURAL NOTES

Byron alfalfa seed growers pay \$8.50 per ton of cleaned seed for cleaning and sacking it.

Rice fields of the Cottonwood-Anderson district of Shasta county are showing splendid growth and color.

The Hawaiian sugar crop is forecasted at a greater tonnage than ever before except the years 1914, 1915, and 1917.

The biggest crop of rice is predicted and the biggest prices are being offered of any in the history of rice growing in this State.

One hundred and eighteen sacks of "hull-less" oats are reported to have netted \$729 for C. W. Vannote of Butte county this summer.

Dried peas are reported to have yielded 4200 pounds per acre in the bag in Sacramento Valley. They sold at five or six cents a pound.

Tomatoes in the Ripon section are coming on. The crop is not as heavy as expected but the prices are so good that the same return to the farmer is made with less bulk to handle.

Sudan grass planted last September made good dairy feed for the herd of A. Schmitt in San Joaquin County. He is planting some in August this year.

The Oakdale and South San Joaquin Irrigation districts have agreed to share the expense of improving their joint works on the basis of 19 and 81 per cent respectively.

The Cantaloupe season is closing up. Growers are cleaning up their fields and shipping the last of the crop. The season has been a very successful one, growers being very satisfied with prices and conditions.

The State highway from San Diego to Yuma, via El Centro, is to be paved as decided by the California State Highway Commission recently. Bids are being called for the grading of part of it.

A stretch of State highway through the Adobe rice fields north of Biggs is to be built of six-inch concrete, reinforced with steel, all on top of a graveled subgrade. The pavement from the southern county line to Biggs has been completed.

The alfalfa seed crop of California is now ripening and will be unusually heavy. A considerable portion of the crop has already been bought for eastern shipment, at prices that will net growers better than 20c. per pound.

Sweet potatoes are beginning to come on the market in quantities at Turlock. There is a heavy acreage in the district and the crop is good, although winter rains were not heavy enough here and in Merced county in certain sections to prevent drying out of fields.

Hops at Wheatland have two harvests this year as the young vines planted by Durst Bros. and E. Clements Horst have matured later than the old vines and will not be ready for picking, until September 1. The first crop is practically harvested.

Immigration laws have been suspended to allow Mexicans free passage into U. S. to supply the prospective shortage of common labor and

cotton pickers. Arizona alone foresees a shortage of 8,000 cotton pickers. There is some surplus of common labor in Los Angeles.

About the only local effect of the U. S. food price investigation has been the drop of barley about \$8 a ton at Porterville. Barley selling for \$2.90 before investigations dropped to \$2.65. However ground barley and all mill fields have advanced to the highest prices known in California.

The Canadian government proposes to buy the entire wheat crop direct from farmers and sell it on the world markets. A cash payment will be made to farmers on delivery and the balance will be prorated to the producers after the expense of marketing is paid.

The Newlands project near Fallon, Nev., figures that the crops of the valley will approximate \$2,000,000 this year. This sum is set by figuring 100,000 tons of alfalfa hay at \$15 per ton and adding conservative estimates of the cereals, potatoes, fruit garden truck and stock that will come from the project farms.

Potato yield in Idaho last year was about 240 bushels per acre. The acreage is about eight per cent greater this year, but the average condition is but 71 per cent of normal as against 90 per cent a year ago. The crop will be considerably smaller than last year. Idaho potatoes compete strongly with the California crop.

Kern county is not growing the commercial castor bean this year, as successful farmers believe other crops to be more profitable on good land, and the poor land tried last year was not a success. The Castor Bean Association paid \$4.50 to \$5.90 per 46 pounds bushel last year, but the oil is no longer wanted in quantities for airplanes.

The Beaumont Land and Water Company has asked permission from the Railroad Commission to raise its rates of irrigation service from \$6 to \$14.40 per acre, and from 1½ cents per inch hour to 5 cents. The San Geronio Water company which obtains its water from the Beaumont company, has asked for the same increase. Both companies have been financially pressed since 1914.

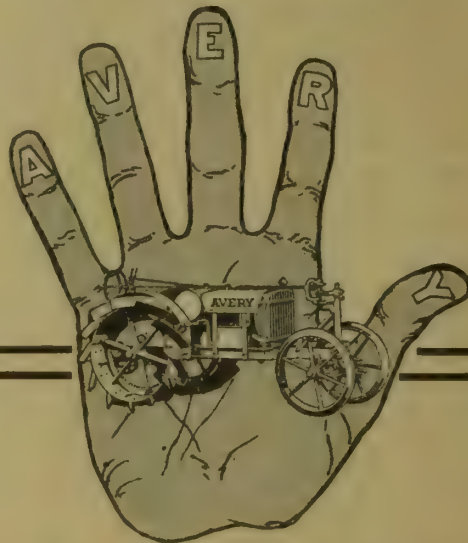
Estimates of from 75,000 to 100,000 tons of alfalfa hay from Fallon, Nev., have been made. Large numbers of sales have been made at \$15 and \$16 per ton. Many farmers however are holding for better prices in the belief that the extraordinary range conditions throughout the inter-mountain states will result in further advances of hay prices. Many stockmen are looking to this section now for feed and the community is prosperous.

California bean crop will be 60 per cent of last year's decreasing 2,150,000 bags. The yield for the state is placed at 3,000,000 bags as against 5,150,000 bags in 1918. Decreased acreage amounting to over 25 per cent is given as the main cause. The Santa Maria district shows poorly but the Salinas district is fair. The remaining supply of 1918 beans in warehouses is estimated at a little over 1,000,000 bushels of which growers hold 85 per cent.

COTTON SUPPLY BIG—BUYERS GET RICH.

The total visible supply of cotton in the world July 18 as reported by the U. S. Dept. Agr. was 4,927,937 bales in 1919 as against 3,296,644 bales in 1918, 2,968,854 in 1917, and 3,484,791 in 1916. Of the total supply, 3,336,937 bales were American cotton in Europe and U. S. There were 1,180,985 bales in U. S. ports and 933,604 bales in U. S. interior towns. This report indicates the world supply of cotton to be over 1,500,000 bales greater than a year ago. This is nearly a 50 per cent increase in supply. Have you tried to buy any cotton goods lately? Are they cheaper than in previous years when the supply was less? Are our cotton growers getting any fair share of the outrageous prices of finished cotton goods? The U. S. Dept. Agr. Bureau of Markets recently investigated in North Carolina, South Carolina, and Georgia the difference between prices paid to farmers and prices paid by mills. Sales of about 200,000 bales were studied. It was found that "the mills paid an average of \$11.60 per bale more than the average price received by the farmers on the same date for cotton of the same grade and staple." It was figured that freight and other legitimate handling charges might average \$2.50 per bale. Middlemen were getting \$9.10 per bale for the trouble of buying and selling this cotton. The remedy is obvious to anyone whose penny is not plastered over his eye. With a big world supply now on hand, cotton buyers will hammer down the price to growers out of all proportion to what the growers are entitled—unless the growers market co-operatively.

Five Reasons Why



Farmers Buy AVERY Tractors

- 1st. They satisfy and stay sold.
- 2d. They cost less to operate and keep up.
- 3d. Their simplicity of design and construction appeals.
- 4th. They are now made in EIGHT sizes to meet the requirements of any size ranch, orchard or field.
- 5th. The AVERY Company backs its products with a reputation and experience of over FORTY YEARS' standing, and builds its machinery (motors and all) complete in their own big factories. THEY are not assembled.

AVERY COMPANY

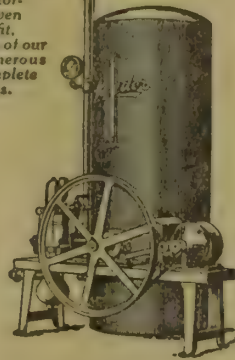
of the Pacific Coast

SAN FRANCISCO: 67-69 Beale St. LOS ANGELES: 237 So. L. A. St.

Exhibiting complete line at State Fair August 3 to Sept. 9, Block 20, Tractor Tent.

LIVE Dealers are AVERY Dealers

An ideal Motor-Driven outfit, one of our numerous complete units.



Leader-Traher Dealer's Knowledge Helps You

If you plan to have a water system installed in your home or farm, you should not deal with a concern which is too far away from your locality to know what your special water needs are.

"Everybody Knows"

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TRADE MARK
Water Systems"

Leader-Traher dealers are the most reliable guides you can find, in regard to water systems, in their communities.

Leader-Traher Tanks, Pumps, Power Equipment and complete water system units, for deep or shallow wells, electric motor or gas engine drives — any capacity, are the most complete line in America. We have exactly what you want, to fit your local requirements.

Write to us for the address of the dealer nearest you.

THE PACIFIC PUMP & SUPPLY CO.

San Francisco

ALFALFA IN PEACH ORCHARDS.

(Written for Pacific Rural Press.)

In the Selma district the common idea about alfalfa in peach orchards is that it should not be there until the trees are about played out and the intention is to remove them in a couple of years. Around Exeter, on the other hand, quite a few peach growers have alfalfa in their orchards, and whether a heavier soil than in the Selma country is responsible for it or not is hard to say.

Some of the finest Lovels we have seen were growing on the trees of M. E. Ickus of Exeter; a heavy set of well thinned fruit was giving a heavy tonnage of beautiful peaches and Ickus claimed that yield and quality were both improved by the alfalfa, which, he said, took the water into the soil better than it would otherwise go. He finds that the alfalfa needs the water more than the peaches, and two irrigations per cutting keep the trees in perfect condition. Mowing is a good deal of trouble, and the scythe has to be used along the tree rows, but cultivation is saved and all the stock on the place is fed from the orchard, the alfalfa yield running from five to six tons per acre at an estimate. The alfalfa is not planted in strips, but

right up to the trunks of the trees. Irrigation is from a private pumping plant and plenty water is always available.

OLD RELIABLE PEACHES.

Peach trees are considered short-lived, owing to the way root and branch troubles injure many trees,

but given a good start and proper care they keep going nicely. The 10-acre Phillips and Elberta orchard two miles north of Selma, owned until a short time ago by S. C. Nielsen, proves that. Many orchards much younger are played out, the only misses in this orchard being where three young trees died years ago, others not succeeding in their place. The clings

were planted in 1902, the freestones a little later. Mr. Nielsen attributes their condition to healthy roots, grown from properly selected seeds, and to good care. The trees have always been sprayed twice a year and the rule in pruning has been to cut off all the new wood that the tree would stand and to have the new shoots remaining about 8 to 10 inches long. The normal crop of the clings has been from 50 to 65 tons from 480 trees, and the freestones have done nearly as well.

The fact that peach orchards in practice are rather short lived and that peaches cannot be always successfully re-established on such land causes the peach acreage in long settled localities to be limited, and gives the settler on new land a good chance at the market. The way that prices are and promise to be, this chance is a good one.

Because of intense neat in the Fresno section recently the Malaga grape crop was injured about 25 per cent. Eastern grape shipments will commence soon.

Thousands of acres, hitherto devoted to grain raising, are to be planted out to trees and vines in the San Joaquin and Sacramento valleys the coming season.

SPRAY OLIVES NOW FOR BLACK SCALES.

(Written for Pacific Rural Press.)

Now is the best time to kill the young black scale, just after they have hatched out. If miscible oil is used, it is safe to adhere strictly to the directions that come with them from any accredited manufacturer. Soap powders meet with good success. They are put up in barrels and are readily and easily mixed—about 40 pounds to the tank (200 gallons). If only needed for a tree or two in the yard, buy some Gold Dust Twins or any similar washing powder and use that. It is safe to apply. The emulsions need a good agitator to the pump to insure their not breaking up. If the trees are pretty smutty, they probably need spraying. No need for Butte County growers to worry that we have seen yet.

The following important details are published by E. O. Essig in his article on Olive Insects (University Bulletin IV:238): "In case of doubt as to strength of materials to use, spray a few trees to ascertain results before treating the entire orchard. Never spray when the orchard is in need of water, as severe burning of fruit and foliage may result. Irrigate first or wait till after the first rain. Do not spray during excessively hot weather or when hot winds are blowing. Do not spray within several weeks before picking if possible as spotting of the fruit may result."

WATER AND FEED

The question of water and feed is the farmer's greatest worry. Stock must have both. A hot day in summer without water, or a scarcity of feed for a few days in winter can easily wreck your dairy profits for the entire year.

Dairy cows will not give milk unless properly fed. The surest way to feed is from a silo. By putting your green crops into ensilage you have a feed that is more nourishing, goes farther, and is an insurance against shortage during the winter. It is the one logical way to feed a dairy and is the secret of dairy success.

The **IDEAL GREEN FEED SILO** is built to meet every requirement, give maximum service and yet be sold at a reasonable price. It is strong, serviceable, convenient, and will last a lifetime.

THE IDEAL GREEN FEED SILO

has been perfected after many years of experience. Practical knowledge of the needs of the farmer and stockman, as well as technical skill on the part of our engineers, is embodied in the features of this silo. Every piece of material that enters into its construction is selected for its lasting qualities.

Staves are of the finest grade California Redwood—a wood famous for its long life and resistance to fire and decay. They are tongued, grooved, bevelled and splined with the greatest accuracy by special machinery. Doors are like those of a refrigerator or safe, airtight and leakproof, with three points of contact instead of one. They come flush with inside surface of silo.

Other features are: Heavy round hoops of soft steel, with cold rolled upset threads; straight-pull malleable iron lugs; one-piece door frame; well-built ladder at one side of doors; self-supporting, conical roof and leak-proof foundation joint.

Send coupon for booklet containing full particulars and prices of **IDEAL** silos.

HOW ABOUT THAT WATER TANK?

Let the **PACIFIC TANK** take care of your needs. Put in a system and have water all the time and where you need it. Water for your stock, dairy, kitchen, bath and lawn. A life-saver in case of fire.

PACIFIC TANKS

are built of heavy Redwood and bound with large steel hoops. Strong and everlasting. Fitted with patent non-shrinking system. Cannot shrink, leak, or burst. Always tight.

Write us about our non-shrinking system. Find out why it is that a **PACIFIC** never leaks. Write today.

Pacific Machine-Banded Wood Stave Pipe is best for farm and irrigation purposes. Made in all sizes. Write for circular and prices.

CUT OUT AND USE THIS COUPON

PACIFIC TANK & PIPE CO.

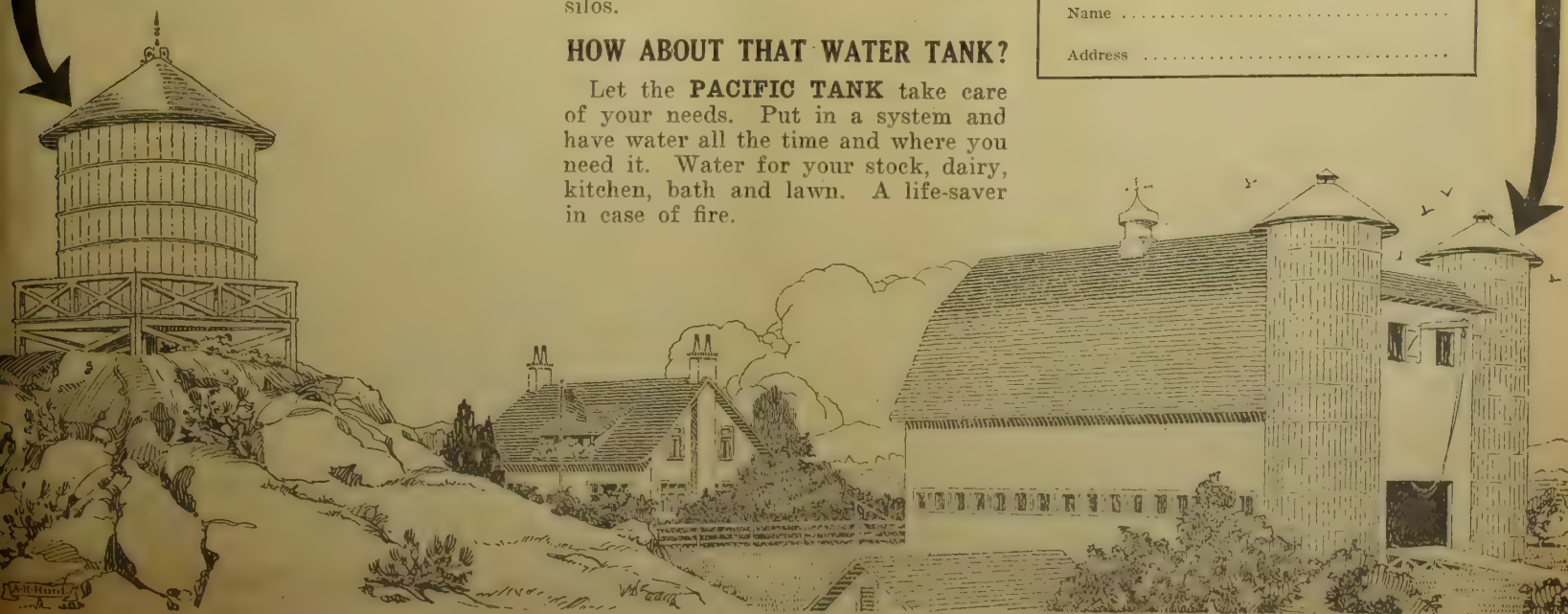
15 Pine Street, San Francisco.

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Send me descriptive matter and complete information. Silos — Tanks — Wood Pipe — (Check the one in which you are interested).

Name

Address



Mechanical Power on the Farm

TRACTOR APPRECIATED ON DAIRY RANCH.

"Twas with a feeling almost of wonderment that we looked out across a plowed field in Contra Costa county recently and watched the 15-25 tractor reaching out like a race-horse, though not so fast, and followed by three rolling waves of thick alfalfa sod. The outfit seemed to be moving swiftly without hurry—seemed to be turning those furrow slices fourteen inches wide and all of six inches thick as easily as a race-horse pulls his pneumatic-tired cart.

Manager E. H. Fox of the Central Creamery Co. was showing it to us; and the machine was driven by Hans Larsen, who regards it almost as if it had a soul.

Works Better Than 21 Horses.

Six horses had tried to turn similar sod on this place in slices twelve inches wide. It would have taken 21 horses to turn the 42 inches width that the tractor was laying over as easily.

"Yes," said Mr. Fox, as we drew near, "but 21 horses doing as much work as that would have to rest at the end of every round, or oftener. And the tractor is running 2½ miles per hour, but the horses wouldn't step it off like that. Notice this black adobe, neither wet nor dry, and penetrated by tough alfalfa roots.

"The ranch includes 200 acres. We try to keep half of it in alfalfa all the time, but the land is low and the alfalfa short-lived. With so much to plow up each year we can't get it done. We would come far from getting it as nearly done if we depended on horses. We have to plow at this season. If we let it go until rains moisten the land, it would get too wet to turn over and work down right.

"You notice some of the chunks it has turned out here are nine inches thick. That would make rough traveling for horses at the grueling work of disking. But the tractor glides over them beautifully and pulverizes most of them."

Work Done at Low Cost.

The Central Creamery Co. has eleven strings of cows on this ranch; and it is a necessity that a great deal of feed be produced. The tractor has leveled a 25-acre bump for alfalfa and has prepared seed beds for a great deal of crop acreage in the year it has been at work. The only repair part they have had to pay for was a pinion recently replaced. The machine, according to Mr. Larsen, uses 20 to 21 gallons of distillate per ten-hour day and ten quarts of lubricating oil run it three days. After cleaning out the crank case, six quarts of heavy duty oil are put in. Next morning two quarts are added. Next morning two quarts more are added, and after that day's work all of the oil is taken out. Replacement of the oil is necessary, not because it gets dirty, for the outfit is dust-proof and has a centrifugal air cleaner which takes practically all of

the dust from air that goes into the cylinders. The oil simply wears out. It is designed and expected to take the wear that otherwise would reduce the steel to nothing. And fresh oil is cheaper than new steel.

SOUTHERN TRACTOR DEMONSTRATION.

The largest working exhibit of power farming machinery ever shown in California; and in addition, a tent 100x350 feet full of motor trucks, trailers, and accessories of all kinds will be staged at the fourth annual demonstration of the Traction Engine and Implement Dealers' Association of Southern California on the Rancho La Brea near Los Angeles, September 16 to 21, inclusive. Lower costs of producing farm products will be obtained by ranchers who visit this demonstration and put into practice what they learn. To save labor and do more work—that's the great value of power farming. Many a man will at this demonstration see the light which will lead him on to fun and fortune such as so many others have already found. Admission and parking space will be free.

Among the exhibitors will be the B. Hayman Company, who will enter a full line of Oliver Chilled Plow Works Implements, a complete line of Emerson, Brantingham, the E. W. Ross Feed Cutters, Planet Jr. Line Forkner Cultivators, and a new line of Roderick Lean Disc Harrows.

The International Harvester Company have listed the 10-20 Titan Tractor, the 8-16 and 15-30 International, and a most complete general line of International and P. & O. Implements.

E. P. Bosbyshell Company will exhibit two sizes of Heider Tractors, full line of Rock Island Plows, W. W. Alfalfa grinding mill, Clark Cut-Away Harrows, Sandwich Hay Press, Knapp Disc Harrows.

William L. Hughson Company will exhibit Fordson Tractors, special line of Oliver Plows for Fordson Tractor, special line of Roderick Lean Harrows; also the Amsco Drills.

F. T. Briles Company will display the Bates Steel Mule 15-20, Bernice Chisel and Subsoiler, Schmeiser's Land Levelers, F. T. B. Disc Harrows.

Wm. Gregory & Sons will display the Trundaar Tractor.

Motor Equipment will exhibit and demonstrate Beeman Tractor with complete line of Implements for same.

PUMP DRAINS ALFALFA FIELD.

(Written for Pacific Rural Press.)

You may have one of many fields in Western States which are so waterlogged that alfalfa cannot live long. It is some of your best land and is approximately level. It is quite likely that a creek nearby could carry the water off. Maybe the water level in the creek is as high or higher than the level of the field.

E. H. Fox of Contra Costa county has such a field and he has grown alfalfa on it. Ditches are dug, all leading to a pump at the levee, which keeps Sacramento river water from flooding his fields. But the alfalfa is short-lived because the ditches are not deep enough and the pump is too big. It throws 5600 gallons per minute and drains five miles of ditches in a hurry. But about the time enough water has been pumped out to begin to really drain land along the ditches, the pump has to shut down for lack of water to keep it going. Deeper ditches would give alfalfa enough root room, and a smaller pump run constantly or operated by an automatic starter and stopper would keep the water level low enough to get full advantage from this good land.

AIR-COOLED GAS ENGINE.

An air-cooled gas engine is on the market—quite a nifty, compact, upright, little single-cylinder machine of six horsepower. The cylinder has a honey-combed jacket. A sheet-iron hood covers the jacket except on one side and extends down over the fly-

wheel. Beside the flywheel is a fan which pulls air through the honey-combed jacket and the hood to keep the cylinder cool. The engine operates by magneto ignition.

P. E. Talbott of southern Monterey county has been denied permission to haul grain on the State Highways with a tractor and four steel-tired trailers.

Sandstrom Tractor Scraper

Operated by ONE MAN from Tractor Seat



CUT YOUR LEVELING EXPENSES IN HALF. THE SANDSTROM TRACTOR SCRAPER is a practical ONE MAN machine, for the leveling of fields, orchards and vineyards, and for the building of roads. It is a much-needed labor and money-saving device for the farmer's use, and solves the problem of hiring labor.

It is absolutely practical and proven by the satisfied owners who have used it in the past two years.

Note its construction. So simple, and so well made that no parts can get out of order. A compact ONE MAN machine, operated by the driver from the Tractor seat. It can do the work of 3 or 4 men with a 4-horse team **AND ALL DONE BY ONE MAN.**

Send **TODAY** for our **FREE ILLUSTRATED CIRCULAR** that fully describes what the Sandstrom Tractor Scraper will do for you, on your farm. A postcard will bring you full information.

MADE IN FOUR SIZES

BARNEY SANDSTROM

1822 Nason Street,

Alameda, Calif.



Pay For 12-20 Horsepower And Get Full 15-25

PUT the E-B 12-20, S. A. E. Rating, Model AA Tractor to work on your farm. Use it with the E-B 102 Tractor Plow. This is a combination that stands up to the hardest plowing with plenty of Power, Dependability, Economy, Ease of Handling, and E-B Service backed by capable, helpful dealers who know tractors.

Surplus Power—because the 12-20 rating on the S. A. E. basis is the most conservative known, 25% extra power.

Dependability through 67 years of implement manufacture and 12 years of tractor building. Enclosed gears, high-grade materials and equipment, such as Hyatt Roller Bearings, K-W Magneto, high-grade Radiator, etc.

Economy—25% greater power with less weight. Kerosene motor cuts fuel cost.

Ease of Handling—E-B Auto Control. Ask your dealer for complete facts.

Brock and Skidmore
Berkeley, Cal.
Farm Tractor and Imp. Co.
Portland, Ore.



THE E-B 102 TRACTOR PLOW
Plows More Acres Better With the Same Fuel
Easy to handle and easy to pull. E-B Quick Detachable Shares make furrows turn with less kerosene cost. Sharp shares plowing readily done when shares are so quickly applied and removed. Sharp shares keep channels of moisture circulation open—better soil conditions.

The King of Farm Implements

Here's another King of farm implements. It's the new light draft, roller-bearing Brilliance King Soil Pulverizer that's not only King in name but King for helping you raise bigger crops. With it you so crush every clod as to loosen up every plant food particle for quickest seed sprouting, growth and easier cultivation of young plant. Packs under soil for holding the

necessary moisture for quickest future growth, and greatest possible crop yield. Fine for early cultivation of all crops and packing wheat. Made for team or tractor. Price reasonable, light draft, strongly built. Get one **AT ALL JOHN DEERE DEALERS**

ELECTRIC POWER SHORTAGE.

(Written for Pacific Rural Press.)

There is an increasing demand for electric power in California which is boosted by the early seasonal failure of some irrigation systems. There is a decreasing supply of power due to the same water shortage which helped to bring the increased demand. Under such condition, if power companies were free to charge all that the traffic would bear, we might be paying all kinds of high rates and the man with the most pull might be getting the juice while the other fellow's crops dried up. Fortunately, our power rates are not based so much on supply and demand as upon the cost of production plus a reasonable profit as determined by our State Railroad Commission.

The short facilities for power production are largely due to lack of development during the war and to the increasing number of farmers who see that pumping for irrigation pays in added crops produced.

But the shortage is at hand, and something must be done quickly. The Railroad Commission is sending out parties of engineers to inspect existing fornia, and is asking full co-operation of the power companies without ne-plants in northern and central California of a formal investigation. It is hoped that the engineers will see opportunities for new construction and for strengthening of existent works that will make possible a comprehensive plan for extensive development of our natural power resources.

SURE PUMP IRRIGATION FROM RIVER.

(Written for Pacific Rural Press.)

The surest source of irrigation water is the best, as many ranchers have become convinced this year. Those ranchers located within a few miles of never-failing streams are lucky in this respect. A great many new irrigation districts have been formed to pump water out of the rivers in a wholesale way. One of these is "The West Side Irrigation District," which waters 11,000 acres of the Tracy plains by pumping water from a canal opening from the San Joaquin river, not far from Bethany.

Four pumps are operated by motors of 325 horsepower, each as stated by Chief Operator J. R. Lubeck, and three pumps are operated by 200 horsepower each. Each of the seven pumps throws about 7,000 gallons per minute and all of them are at the one station. Those using the greater horsepower force water 800 feet through 48-inch concrete pipe and about two miles through redwood stave pipe to a point at 105 feet greater elevation than the pumping station. There it emerges into ditches and is distributed by gravity. The pumps using 200 horsepower each force the water through about 800 feet of 44-inch concrete pipe and one-fourth of a mile through redwood pipe to an elevation 48 feet above the pumps.

Water first became available a year ago last spring, but most people could not get it and were not ready for it even this spring. Alfalfa, beans, and corn are the chief crops irrigated, but some ranchers plan to irrigate this season so they can plow early for grain.

UNIVERSITY FARM TRACTOR COURSE.

Over a dozen makes of tractors will be studied and operated by students at the University Farm Tractor Short Course at Davis September 16 to 25. The only charge is a registration fee of \$1. The course is limited to 180 students. Every minute of the time will be spent in hearing lectures and in practice work with the tractors. The principles of a gas engine, ignition, carburetion, valve grinding, forge work, etc., are just a few of the studies to be made. We personally know the intense interest taken by most students and the practical value given in the course, so we recommend every tractor driver or prospective tractor driver to try hard to be one of the 180.

POWER NOTES.

The motor trucks being distributed by the Federal Government for work on Federal Road Aid projects are not allowed to be used on other road work. County Boards of Supervisors have been asking for use of these trucks.

An Italian near Stockton, who had never operated a motor truck, paid cash for a one-ton truck a little over a year ago. He has had no serious troubles and has not even taken up the bearings, although he makes a practice of hauling two tons of farm produce per load.

When the International Harvester Co. bought the P. & O. line of steel plows last spring, they still lacked a line of chilled plows. This was added to their business June 1 by purchase of the Chattanooga Plow Co. The latter has been making chilled plows since the 70's, when Newell Sanders put up a building, which is still in use, but is nearly lost in the added buildings put up since then for the expanding business.

A ten-foot rice binder, mounted on the front of a Monarch tractor so the tractor may cut all grain instead of trampling down some of it on the first round of every check, is on exhibition at the Sacramento Valley Tractor Co.'s office in Sacramento.

Thirty motor trucks will replace about 4,000 camels and 1,000 men in transporting supplies from Tien-Tsin to agricultural colonies in Eastern Turkestan and in carrying farm products out. They will make the trips somewhat faster.

We recently found a man who is not managing his work in a way to get nearly what he ought out of his garden tractor. With a big flock of hens and irrigation for two or three

acres, he has absolutely no green stuff to feed. He uses the tractor a little every now and then. He leaves his plow caked up with dirt when he isn't using it. Such a man probably thinks the tractor doesn't pay.

MOTHER KNEW.

"Ma, what does the 'home stretch' means?"
"Making a fifteen-dollar-a-week allowance go around, my son."—Boston Transcript.

4th ANNUAL AND TRACTOR IMPLEMENT DEMONSTRATION

• 1919 •
SEPTEMBER 16th. to 21st. INCLUSIVE

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TANK-TYPE TRACTOR

(Formerly known as the Cleveland Tractor)

Plows on the heels of the Harvest

The actual experience of farmers everywhere proves conclusively that wheat yields are increased from 5 to 8 bushels an acre by plowing immediately after harvest.

But this is usually the hottest and busiest season of the year when men and horses tire easily.

With the Cletrac Tank-Type Tractor you can actually plow right on the heels of the harvest—and do it so quickly that you will not interfere with cultivating, haying or other routine work.

Through the most extreme heat the Cletrac contentedly and steadily does a job that would kill a team. It will work all day and all night if necessary. You can drive it unmercifully—and in return get an increased yield of better quality, that will often pay the whole cost of the tractor in one season.

Prompt plowing after harvest enables your soil to soak up and store away moisture that would otherwise be lost.

But remember the Cletrac does far more than merely plow. That is only the beginning of its work. Its distinctive tank-type construction en-

ables it to go almost anywhere—particularly over soft plowed ground or moist or sandy soil where the average tractor would flounder or "dig itself in". All the power of the Cletrac is used to pull the implement. And because of its 600 square inches of traction surface it doesn't leave two packed down tracks of earth behind it.

The Cletrac is extremely economical to operate, using kerosene, distillate or gasoline. Most owners are using kerosene or distillate.

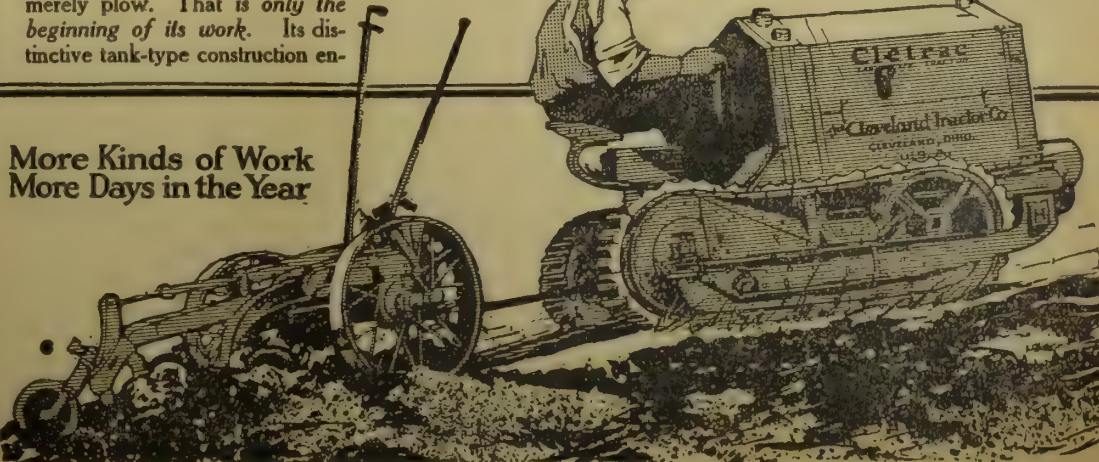
Send for our booklet "Selecting Your Tractor". It will be a real help in solving many of your most difficult problems. And order early as we cannot promise prompt delivery later on.

The Cleveland Tractor Co.

19079 Euclid Ave., Cleveland, Ohio

The largest producers of Tank-Type Tractors in the world.

**More Kinds of Work
More Days in the Year**



The Purebred Way Makes Livestock Pay

Written for Pacific Rural Press by R. H. Whitten.

The scrub sire has done more than drought or flood, more than insect pest, more than rodent and beast of prey, to reduce our agricultural wealth and to cut down the money returns of the individual farmer.

But the day of the scrub sire is drawing to its dusk. Preached against for generations, he is now to be actively crusaded against in every state, county and community in the United States. As already announced in our column the drive begins on the first of October. To be officially enrolled, one must own live stock, but not on a large scale. The owning of one animal of breeding age is sufficient. If a male, it must be purebred. If a female, it need not be purebred, but must be bred to a good purebred male. Therefore, the person who owns just one mongrel hen, mated with a quality cock representing a definite breed, is entitled to offi-

ever, show that there is a very marked improvement in the first generation. With some breeds the offspring of a purebred sire and mongrel dams are, in practical appearance, like purebred animals. A Hereford bull practically never fails to stamp his progeny with the characteristic white face of the breed. Chickens from a standard-bred Barred Rock cock and any kind of mongrel hens are nearly all Barred Rocks in appearance, and usually when mature they are at least two pounds heavier than mongrels.

Profitable Herds from Unprofitable Stock.

The external improvement may not be so marked in other breeds in the first generation, but the intrinsic improvement is undoubtedly just as great. However, the improvement in the two breeds cited is not merely in



Too much near-breeding has been raised. Too many near-bulls have been used. A registered bull of real quality will work wonders in a herd in one generation. Notice how much more closely this calf resembles its purebred sire than its scrub dam.

cial enrollment as a crusader for "Better Sires—Better Stock."

With all due respect to the cow-testing associations, breeders' associations and other agencies that have done a vast amount of good, this national better livestock crusade is the biggest thing that has ever been started to improve the livestock of this country. For years agricultural colleges and other agencies have been telling about the improvement that could be wrought by the use of pure blood. A few men believed the teachings and changed to registered sires, but the big majority of farmers continued in the unprogressive rut of mating animals irrespective of breed or blood lines.

Perhaps most of those who remained in the rut had an idea that the grading-up method required almost a lifetime. Actual results, how-

appearance. The Department of Agriculture proves that by the case of a 800-pound part Jersey cow bred to a Hereford bull. The calf, at a little over two years, weighed 1,650 pounds—more than twice as much as the cow. With practically any breed of cattle, swine, sheep, horses, goats or poultry, a scrub herd, headed by purebred sires for three generations, will show most of the individuals closely resembling purebreds, and practically as useful for food-production purposes.

The high-grade cow resulting from wise breeding produces more milk, richer in butterfat, than the ordinary cow. A circular just issued by the Nebraska Experiment Station cites the records of three sires used in the University dairy herd. In the first case the average increase of the production of the daughters over that of their dams was 42 per cent in both butterfat and milk. The second sire produced two daughters that showed a 100 per cent increase over their dams. The third had daughters that, during their first lactation periods, beat their mothers, even though the mothers were among the best-producing cows ever owned by the University.

Grade Herds Need Good Bulls.

Hall Brothers of Colorado, whose grade Holsteins brought such high prices a few months ago, started with grade cows and bought the best bulls they could afford. They built up a herd that was more productive than most purebred herds, and sold cows for higher prices than many purebred cows bring. They got rich on the idea that a grade herd needed even a better bull than a purebred herd, because in a grade herd the bull has a larger task to perform.

Then, too, when they wanted to add a few purebred heifers to the herd they had good enough bulls to breed them to. They reasoned that a bull that was good enough to use on a grade herd was certainly good enough to use on a purebred herd. Their success indicates that their reasoning was correct, and if so, many men reason backward when they say, "If I had purebred herd I would buy a high-priced bull, but I have only grades, so a cheaper bull will do just as well."

Dividends from Good Bulls.

The proper breeding of beef animals results in better and more uniform stock, maturing earlier, and having a greater percentage of desirable cuts of meat and a smaller quantity of bone, offal and inedible parts. Such stock, of course, commands much better prices at the markets. The

Shorthorn World says that only a few months ago three carloads of native southern scrub cattle, averaging a trifle under 560 pounds, were sold for 8 cents per pound at a Georgia market. At about the same time a similar number of grades, averaging 1,050 pounds, brought 12½ cents per pound. The droves came from neighboring sections. They were sold on the same kind of market and each shipment sold for its full value. Why did the grade lot sell for 4½ cents per pound more than the scrubs? The question is easily answered in two words—purebred bulls. The registered beef bulls had stamped their characteristics upon these grades, which gave them the low, blocky appearance of beef animals, for which packers are willing to pay good prices.

Quicker Route from Piggish to Pork.

In the same way, while a hog is a hog in the general sense of the world, still all hogs do not look alike to the packer. He seeks those that show the maximum of quality, and a purebred top on the hogs means that he will pay a better price. This is because he has learned that a purebred boar is a guarantee of good quality and uniformity. The packer is always seeking hogs of the best quality, for they dress out the best and prove the most profitable in the end. The better meat yield cuts down the purchase price, and that is why he is willing to pay a premium for hogs that show the stamp of a purebred boar.

Scrub Stock Must Go.

Has anyone ever seen a really successful farmer who used scrub sires? No, impossible! No one can be really successful as long as he uses a scrub bull. If you have one on your farm get rid of him quickly. He is a slacker, a boarder, a loser, and every day he stays on your farm means another day before you can start on the road to success.

How this "Better Sire" campaign may be expected to work out can be judged from the results of a drive in Webster county, Missouri, where a bull association was started in June, 1918. Before the association was organized the 18 bulls in the community were valued at \$1,355—an average of \$75.28. One or two of these were purebreds and the rest were largely scrubs of mixed dairy and beef breeding. After the association was formed these nondescripts were disposed of and six purebred dairy bulls were purchased at a total cost of \$1,657—an average of \$276. The more efficient utilization of the association bulls resulting from organization of the association made it possible for the six purebred bulls to take the place of the 18 bulls formerly maintained. The reduction in the number of bulls also resulted in a corresponding reduction in the cost of maintenance to be charged to each cow.

The passing of the scrub sire in all other sections of the United States is at hand. Welcome the day when the sun sets on the last critter.

CAUTION

Do Not Be Deceived

There is only one GENUINE O. M. Franklin Blackleg Aggressin (commonly called Vaccine).

Beware of imitations. You can not afford to have anyone experiment on your animals.

Accurate use of the Genuine O. M. FRANKLIN Blackleg Vaccine positively protects against Blackleg.

Be absolutely safe by using the ORIGINAL and GENUINE manufactured by THE KANSAS BLACKLEG SERUM CO., under the direct supervision of Dr. O. M. Franklin, the ORIGINATOR.



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Box 96,
SANTA MARIA, CALIF.



GET A HOLSTEIN BULL NOW

It doesn't cost much to make a start, but every year it will cost more. Some of the most successful and prominent Holstein men started with only a few purebred animals in connection with a number of good grades, gradually working out the grades and replacing them with purebreds.

Grade up your herd with a purebred Holstein sire. Then when you're satisfied that you're on the right track, you'll feel like getting a few cows. Any good Holstein does the work of two ordinary cows.

The Holstein-Friesian Assoc. of America
Box 141 BRATTLEBORO, VT.

THE OTIS HERD

WILLOUGHBY, OHIO.

Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledge the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison,
Santa Rosa Stock Farm, Santa Rosa, Cal.
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REGISTERED HOLSTEINS

Creamcup herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.

R. D. "A," Box 437,
Two miles out North First Street.

Registered Holstein Bulls

Highland Head offers bulk of serviceable age from A. R. O. dams. Excellent individuals with world's record; Ormsby Breeding.

H. M. Warden,
San Luis Obispo, California

HOLMES STOCK FARM

WATERFORD RD., MODESTO, CALIF.

Registered Holstein Friesians.

YOUNG SERVICE BULL FOR SALE

Prince Abbecker Aralia Walker, No. 204267—Three-quarters white. Write for pedigree and price. Inspection invited and satisfaction guaranteed.

Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

See actual figures showing how to increase your calf profits. Write for New Data. COULSON CO., Petaluma, Cal.

PURE BRED JERSEYS AT PRIVATE SALE

The Jersey has proven the most economical producer of butterfat. Recent sales have demonstrated their popularity. When the Butler sale averaged \$3,367, a record for all breeds was established.

Now is the Time to Get Into Jerseys

My diversity of interests makes it advisable to dispose of my milking herd.

16 Cows and Heifers in milk.

7 fresh in August.

Mostly bred to UNDULATA PRINCE 109172.

5 Yearling Heifers, open.

6 Cows are on R.-of-M. test and making splendid records.

The daughters of Undulata Prince are making splendid records at the pail, and are outstanding in the showing. I am retaining this year's crop of calves by him for the foundation of my future herd. At Sacramento in 1917, his get won: 1st prize, get of sire; 1st prize, produce of dam; 1st prize, young herd; 1st prize, calf herd; 1st prize, junior and senior calves and junior and senior yearling in the heifer classes; also junior and reserve grand champion.

In 1918 a daughter was second in the milking contest at Sacramento. His daughters on test are making up to 43 lbs. fat with first calves on ordinary farm care.

This is an opportunity to get into the Jersey business right.

For further information, write or call,

FOR FURTHER INFORMATION, WRITE OR CALL,

E. R. EICHNER,

Selma, Cal.

HAVE SOME NICE YOUNG BULLS

Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.

Fresno Poland-China Sale a Success

(Written for Pacific Rural Press.)

A decided success. That is what the first consignment sale of the Fresno County Poland-China Breeders' Association must be considered. It was held at Fresno August 20, with a large and representative crowd on hand. Many of the prominent breeders from neighboring counties were there to boost for the breed, and several participated in the bidding.

An excellent pork lunch at noon put the crowd in good humor, and then the sale opened with an interesting talk on Poland-Chinas by W. Bernstein of Hanford. Prof. L. B. Smith, Farm Advisor of Fresno County, also gave a talk on the benefit of purebred livestock.

The 51 sows and gilts averaged \$120.09. The offering of boars was negligible as to numbers, only two being put up. The top of the sale was the Big Knox Boy sow, Bonnie Mc., consigned by A. Buckland & Son and bought by E. E. Lapelle of Caruthers for \$335. She is a proven sow of great size and quality. Buckland & Son made the highest average, their 9 head averaging \$188.

The complete list of consignors and buyers is as follows:

- A. BUCKLAND & SON.**
1. Ruby's Big Bone, I. L. Mason, Fowler, \$240.
2. Bonnie Mc, E. E. Lapelle, Caruthers, \$335.
3. Peggie Big Bone, F. C. Morris, Benicia, \$165.
4. Leading Lady B, Mrs. Annie Donders, Fresno, \$155.
5. Leading Lady C, F. Bisel, Fresno, \$155.
6. A. Beauty, W. A. Snelson, Chowchilla, \$170.
7. Miss Perfection, Clarence Peterson, Bowles, \$125.
8. Gilt, Ira L. Mason, \$100.
9. Rosebud Quality 2nd, C. E. Johnson, Turlock, \$255.
WALTER C. FICKLIN.
10. Wonders Leader, Mrs. Annie Donders, \$125.
11. Kerman Wonder, Hughson & Hall, Fresno, \$105.
12. Wonder Girl, Hughson & Hall, \$70.
13. Lady Wonder, Hughson & Hall, \$85.
14. Jumbo Girl, C. A. Semple, Fresno, \$80.
15. Jumbo's Sun-Maid, H. Joseph, Livingston, \$70.
16. Knox Model, W. Bernstein, Hanford, \$80.
17. Big Knox Wonder, Geo. W. Hall, Fresno, \$90.
D. H. FORNEY.
18. Forney's Choice, C. E. Dack, Fresno, \$105.
19. Sun-Maid, J. W. Jones, Fresno, \$85.
20. California Wonder Girl, Hughson & Hall, \$75.
21. California Raisin Pearl, F. C. Morris, \$90.
22. Raisin City's Best, F. C. Morris, \$80.
THOS. CAESAR & SON.
23. Maid of Honor, Hughson & Hall, \$95.
24. Orange Sunnydale, A. Zurligen, Chowchilla, \$80.
25. Countess Hadley, F. C. Morris, Benicia, \$110.
E. S. MYERS & SON.
26. Mollie Princess, M. D. Moore, Raisin City, \$80.
27. Silver Lass 1st, C. E. Johnson, \$130.
E. R. EICHNER.
28. Pride Big Bone, Hughson & Hall, \$195.
29. Jumbo Rosalie, Wm. Bernstein, \$145.
30. Lady Jumbo, H. A. Johansen, Fresno, \$140.
H. BARKEMA.
31. Buster's Best, W. C. Ficklin, Fresno, \$105.
32. Buster's Queen, A. Buckland & Son, \$115.
33. Lady Buster, A. Buckland & Son, \$75.
C. W. MCCOLLISTER.
34. Fresno Beauty, A. Zurligen, \$60.
WM. BURCHARD.
35. Jumbo Rosalie, Wm. Bernstein, \$145.
36. Daisy, J. H. Westrop, Clovis, \$100.
37. Mynes, Hughson & Hall, \$95.
W. L. CHOISSE.
38. Open gilt, A. Zurligen, \$85.
39. Open gilt, C. E. Giles, Sanger, \$55.
J. W. JONES.
40. Fresno Beauty 2nd, Mrs. Annie Donders, \$145.
41. Blue Valley Price, M. D. Moore, \$135.
C. E. DACK.
42. College Lady, H. Joseph, \$120.
43. Prospect Sue, Mrs. C. M. Clark, \$75.
IRA L. MASON.
44. Perfect Maid, Carl W. McCollister, Fresno, \$225.
45. Queen Anne, Mrs. F. W. Wright, Selma, \$145.
G. W. PFOST.
46. Riverdale Lady, A. Zurligen, Chowchilla, \$85.
VERN FULLERTON.
47. Miss Lucern, M. Bassett & Son, Hanford, \$145.
H. N. ASKOV.
48. Liberty Lady, W. A. Snelson, \$125.
49. Candy K. Quality 2nd, E. E. Lapelle, \$165.
One of the two boars was consigned by A. J. Van Cleef of Riverdale and purchased by H. Joseph of Livingston for \$55. The other was consigned by G. W. Pfost, Riverdale, and purchased by L. Schram of Clovis for \$27.50.
The drawing for a gilt proved of great interest. All those in attendance except the consignors were given free tickets, and at the close of the sale the drawing occurred. Mrs.

Thos. J. Woodward of Stratford was the lucky holder of the winning ticket, and to prove that the gilt had real worth, A. Buckland announced before the drawing that if the winner did not want to keep the gilt he would pay \$50 for it.

TULARE POLAND-CHINA SALE PROMISES BIG.

Fifty head of Poland-Chinas will be offered at the first semi-annual sale of the Tulare County Poland-China Breeders' Association, to be held in the Sales Pavilion at Tulare, October 21. There will be 42 bred sows and gilts, 4 open gilts and 4 boars, selected from 12 of the leading herds in the county. Those who are posted on the development of this breed in Tulare county know that such an announcement means a sale of quality stock, for some of the best herds in the state are now located in Tulare county. While the association is young, the men behind it are veteran breeders. They are breeding the type of Polands so popular today, and buyers in the market for animals that combine size and quality together with the best blood lines of the breed should not miss this sale.

DE LAVAL CREAM SEPARATORS

The World's Standard

More De Laval in use
than all others combined

De Laval Dairy Supply Co.

61 Beale Street
San Francisco



GUERNSEYS FOR PROFIT

This breed combines usefulness with beauty, and has won over all other breeds in the net profit from butterfat production and the greatest returns for every dollar invested in feed. Also it is noted for the best flavored and highest natural colored products.

START WITH THE BEST

We believe that our herd cannot be surpassed anywhere in uniformity of type, health, breeding and production. Heretofore most of our cows have been held above price, but now, because of the rapid increase of our business along other lines, we are compelled to disperse this entire Guernsey herd.

100 HEAD AT PRIVATE SALE

Everything goes; not an animal reserved. There are 83 females of great production and promise; 17 males that are real herd headers. Twenty-one of the cows have Advanced Registry Official yearly records of from 500 to 800 pounds butterfat, and several more are now on test.

If you want show quality as well as heavy production, you will find them here. The herd includes the grand champion cow and the junior champion bull at the last San Francisco Show, and many young animals fit to win in the hottest competition. Will sell separately or in lots.



FEMALES OF GREAT PROMISE

While a good share of the mature females have been given records, they have not been forced, and there is not a cow in the herd that has shown her limit of production. Also many of the untested cows give promise of making even better records than the ones already tested.

BULLS FOR BREEDING UP

Guernsey bulls quickly build up grade herds. They are so prepotent that they stamp the breed characteristics upon their offspring to a marked degree, and soon you have profitable producers of quality products. We offer some royally bred young bulls that will quickly double the profits from your herd.

Your Opportunity—Act Quickly

You know how difficult it has been to secure good Guernsey stock, so don't put the matter off. If you want foundation stock for a registered herd, new blood for an established herd, exhibition stock for the fall shows, or a bull to breed up a grade herd, come at once and make your selection. If you can't call, send for a copy of our Sales List and describe your wants fully.

DON'T DELAY; DO IT TODAY. THE STOCK IS SELLING FAST.

Palo Alto Stock Farm

Directors:
HERBERT FLEISHACKER, M. H. TICHENOR,
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Palo Alto, Calif.

Pooling Wool Pulls Bigger Profits

(Written for Pacific Rural Press.)

A subscriber who signs himself A. W. G. asks what wool is selling for at present, and wants our advice as to whether he should sell at the present price or hold his wool until later.

In the first place, the "present price" depends on how he markets his wool. We are handicapped out here by having only small buyers in this market, and if he sells to them he will get only about 35 or 40 cents. Last year there was talk of having central warehouses at which wool could be collected and graded, and through which it could be marketed. Undoubtedly such a step would mean a great deal to the sheep raisers of this section, but something must be done until such assembling points are established, and the pooling method seems to be the solution of the problem.

Co-operative marketing of wool is not an untried plan. It has been carried on most successfully in all parts of the United States at a minimum of expense and a maximum profit. Three counties of Idaho pooled 230,000 pounds of wool last season and sold it as one clip. The cost of handling the wool was only .003 per pound. That is, 1,000 pounds were handled for 3 cents. Could each grower have done it as cheaply? Not likely.

The farmers of Wayne County, N. Y., saved \$2,154 per carload, or an average of 11.3 cents per pound, by marketing their wool co-operatively through the Farm Bureau.

Here in this state the members of the Farm Bureau and Farmers' Union of Stanislaus county pooled a carload of wool and shipped it to Boston in July. It sold there for 60 cents, which will net the farmers over 50 cents. Some better than the 35 or 40 cents that local buyers offered.

If our subscriber, who says he has 1,000 pounds to sell, will get several of his neighbors to join him, they undoubtedly can make up a carload lot and ship east. They probably will be able to get at least 10 cents more per pound.

Whether they should ship at once or hold for a better price later on, is a hard question to answer. One authority advances the theory that the time to get the best price for anything is when your competitors who sell the same kind of goods are not selling, and he claims that the best time to sell wool is between July 1 and November 1, as the Government has agreed to withhold its stock of wool from the market during this period.

Business in the manufacture of woollen goods seems to be booming. Woollen goods seems to be booming. The record for 1919, the amount being 55,000,000 pounds, grease equivalent. Authorities say that this indicates continued activity in the textile industry, and the fact that Americans are heavy buyers at London wool auction sales shows that they anticipate a shortage at home. Normally we have a carry-over of about 300,000,000 pounds, but we understand that the surplus this year is estimated at only 190,000,000 pounds, so really, as compared with our usual surplus, there is a shortage at present. Also, the available stock of woollen fabrics are very low on the shelves of the trade. After every previous war the price of wool has increased and remained high for a considerable period. Why should we expect the reverse this time?

Perhaps the Government investigations of the High Cost of Living may lead to steps which will cause prices to tumble, but at present the farmer says he cannot lower his prices until the cost of labor, clothing, machinery and other purchased supplies comes down; the manufacturer declares his goods cannot be sold at lower rates until labor and raw material are on a lower basis; labor maintains that a lower wage scale is impossible until the cost of living decreases.

The existing high scale is the result of war stimulation that produced excessive demands on material and labor. But while destructive consumption has ceased, the large stores of raw material gathered during the years of plenty have been consumed, and it

looks as though it will be some time before the consumer will have the advantage in bargaining—before there will be any great drop in the price of wool.

At a meeting held in Columbus, Ohio, composed of representatives of wool growers' associations, other farmers' associations, state and federal institutions, wool dealers and manufacturers, a committee consisting of some of the leading authorities in the United States was appointed to investigate conditions and made the following report, which perhaps will answer the question of our subscriber better than we can:

"Statistics regarding the present world's stocks of wool, and their character, lead us to the belief that there is no cause for alarm regarding the future of the sheep and wool industry. Wool stocks at present in this country are characterized by large supplies of grade wools of a kind not normally coming into competition with the best grades of domestic wools, and with a comparatively small supply of choice wools.

"Furthermore, the prospective demand of manufacturers appears sufficient to absorb all supplies of good wool now in sight. There appears to be nothing in the situation to cause growers to be hasty in selling their wools.

"It is our understanding that any reforms to be brought about in wool marketing methods must be inaugurated and conducted by growers themselves for they will benefit first and chiefly from such reforms. It is strongly urged that wool growers form and support community organizations for marketing their wool and improving their production; and it is further urged that these community organizations federate as rapidly as possible with the state and national organizations. Loyal support of the local organizations is deemed essential to success."

MORE CALIFORNIA LIVESTOCK TO HAWAII.

The Hawaiian Islands certainly are proving a valuable field for the sale of California livestock. We have reported numerous shipments to that territory, and now we are glad to announce extensive purchases made by Harold W. Rice, who has a 35,000-acre ranch at Paia, Maui Island.

Mr. Rice, who is now in California, purchased from H. H. Gable of Diamond G Ranch, Esparto, 12 yearling and 3 aged Hereford bulls; from the University Farm 2 yearling Hereford bulls; from W. J. Bemmerly of Woodland, 35 Hereford cows and the outstanding young bull by New Era 2nd, out of a Bonnie Brae cow, that weighed 1150 pounds at 11 months. For the latter he paid \$2,500. Mr. Rice also secured 8 very fine weanling Shorthorn bulls from the Caledonia Ranch of Edward Cebrian at West Sacramento.

For Kemoo Farms, Schofield Baracks, he purchased a Duroc boar from the University Farm; a Duroc sow from Henry Cummings, Visalia; a Guernsey bull from the University Farm, out of a cow that recently made a record of 728 pounds fat in one year; 2,000 White Leghorn pullets from Hopland Stock Farm, Hopland.

This purchase means much to California, as heretofore Mr. Rice has been buying his beef cattle in Australia.

PATTERSON DISTRICT FAIR.

The enterprise of a few of the leading livestock and business men of this beautiful town of the West Side resulted in a cracking good exhibit of livestock, products of general agriculture, implements and tractors.

Prominent among the livestock exhibits were the Percheron and Belgian horses of wonderful class owned by N. W. Thompson.

The Bridgford Holstein Co. and Patterson Ranch Company of Patterson, and H. E. Cornwell of Modesto, showed Holsteins; Hale I. Marsh of Modesto

Live Oak Stock Farm

F. A. MECHAM ESTATE

P. O. Address:

Petaluma, Sonoma County, Cal.

Take Electric Cars at Petaluma or Santa Rosa for Live Oak Station

Importers and Breeders of

**Red Polled Cattle,
Shropshire Sheep,
American Merino**

AND

Rambouillet Sheep



**SHROPSHIRE,
RAMBOUILLETS**

AND

**AMERICAN
MERINOS**

We have for sale this season 350 HEAD OF PUREBRED SHROPSHIRE RAMS, yearlings and two-year-olds. They are sired by sons of the famous Senator Bibby, one of the best Shropshires ever imported into the United States. He is now nine years of age, and is still hale and hearty.

WE HAVE 500 AMERICAN MERINOS AND RAMBOUILLETS. Our Rambouillets are all from prize-winning rams at the P. P. I. E. Strong, hardy, range-raised stock. We have a fine lot of yearling American Merinos of our own breed.

ALL STOCK SOLD SINGLY OR IN CARLOAD LOTS.

HILLCREST STOCK FARM

**Shorthorn Cattle
Shropshire Sheep
Merino Sheep**

RAMS AND BULLS FOR SALE

Single or in Carload Lots

T. S. GLIDE, - Davis, Calif.

ORMONDALE SHORTHORNS

All are heavy boned, and of Scotch and Scotch-topped breeding.

Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED.

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road.

We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE ORMONDALE CO. REDWOOD CITY, CAL.

DUBOC-JERSEY SWINE R. D. No. 1

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. E. Clay.

Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.

A few yearling heifers of same breeding.

Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY, Perkins, Sacramento Co., Cal.

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

One mile east of town.

St. Helena, Calif.

exhibited 8 head of magnificent Poland-Chinas; Patterson Ranch Co., L. Christoferson, Mrs. E. A. Thompson and S. E. Wallace showed Duroc-Jerseys. Altogether the fair was a very fine exhibit of the products of the district and did the management and people great credit.



America's
Pioneer
Dog Medicines

BOOK ON
**DOG DISEASES
And How to Feed**

Mailed free to any address by

the Author

H. CLAY GLOVER CO., Inc.,

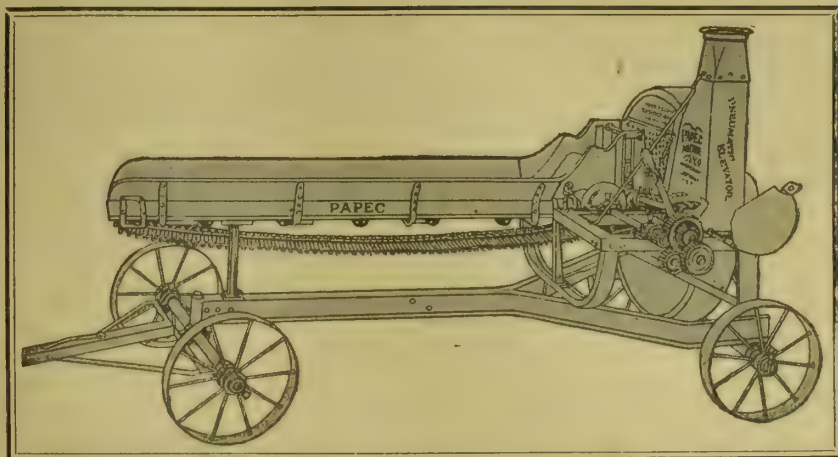
118 West 31st Street, New York



Let the PAPEC CUTTER

SAVE MONEY FOR YOU

Fill your silo at the right time. Own a "Papec" and be sure of your winter feed.



Feed cut hay to your stock. It takes less space and stops waste.

Don't wait for your neighbor to fill his silo in order that you may use his ensilage cutter. Get a "Papec." When your silo is ready for filling you won't have to depend upon someone else. The "Papec" will enable you to preserve the full value of your crop by handling it at the right time. This saving will soon pay for your silo.

The "Papec" has a solid semi-steel frame. No screws or bolts to loosen. It requires less power and will handle more ensilage and "throw" it farther than any other. Note the illustration of the wheel. Six fans on cutting wheel do the trick.

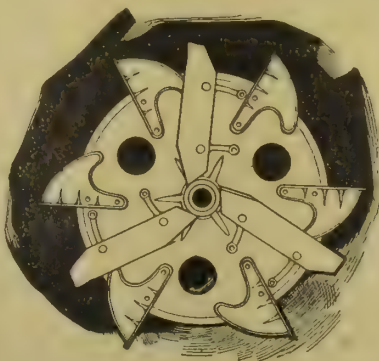
The "Why of the Wheel"

An ensilage cutter with four or less fans requires an elevating pipe large enough to receive at least one-fourth of the ensilage cut at each revolution of the cutting wheel.

Thus the Papec, with its six fans and small pipe, "throws and blows" a steady stream of ensilage with a force more concentrated and with a pressure much greater than a cutter with four or less fans and a larger pipe.

The Papec Ensilage Cutter requires less power and elevates higher. The knives shear keen and clean.

See Our Display at California State Fair,
SACRAMENTO



The "Simplex" Silo has stood the test of time and has proved to its thousands of satisfied owners that it offers the surest means of increasing their profits.

The "Simplex" is substantially built throughout. Doors, frames and staves are of **Clear Oregon Pine**. No end joints. Staves and door jambs are in one piece, the height of silo. Hoops are of new steel with heavy malleable adjustment lugs. Doors are of the two way type, swing or lift.

Our interlocking anchor system makes the "Simplex" windproof. Cable braces run diagonally from top to anchor bolts imbedded in foundation. Not a weak place in entire construction.

The Crisell Tangent Top keeps the "Simplex" always in a true circular outline. This is a patented feature of the "Simplex" and one of the secrets of its success.

Increase your Pro fits

The "Simplex" Silo and the "Papec" Cutter are a combination that will yield big returns on the investment for many years. They are both guaranteed. Money back if they don't stand the test. Send the coupon for full particulars, prices, etc.

Mail This Coupon Today

SANTA FE LUMBER COMPANY,
16 California St., San Francisco, Cal.

Please send me folder describing Simplex Silos; also information about Papec Ensilage Cutters.

Name

Address

SANTA FE LUMBER CO. San Francisco

Livestock and Dairy Notes

LIVESTOCK SALES DATES.

September 16—Preston School of Industry, Ione. Dispersal sale of 60 cows, heifers and bulls at State Fair Grounds, Sacramento.

September 17—John M. Bernstein and W. L. Haag & Son, Hanford. Poland-China bred sow sale.

September 18—Henderson Company, Sacramento and Bonita Stock Farm, Woodbridge. 65 Registered Holsteins at Stockton.

September 19—San Joaquin Poland-China Breeders' Association, Lodi. Consignment sale, 60 head.

September 30—Dimmick Bros. and De Raad, Hanford. Disposal sale of Poland-Chinas.

October 4—H. I. Marsh and Les McCracken, Modesto. Poland-China bred sows and gilts.

October 7—M. & A. L. Bassett, J. A. Crawshaw and F. D. Ross, Hanford. 75 head of Poland-Chinas.

October 11—Kings County Poland-China Breeders' Association, Hanford. Consignment sale.

October 16—H. M. Elberg, Roselawn Stock Farms, Woodland. 45 head of Shorthorns.

October 18—Trewitt and Vaughan, Hanford. Poland-China bred sows and gilts.

October 21—Tulare County Poland-China Breeders' Association, Tulare. First consignment sale.

November 6—California Shorthorn Breeders' Association, San Francisco. Consignment sale.

November 7—Pacific Coast Hereford Breeders' Association, San Francisco. Third sale of Herefords.

January 31—Ireland Ranch, Owensmouth. 50 bred Duroc sows and gilts.

February 12—San Joaquin County Poland-China Breeders' Association. 60 bred sows and gilts at Lodi.

February 14—Castleview Ranch, Santa Rosa. Sale of 50 Bred Berkshire sows and gilts.

April 17—Butte City Ranch. Semi-annual sale of Shorthorns, Berkshires, Shropshires and Shetlands at Butte City.

FALL FAIRS AND SHOWS.

August 25-28—Placer County Farm Bureau Fair, Roseville.

August 30-Sept. 9—California State Fair, Sacramento.

September 16-18—Humboldt County Fair, Ferndale.

September 17-20—Antelope Valley Fair, Lancaster.

September 24-27—San Diego County Farm Bureau Fair, San Diego.

September 22-27—Glenn County Fair, Orland.

September 30-October 4—Fresno County Fair, Fresno.

October 2-5—Napa County Fair, Napa.

October 4—Contra Costa County Farm Bureau Fair, Brentwood.

October 4-19—California Industries and Land Show, San Francisco.

October 6-11—Land Show, Martinez.

October 6-11—Tulare Livestock Show, Tulare.

October 7-11—Southern California Fair, Riverside.

October 15—Kings County Pork Producers' Contest, Hanford.

October 13-18—Tulare County Fair, Visalia.

October 18-26—Los Angeles Livestock Show.

October 25—Shasta County Farm Bureau Fair, Anderson.

November 1-8—California International Livestock Show, San Francisco.

November 3-7—Western Royal Livestock Show, Spokane.

November 9-14—Northwest Livestock Association, Lewiston.

November 17-22—Pacific International Livestock Exposition, Portland.

THE DAIRY.

The American Jersey Cattle Club has appropriated \$2,500 for premiums to be given in boys' and girls' calf clubs for the year. \$75 of this sum will be presented to each of the first 33 clubs reporting to the secretary, after publication of this notice.

The State Dairy Bureau which is to be merged with the State Veterinarian's office under the direction of Dr. Iverson, will soon be moved from San Francisco to Sacramento.

Supervision of official testing of dairy cattle has been transferred from the College of Agriculture at Berkeley to the University Farm, Davis. This move will be welcomed by the many breeders of pure-bred cattle who keep in close touch with the Davis institution.

The California Dairy Council now has a membership of 1,200 according to Sam H. Greene, the genial secretary and manager. The campaign for membership has hardly begun in earnest and the ease with which members have already been secured shows that the movement is sweeping the state like a tidal wave.

BEEF CATTLE.

It is reported that W. R. Madden, the well-known Hereford breeder of Dixon, together with Will Timm, has bought a large stock ranch near Nogales, Arizona.

Wood & Shaw have purchased from A. K. Macomber, for \$80,000,

the Soap Lake Ranch in San Benito county, north of Pacificines. With it were included 140 head of grade Shorthorns which were purchased at \$120 per head. The new owners will establish a pure-bred herd.

The American Hereford Breeders' Association has decided to offer \$1 in premium for every dollar offered by the California International Livestock Show to be held in San Francisco, November 1-8. This duplicates the action of the Shorthorn people and makes a liberal inducement for breeders of these two prominent breeds to come out in full force.

It is reported that on account of the severe drought in Montana between 600,000 and 700,000 cattle will be shipped out of the state. Stockmen are being advised to dispose of their steers, old fat cows, yearlings and two-year-old steers and heifers when necessary, keeping at home only cows with calves.

Wm. Briggs has started a pure-bred Hereford ranch at Dixon, securing foundation stock from Nevada and Texas. His herd bull is of Anxiety breeding and was purchased from the Vele herd of Missouri. Rambouillet sheep also will be carried and a foundation flock of ewes has been established headed by a \$500 yearling buck from Idaho. The farm will be in charge of Jm. Briggs Jr.

Last week in mentioning the showing that the Pacheco Cattle Company of Hollister will make at the State Fair, we stated that they would have a fine showing of Holsteins, which, of course, should have been Shorthorns. Ordinarily this mistake would be a pretty bad one, but the Pacheco Shorthorns are so well known that had we used almost any word in the English language readers would have known what was meant. It will be remembered that last year this concern captured nine first and three second prizes.

When W. A. Cochel, field man of the American Shorthorn Association, made his recent trip to the coast he visited Caledonia Farms at West Sacramento and pronounced Mr. Cebrian's Shorthorn herd the largest in the country. The herd has a reputation for quality in keeping with its size, as it produced the grand champion steer over all breeds at the 1917 Chicago International; the dam of the grand champion Shorthorn steer at the 1918 International; the dam of California Model, the highest priced Shorthorn bull ever sold on the Pacific Coast, bringing \$5,500 at public sale.

SWINE AND SWINEMEN.

Lloyd & Tointon of Lloyton Farms, Santa Rosa, have added another convert to the list of Yorkshire breeders, and have sold a herd of 11 head to W. A. Straub of Sutter City.

In the advertisement of Les McCracken of Ripon appearing in last week's State Fair issue it was stated that his sire, Kings Big Bone Leader, was grand champion at the State Fair of 1917. This should have been 1918, as it was only last year that this boar made his great winnings.

The California Poland-China Breeders' Association will hold a business meeting at the Travelers Hotel, Sacramento, Wednesday, September 23, at 7:30 p. m. for the purpose of electing officers and transacting business of great importance to the breeders. All Poland-China breeders, whether members of the association or not, are urged by secretary A. D. McCarty to attend.

Donald Graham, the Duroc breeder of Lancaster, has just received two corking good eastern sows, one sired by the 1916 Nebraska grand champion and bred to Chief Sensation who weighs 1,060 pounds in breeding condition. The other sow is a line-bred Cherry Chief out of the Illinois grand champion sow of 1917, and is bred to a son of Great Wonder I Am the largest junior in Nebraska.

WHY

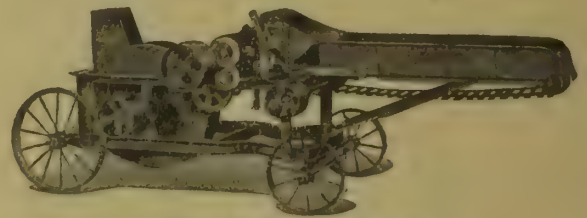
The ACME Cutter

Requires the Least Power and Produces the Finest Silage

Its light-running qualities are due to its triple steel frame construction. There's not another cylinder cutter like it. The steel frame can't warp or sag. All bearings are held in rigid alignment allowing free, smooth running. Loss of power due to vibration and unnecessary wear are thus reduced to the minimum in the Acme, and its durability increased. Vibration is further reduced by the 3-bearing cutter shaft.

Silage of exceptional quality is produced by its spiral cutting knives. Their perfect shearing stroke give a clean-cut uniform silage that is easy to pack properly in the silo.

Our Cutter Catalog Describes All Sizes
Shall we send you one?



The Light-Running Acme

DE LAVAL DAIRY SUPPLY CO.
61 BEALE ST., SAN FRANCISCO.

Poland-China DISPERSAL SALE

The well-known herds of

Dimmick Bros. & C. G. De Raad 90 Outstanding Individuals 90

16 MAMMOTH SOWS, bred to President 2nd, Young Jumbo, Yankee Jr., Kings Massive Orange and California Smooth Jumbo.

5 GREAT BROOD SOWS with litters, two being sows bred to a son of Big Orange.

16 TOPPY GILTS, old enough to be bred for spring litters. All sired by noted boars, such as Kings Timm.

26 CLASSY SPRING PIGS—20 of which are sows. They include a litter from a daughter of The Yankee, and pigs sired by a son of Smooth Jumbo 2nd.

20 WONDERFUL SUMMER PIGS out of real large sows with quality.

6 BIG BOARS, including sons of Model Fellow Jr., Smooth Jumbo 2nd President and Kings Timm.

Kings County Fair Grounds HANFORD, SEPTEMBER 30th

Be sure to attend this sale. A chance to get real foundation stock—the kind breeders will not ordinarily sell.

Dimmick Bros.

LEMOORE, CAL.

C. G. DeRaad

LEMOORE, CAL.

COL. GEO. W. BELL, Auctioneer.

A report from Williams states that the Stovall-Wilcoxon Ranch of 36,000 acres has been sold at a price of approximately \$2,000,000. The holdings extend from the coast range foothills to the Sacramento River and include thousands of acres of remarkable fertility; also some fine range land. Among the new owners we notice the name of Judge Bridgford of San Francisco.

Floyd E. Hendricks of the Hendricks Angora Goat Ranch near Cottonwood, uses his 1,400 goats to help clean the land, besides getting an average clip of 5 pounds of mohair per goat per year.

LIVESTOCK DIRECTORY

Note in this directory 3c per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rockwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

GRAND NATIONAL CHAMPION

Baron Duke 201st, 200001

Do you realize this is the only opportunity you have ever had on this Coast to secure the pigs of a Grand National Champion. Duke is breeding them long and thick. He is getting old and may die any time. You are started right if you get his pigs. A very good April boar pig sired by Duke and from a half-sister of Rincos Rival 2nd, cholera immune, \$35.00. Sandercock Land Co. In charge of Natomas Sales, 23 Montgomery Street, San Francisco, California.

GRAPEWILD FARM BERKSHIRE-GUERNEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. R. J. Merrill, Morgan Hill, California.

REGISTERED BERKSHIRES!—Sons and daughters of Imperial Laurel 263736. The type of Berkshires that spell Gold. L. S. Pearson, 2128 Alum Rock Ave., San Jose, Cal.

LARK MEADOW RANCH—Top Berkshire gilts. Bred right, prices right. Satisfaction guaranteed. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

RIVER GARDEN FARM BERKSHIRES—They are sure to please. E. H. Whiting, Ukiah, Calif.

FOR REAL GOOD BERKSHIRES write Frank B. Anderson, B. 724W, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

REGISTERED BERKSHIRES—Write R. D. Hume, Dos Palos, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

POLAND-CHINA GILTS FOR SALE—10 read of 160 to 200 lbs., 8 mos. old gilts for sale. Some of these from Big Bone Bob, nice, smooth pigs, half large, half medium type. Will sell these open for \$60.00 each, or bred to Barton's Big Korver for \$75.00. Recorded your name, F. O. B. Lodi. This is a nice lot; better act quick. W. A. Young, Lodi, Cal.

EL PROFITO—Our great herd boar, will put profit-making qualities into your herd. His offspring have size, stretch, bone, good backs and feet, and easy feeding qualities. To make the right start with big-type Poland Chinas, get one of his boar pigs. Prices right. Correspondence cheerfully answered. Viola L. Renwick, Santa Barbara, California.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us, Cloverdale Farm, R. F. D. 1, Escondido, Cal.

FIVE MARCH GILTS—Good enough for anyone on earth. Sire, Big-Bone Bob. Dam, Mollie H. Blood lines, I. B. A. Wonder, Lady Wonder, A. A. Quackenbush, West View Ranch, R. F. D. 2, Acampo, Cal.

"SOLD OUT except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route G, Fresno, Cal.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write P. E. Fay, Tipton, California.

BIG-TYPE POLAND CHINA BOAR PIGS, from champion boar. Write for prices and particulars, Carstens & Holloway, Madera, Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Rt. 1, Box 39, Watsonville, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for sale. Giant Buster and President Stock. Prices right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

POLAND-CHINAS—Weanling pigs, both sexes. True big type. Blue Valley strain. W. A. Clarke, Madera, Calif.

POLAND CHINAS—A few 4 to 5 mo. boars and gilts of good type and size. J. E. Thomas, Gilroy, Cal.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

ELDERLEY FARM—Big-type Poland-China hogs and Aberdeen Angus cattle. J. H. Ware, Live Oak, Calif.

POLAND CHINAS. See my boars at Lodi sale. J. E. Steely, Clements, Calif.

FOR SALE—Poland-China boar, age 14 months. Priced right for quick sale. Box 332, Healdsburg, Cal.

BIG-TYPE POLANDS—Spring pigs from prize-winners. J. H. Hansbrough, R. A., Box 22, Modesto, Cal.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old—"A Wonder" bred boar.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewitt and Ross blood. B. M. Hargis, Tulare.

POLAND-CHINAS—Young stock for sale. H. E. McMahon, Lemoore, California.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Nothing this month. Eight spring boar and 5 spring sow pigs to offer during August. All young stock is now immune. At the State Fair this year will show a full exhibit of good ones. Drop in and see them and get some real big type ones. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

ORION MODEL

sired by

ORION CHERRY KING, JR.

the \$3,500 Boar.

Is Making His Mark As a Great Breeder. He heads our herd of up-to-date Durocs. The most popular blood lines are represented in his pedigree—the kind that have laid the foundation for many prize-winning herds.

Choice Spring Boars For Sale. If you are in the market for some outstanding boars, we have them.

F. D. BURR CO. ORLAND, CALIF.

RANCHO BOWDEN DUROCS—Extra fine litter weanlings, ready for delivery Sept. 1st. Dam, granddaughter Orion Cherry King, sire, son University Farm Kean 5th. 14 in litter. Raising 8 sows, 2 boars. Real quality. \$15 each, registered. Address, J. L. Bowden, 510 Market St., San Francisco; E.A. Bacon, R F D 1, Denair.

HORINE'S REGISTERED DUROC JERSEYS—I sell weanlings and buy gilts. Don't fool with scrubs and don't buy elsewhere until you know my plan. Write today for full particulars of a guaranteed profit-making weaned pig. Geo. L. Horine, Winton, Cal.

REGISTERED DUROC-JERSEYS—Choice open gilts ready for breeding; also weanling sow pigs. One fine service boar. "Square Deal Ranch," S. K. Helsley, Prop., Ceres, Calif.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

REGISTERED DUROC JERSEYS—Open and bred gilts, August and November boars. Great herd headers. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Dos Palos, Cal.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Ethanac, Calif.

DUROC-JERSEYS—Smooth, long, strong-heavy-boned DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

PATHFINDER AND KING'S COL. stock—immune. Weanlings, \$25 each. Bred gilts and service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento, Calif.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

McCARTY and STARKWEATHER
FAIL BOARS—Big type, smooth and classy. Cholera immune. Box 2250, San Francisco, or Paradise Road, Modesto.

WE WON MORE MONEY in Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

DUROC JERSEY GRADE gilts 5 months \$22.50 up. B. Redaker, Napa.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Uneda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

Miscellaneous.

FOR SALE—109 Milk cows, grade Holsteins and Durhams, 25 freshen within six weeks, balance milking heavily. Herd made highest milk production and butterfat test Contra Costa County Cow-Testing Association last month. Must sell immediately. Ranch lease expires. Burroughs Bros., Knightsen, Contra Costa Co., Calif.

MARCH PIGS—Gilt edge breeding from prize-winning stock. Would trade. P. O. Box 358, Sacramento, Calif.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

FOR SALE—140 head pure-bred, bred brood sows and four pure-bred boars. Sows principally all Poland Chinas, a few Durocs. Will average about two years old. This is an exceptionally fine lot of very carefully chosen sows, the entire lot averaging better than seven pigs each, weaned, this past spring. Box 128, Lancaster, Cal.

DAIRY CATTLE.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckles Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sales. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from higher record dams. J. W. Gemmer, Ripon, Cal., R. 2

PALO ALTO STOCK FARM, Palo Alto—Breeders of registered Guernseys; both sexes; prices reasonable.

Jerseys.

SERVICE JERSEY BULL, bull calves, Financial King blood. Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeport, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2½ years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORT-HORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

A PRICE ON EVERY ANIMAL. Herd free from tuberculosis. All sales subject to sixty days' retest. Sons of Findern Soldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

Toyon Farms Association.
679 Mills Building San Francisco.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto. breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. M. Freeman Route B Modesto, California

CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A. Box 437, San Jose, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spires, Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif. Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS and Duroc Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibble, Santa Barbara or Lompoc, Calif., John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED YEARLING SHORTHORN BULLS—Heavy boned, thick-meated. Scotch and Scotch-top'd breeding. Ormondale Co. Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm. J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATKERSON—Breeder Registered Herefords. Bishop, California.

REGISTERED SHORTHORNS—Julien Ranch, Grenada, Siskiyou Co., California.

SHORTHORNS—Carruthers Farms, Live Oak, California.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch, Esparto, California.

HORSES AND MULES.

PERCHERONS—Registered Stallions, Mares and Fillies; three, four, and five years old. Cora S. Secrest, Escalon, Cal.

SHEEP AND GOATS.

PURE-BRED RAMBOUILLET RAMS, large smooth frames, extremely heavy shearers, from the very best strains of this country and France. Immediate delivery from ranch at Ord Bend, Glenn county. P. O. address, Windell Orchards, Glenn, Calif.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUFKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillots. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale. Shorthorns; Shropshires; Berkshires; Ponies. Next sale April 17, 1920. All breeds.

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM,
P. O. Box 177, Lancaster, Cal.

True Big Type POLAND-CHINAS

Boar pigs. Sow pigs. Just the kind you have been looking for. The kind that will grow into money p. d. q. Come and see them. Write me about them. Anyway to get them.

W. A. CLARKE

BOX 313, MADERA, CALIF.

Ranch 4 miles east of Sharon.

Coming Sales in the Swine World

(Written for Pacific Rural Press.)

Great Interest in Bernstein-Haag Sale.

The announcement of the sale of Mabel's Jumbo back in the corn belt for the record price of \$18,000 is increasing the interest in the joint sale of John M. Bernstein and W. L. Haag & Son, to be held at Hanford, Wednesday, September 17, for the Haag boar, Young Jumbo, is a grandson of the sire of Mabel's Jumbo—the great Halford boar, Long Jumbo. Everyone knows how Long Jumbo blood breeds on, and there promises to be lively bidding on the sows and gilts sired by Young Jumbo or bred to him.

The Yankee blood, also is exceedingly popular back in the corn belt, and in one week three of this boar's young sons were sold for \$5,400. He has the reputation of never having sired a pig with a bad foot, a poor back or a wrinkle, and The Yankee Jr. is convincing proof of his ability as a sire. A large number of sows and gilts will be bred to The Yankee Jr., several of them having been imported from the Corn Belt, and they should sell like hot cakes.

It's going to be a great sale. The only way a fellow can lose is to stay away.

Poland-China Sale at Lodi.

Lodi is the hotbed of Poland-China in San Joaquin County, and several of the largest and most prominent breeders in the state are located there. These breeders, together with others in the country—all members of the San Joaquin County Poland-China Breeders' Association, will hold a sale of quality stock at Lodi, Friday, September 19. It was first planned to make it an exclusive boar sale, and 40 cracker jacks were consigned. Later 20 bred sows and gilts were added, making one of the strongest aggregations of hogs ever driven into a sales ring. A judging committee passed on all animals consigned and accepted only the choicest. Those selected are the tops from the various herds, and they represent the best blood lines of the breed. Don't miss this sale of quality stock. Col. Ord L. Leachman will be the auctioneer.

Trewhitt-Vaughan Poland-China Sale.

Those in the market for Poland-Chinas who are in no hurry to buy will do well to wait for the sale to be held at Hanford, October 18, by W. D. Trewhitt and C. A. Vaughan. These well-known breeders will offer 52 bred sows and gilts and a few boars. Mr. Trewhitt's consignment consists of 40 of the finest sows and gilts he has ever offered, and you know what that means, for he always has the best in both breeding and individuality. C. A. Vaughan will consign 12 bred gilts purchased on his recent trip to the Corn Belt. They combine size and quality and represent the last word in Corn Belt breeding. The sows and gilts are sired by some of the breed's most noted boars, and bred to boars of the same caliber. You can't go wrong in buying them.

Another Kings County Poland-China Sale.

"The real Poland-China center of the Pacific Coast" is the claim that the Kings County Poland-China breeders make for their section, and they are going to hold a consignment sale at Hanford, Oct. 11 to prove that to get the best you must come to Kings County. It will be the eighth semi-annual sale of the association. Eighty bred sows and gilts and a few boars will be sold without reserve. The tops of 21 of the leading herds in the county have been consigned. They include tried sows of proven worth, gilts of great promise and boars that will make great herd leaders. If you have ever attended one of these sales, you will want to go again. If not, be sure to take in this one. You will make money on any animal you buy. Castlevue Ranch to Hold Berkshire Sale.

The fact that J. Francis O'Connor of Castlevue Ranch, Santa Rosa, has already claimed the date February 14,

1920 for a sale of bred sows and gilts shows that he is going to take plenty of time to get his sales stock in fine shape. He certainly has a lot of good ones to work on, for the foundation Berkshires in this herd include the grand champion sow of the world, the grand champion sow of America, and the grand champion sow of California. The herd sire is Mayfield Rookwood 2nd, a grand champion boar and sire of the grand champion barrow at the 1919 Berkshire Congress.

Mr. O'Connor will sell 50 bred sows and gilts, and as a special attraction the grand champion sow of America, Rookwood Lady 100th, will be offered, probably bred to Star Leader. Breeders who want Berkshires of the ribbon pulling kind will wait for this great event. Col. Ord L. Leachman of Sacramento will cry the sale.

Dimmick-DeRaad Dispersal Sale.

A dispersal sale by a prominent breeder offers a wonderful opportunity to secure foundation animals that ordinarily could not be purchased. Consequently, when two herds are dispersed together a doubly good opportunity is afforded. Dimmick Brothers of Lemoore are dissolving partnership and C. G. De Raad has sold his farm. These well-known breeders will disperse their herds together at a public sale to be held at Hanford, September 30, and about 90 head will be offered, including bred sows, bred and open gilts, herd boars and spring and summer pigs. No matter what you are looking for, you will find it in this offering. The beginner can secure a foundation herd; the established breeder can secure new blood; the market hog man can get a boar that will increase the profits from his herd. The hogs that have made these breeders famous will do as much for their new owners. Get some of them.

Bassett-Crawshaw-Ross Sale.

What's in a name? Perhaps there isn't much in some names but when you see the names of such veteran breeders as Mark Bassett, Dr. J. A. Crawshaw and Fred D. Ross, you immediately think of the very best in Poland-Chinas. These men have been in the business for years, have been prominent winners at the shows, and have sold stock all over the state that has made good. They now join and will offer 75 head of bred sows and gilts and herd boars at public sale at Hanford, October 7. They announce the greatest assemblage of the best blood produced in Poland-China, and you can depend upon them to make good. Every animal will be doubly treated. Wait for this sale, and plan to buy some of these fine hogs. Col. Ord L. Leachman of Sacramento will be in the box.

Marsh and McCracken Join for Poland Sale.

It is necessary to talk in the superlative degree when describing the Poland-China herds of Hale I. Marsh of Modesto and Les McCracken of Ripon. Mr. Marsh has been a consistent winner at the shows for years and it will be remembered that at the last State Fair he showed a herd weighing 3200 lbs. (one sow weighing 900 lbs.) and afterwards sold the herd for \$4,000. Mr. McCracken came into the limelight when he bought Kings Big Bone Leader, grand champion of 1918, at the highest price ever paid in a California sales ring. This boar's pigs are in great demand and the sows and gilts which Mr. McCracken will offer will be bred to him. The sale will be held at Modesto October 4, and a wonderful lot of bred sows and gilts from these noted herds will be offered. Great chance to get championship blood.

Milk that has an unpleasant flavor often acquires it after it has been drawn from the cow. This bad flavor is more often due to other causes than to the feed the cows have had.

Lice prevent a hog from doing well; therefore prevent the lice from associating with the pig

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?

Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

SAN FRANCISCO

FIRST PUBLIC POLAND CHINA SALE

Hogs in this offering are animals of the choicest breeding along very fashionable lines of the big-type. They have all been passed on by a judging committee of very conservative breeders so that the sale will include nothing but tops from the various herds.

20 Bred Sows and Gilts 40 Boars

The boars and gilts offered are either sired by or bred to some of the most noted boars of the Poland-China breed on the Pacific Coast, such as Major Hadley Wonder, Matchless Big Bob, Big-Bone Bob, olden State ing, Ursus Junior, and others of equal note.

The Consignors are as follows:

BECKMAN & SONS
JOHN HAGEL,

EUGENE MINER,
J. E. STEELY,

N. K. HORAN,
LANGHORST BROS.,

J. W. WAKEFIELD,
J. F. LEHMAN,
YOUNG & BARTON,
YOUNG & CLARK.

—at—

Lodi, Friday September 19th

Do not miss this sale if you are in the market for either a boar as a herd header of registered sows, or for service in a market herd. The offerings will improve registered herds and are of such constitution and prepotency that they will give uniformity and the well-known easy-feeding qualities to your grade herds.

Come early and make your choice before the sale starts. Those not attending may send mail bids to Thos. F. McConnell, Field Man for the Pacific Rural Press, in care of the Secretary.

SAN JOAQUIN COUNTY POLAND-CHINA BREEDERS' ASSN.

Lunch at noon.

Sale starts promptly at 1 o'clock.

SHERWOOD BECKMAN, Secretary

SEND FOR CATALOG

Lodi, California.

COL. ORD L. LEACHMAN, Auctioneer.

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FAM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

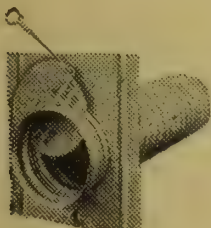


The Agricultural Pavilion--where Calco Farm and Irrigation Products will be Displayed.

See CALCO Products at the State Fair -



Model 150
Lateral Headgate
Hand-lift—for water up to 6 feet.



Model 161
Irrigation Gate
Made with or without bulkhead.



Model 244
Hog Trough
Sanitary—strong—durable.



Model 251
Watering Tank
Used where water must be carried.
Portable—Strong—Durable.

YOU—as a progressive, thrifty farmer—will attend the State Fair. You will go there to see and learn of the modern equipment that makes possible a saving in labor, time and money.

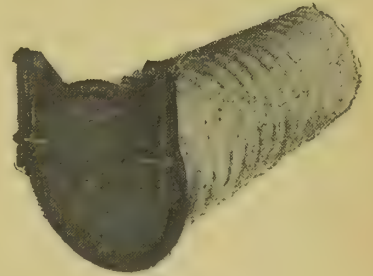
In the Agricultural Pavilion, you will see a complete display of the Calco products illustrated on this page—and other stock and irrigation specialties.

These Farm Products not only save time, and make work easier, but they save you money on feed—they save the loss resulting from disease—they **modernize your farm.**

All Calco Farm and Irrigation Specialties are constructed of rust-resisting "Armco" Iron and cast iron—giving you the same durability demanded by railroads and factories who use Armco Iron for hard service.

Call at the exhibit at the State Fair—ask the experienced men to explain the merits and uses of any Calco products that interest you. Ask how others use them.

If you cannot attend the Fair this year write for folders and prices. But plan to come if you possibly can.



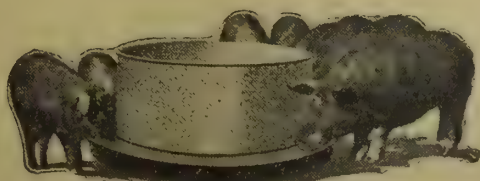
Model 100
Automatic Drainage Gate
Water-tight—sensitive—reliable
Automatically operated.



Model 101
Slide Head Gate
For use under heads of water up to 20 feet. Water tight.



Model 200
Stock Watering Trough
This trough is giving permanent satisfaction wherever used.



Model 252
Automatic Watering Fountain
Constant supply of fresh water.
No overflow.



Model 250
Automatic Grain Feeder
Plenty of feed, automatically controlled. Sanitary. No waste.

California Corrugated Culvert Co.

417 Leroy Street
LOS ANGELES



406 Parker Street
BERKELEY

**BERKSHIRES SALE AT CARRUTH-
ERS FARMS.**

Live Oak Champion, a great example of true Berkshire type, was the top at this sale, selling for \$425 to the Imperial Stock Farm, R. J. Merrill & Son Props., Morgan Hill. This boar is a very smooth fellow of good bone and ought to mix well with Mr. Merrill's sows. The sale was satisfactory, with an average of practically \$81 including all animals sold from the top boar to the smallest weanling pig.

Many of the prominent Berkshire breeders and boosters of the State were present, including J. Francis O'Connor, James Mills, W. S. Guilford, J. L. Thatcher and others.

BOARS.

Live Oak Champion, R. J. Merrill & Son.....\$425
Mayfield Superbus, Geo. Kounias..... 155
Live Oak Rival 1st, Geo. P. Robinson 45
" Rival 27th, H. L. Murphy..... 35
" Rival 31st, Jacob Doty..... 30
" Rival 44th, F. B. Anderson..... 30

SOWS.

Live Oak Lady 5th, R. J. Merrill & Son.....\$145
" Belle, H. C. Muddox & Son..... 285
" Belle 2d, Geo. P. Robinson..... 155
" Lady 16th, C. N. Esender..... 110
" Lady 16th, Geo. P. Robinson..... 80
" Lady 17th, C. N. Esender..... 100
" Lady 18th, Meister & Machado..... 90
" Lady 19th, Sen. F. W. Leavitt..... 92.50
" Lady 20th, A. A. Plaggi..... 60
" Lady 21st, A. B. Humphrey..... 130
" Duchess, W. F. Sanderecock..... 50
" Duchess 2d, C. N. Esender..... 60
" Duchess 3rd, H. L. Murphy..... 50
" Laurel 2d, Meister & Machado..... 67.50
" Laurel 3d, A. A. Plaggi..... 45

DUROC GILTS

Orion, Long Wonder and Volunteer Breeding.

Also young pigs by a son of Johnson's Defender. For prices and particulars write
GUY H. MILLER
E. L., Modesto, Calif.

TAMWORTHS

(The Bacon Hog)
Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM
W. O. Pearson, Prop. Woodland, Cal.

" Rival Lady, J. F. O'Connor..... 3@ \$42.50 127.50
" Lady 22d, 23d, 24th, Meister & Machado..... 3@ \$27.50 82.50
" Lady 25th J. F. O'Connor..... 45
" Ruby 2d, A. B. Humphrey..... 90
" Ruby 3d, Meister & Machado..... 60
" Laurel 5th, 6th, 7th, Harry L. Murphy..... 3@ \$30 each... 90
" Princess, F. B. Anderson..... 47.50
Col Ord L. Leachman of Sacramento cried the sale and held the interest of the crowd closely throughout.

JERSEY QUEEN FARM DUROC SALE

The second public sale at this well-known farm, San Jose, was not as spectacular as the first, but the average of \$114.68 on the sows and gilts was satisfactory when all conditions were considered. The complete sales list is as follows:

Swine.

Bred gilt, Jack London Ranch, Glen Ellen.....\$125
Aged sow, Jack London Ranch, Glen Ellyn..... 232.50
Open gilt, C. S. Topping, Los Gatos..... 125.
2 March gilts, Mrs. L. W. Preon, San Juan Bautista, each..... 55
2 gilts, W. S. Williamson, Lathrop..... 200
4 weanlings, A. L. Emery, San Juan Bautista..... 100.
1 weanling, A. L. Emery, San Juan Bautista..... 22.
6 weanlings, Mrs. L. W. Preon, San Juan Bautista..... 96.

Sheep.

1 ewe and lamb, A. Joseph, San Jose..... 90.
7 ewes and lambs, W. L. Williamson, Lathrop..... 280.

The success of the sale was largely due to the sales-ring generalship of Col. Ord L. Leachman of Sacramento, who cried the sale.

Tulare is becoming quite a shipping center. There are at present 1,500 mules at Tulare awaiting shipment. The mules have been gathered from all parts of the valley and local buyers said that good mules are now hard to find. Many of the farmers are expressing regret that they did not keep on raising mules.

WINSOR RANCH DUROCS

HOME OF

Winsor's Giant Orion

The largest Duroc-Jersey Boar on the Pacific Coast.
82 inches long from between eyes to root of tail, 40 inches high, weight 965 lbs.

Great Model

THE LARGEST DUROC-JERSEY ON THE PACIFIC COAST.

40 BIG-TYPE FALL GILTS BY THE WORLD'S GREATEST SIRES will be offered for private sale, bred to these two boars. 28 of them have just arrived from Iowa. See our herd at the big California Fairs.

Address R. K. WALKER,

Bonita, San Diego Co.

Every Hog on the
Gardiner Ranch is
Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER

GARDINER'S KING'S COL.

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH
ROUTE 4, BOX 735. SACRAMENTO, CAL.

Imperial Stock Farm Berkshires

are the kind you are looking for. We have to offer at the present time some exceptionally good young boars. They have the best of breeding, lots of size for age, and long deep bodies, with high backs.

R. J. MERRILL & SON,

MORGAN HILL, CAL.

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.**LOS ANGELES****ATTEND THIS GREAT SALE**

If you want to see the crowning achievement in big-type Poland-China breeding, be sure to attend this joint sale of John M. Bernstein and W. L. Haag & Son, where size will be the fashion and quality will reign supreme. These constructive breeders will sell bred sows and gilts that will eclipse anything they have ever before offered. The animals have been selected from the leading herds of the East and West, and combine in their pedigrees the richest blood of the breed. You will like them. They are the kind you need to insure your success.

40 Poland-China Bred Sows and Gilts 40**THE YANKEE, JR.**

This phenomenal young boar is by THE YANKEE, probably the most famous sire of the breed for his age. He is big without being "loggy," and long without being low-backed. It will add prestige to your herd to have a litter sired by him.

**Royal
Breeding**

The sows and gilts are sired by President, Young Jumbo, King's Big-Bone Leader, Giant Jones, Frazier's Timm 2nd, K's Big Price 2nd, Mouw's Black Wonder and Miller's Long Chief. They are bred to two of the coast's greatest sires, President and Young Jumbo; also to the two sensational young boars, The Yankee, Jr., and Lendorris Liberty Bond.

LENDORRIS LIBERTY BOND

This young epoch-maker is by the great LIBERTY BOND, for whom \$10,000 was refused. He has great size, combined with extreme quality, and is just the type that progressive breeders like. He is bound to be a sire of ribbon pullers.

**Hanford Fair Grounds,****Wednesday, September 17th**

Lunch at 11:30.

Sale starts at 12:30 sharp.

Come, if possible, but if not, send mail bids to either consignor or the auctioneer. Don't fail to get a few of these good ones. You will never regret it. Everything doubly insured.

JOHN M. BERNSTEIN and W. L. HAAG & SON**H. M. BERNSTEIN, Auctioneer.****HANFORD, CAL.**

Poultry and Rabbits for Profit

HENS WITH OFFICIAL RECORDS IN DEMAND.

(By Prof. E. F. Palmer, American Poultry School, Leavenworth, Kan.)

\$6.15 profit per hen above all feeding costs was actually made by 75 pullets during the last nine months. Certainly this proved that standard-bred poultry, properly bred and selected for egg production, properly housed and cared for, and, more important still, fed on a perfectly proportioned egg-making ration, will more than make any man or woman a fine profit and perhaps a larger cash return on the amount invested than would be possible in any other business venture.

Fifteen pens consisting of a total of seventy-five standard-bred pullets, owned by different breeders throughout the United States and Canada, are being given the very best of care, feed and housing at the contest conducted by the American Poultry School. They are being fed scratch grain consisting of choice sifted cracked corn and whole wheat. This is scattered in medium deep litter in the early morning and one hour before roosting time in the evening. A dry mash consisting of wheat bran, shorts, hulled oats, corn meal, bone meal, beef scrap, charcoal and fine salt is always kept before them in hoppers. At ten A. M. and again at two P. M. a moistened mash is given. Care is always taken to feed no more than what the hens will clean up in twenty minutes. Every other day this mash is made moist by the use of fresh beef bone soup, which is first properly diluted with water.

It is unnecessary to use these exact grains. One should be guided largely by the available supply and its price. The important thing is that a hundred pounds of one kind of grain will make more yolks and less whites, as compared with another grain which makes more whites and less yolks. To get full value in fowl condition and egg production we must consider these things. Regardless of what kind of food stuff we use, it must be proportioned so that it represents a possible equal number of yolks and whites.

Between November 1, 1919 and August 1, 1919, these 75 pullets consumed an average of 11 pounds of food per month for each female, about half mash and half scratch grain. One square inch of green sprouted oats was supplied each pullet per day. Hard grit and oyster shell was always kept before them.

These 75 pullets produced 13,144 marketable eggs which sold at an average of 58 cents per dozen or a total of \$635.29. The feed, purchased of a local dealer, cost \$173.47, leaving a profit for the nine months above feed cost of \$461.83, or a profit of \$6.15 per hen.

This production, which is slightly over an average of 65 per cent per day, is the more remarkable in view of the fact that it takes in the months from November to July. At least three of these months provided much extremely cold and stormy weather, while two months provided some very intense heat and much dry weather.

There is a great deal of interest being taken in the pullets in this year's contest. Seldom a day passes

that we do not receive mail inquiring as to the ownership of certain high producers and asking if they can be purchased. Already several of these females have been sold for delivery after the close of the contest at prices ranging from \$25 to \$100 per fowl. We have reason to believe that some fine producers are likely to change owners at prices even higher. The demand for fowls with official egg records or actually bred from such is greater today than ever before.

USE GRASSHOPPERS FOR CHICKEN FEED.

Grasshoppers make good poultry food, and wherever the insects abound they may be utilized for egg and meat production by either capturing them and feeding them to the flock or by liberating the flock on the range so that the hens may catch the grasshoppers.

A grasshopper catcher, 16 feet long with an upright piece of curved tin at the front so arranged that the insects will hit against it as they hop about, thus causing them to fall to the bottom of the trap and backward through a narrow opening into a box at the rear of the machine, may be useful on fields where the grasshoppers are abundant.

The tin front does not extend quite to the bottom of the trap, where, just in front of the tin shield, is another strip of tin placed so that there is an opening about 1/2 or 2 inches wide. This front strip or lip may be made by using a 16-foot length of gutter, one side of which is flattened outward. The back and top of the box in the rear is covered with wire screen, while the top should be hinged in such a manner that it can be easily opened and the accumulated grasshoppers removed as desired.

A horse is hitched to the extended beam at each end so that the catcher may be dragged over the infested field, beginning at the sides and working toward the center of the area. Ordinarily a boy riding on each horse can easily operate the machine. A heavy rope attached to the hames so that it drags a few feet in front of the shield is advantageous in that it stirs up the insects just before the catcher passes.

The grasshoppers can be dumped into sacks and hung up to dry, subsequently being fed as dry grasshoppers, or, if the poultryman desires, he may feed the grasshoppers alive, the grasshopper trap being hauled into the poultry yard and placed so that the front end faces the light. The insects will make their way out of the cage just about as fast as the ordinary flock of chickens can eat them. By such management the grasshopper catcher is transformed into a poultry self-feeder.

Straw, as a nesting material, is not especially good, as the hollow straws provide breeding places for mites. Tobacco stems make a good nest, as lice and mites cannot endure the odor. The stems should be covered with hay or shavings.

Soft-shelled eggs are often caused by the fowls being confined, becoming overfat, and from a lack of mineral matter.

Caponizing makes cockerels so much quieter that they use their food for growth and fat and make greater weights. A lot of capons have been known to gain 50 per cent more than cockerels of the same age.

Keep brown-shelled and white-shelled eggs separate when sending to market.

Plenty of room for hens means more eggs in the nests. Don't crowd your poultry.

Poultry Breeders' Directory

BOOKING FOR WINTER, SPRING DELIVERY

Most Fall Chicks Already Booked. yet hundreds open most weeks, reduced, in each of seven popular breeds. Clearing customers, \$5 yearly. 200-290 egg strain. Large vigorous winter layers. Half chicks go to former customers. Doubling our 70,000 hatching capacity. Returned thousands of dollars for chicks we couldn't supply. FEW HUNDRED BREEDING HENS, MALES, laying younger pullets, going rapidly—50c to \$2.00 under price. Valuable circular with proof free. J. Beeson, Pasadena, Calif.

PEERLESS WHITE WYANDOTTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hoganized and Trap-nested stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 10th St., Berkeley, Cal.

FOR SALE—About 135 pair of pigeons, mostly Carneaux, some white Kings and Homers. All fine stock and in good condition. Must sell on account of leaving. Price, \$1.50 per pair. Address Frank Knolle, Vineburg, Calif.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Improve your color and egg capacity. Wm. Larm, 3916 39th Ave., Fruitvale, Calif.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties very week. Only good, strong youngsters shipped. Stubbe Poultry Ranch and Hatchery, Box 67, Palo Alto.

EASTMAN'S BRED TO LAY—Hoganized and trap-nested Banded Poultry Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

FALL BABY CHICKS—Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. Santa Clara Valley Hatchery, San Jose, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Voden, Box 3, Los Gatos, Calif.

WRITE FOR SPECIAL PRICES on Fall chicks. Willow Glen Poultry Yards, 10 South Lincoln Ave., San Jose.

FALL BABY CHICKS from our large heavy-laying S. C. White Leghorns. Send for prices. Tupman Poultry Farm, Box 7A, Ceres, Calif.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

Rabbits.

RAISE RABBITS—Most profitable and popular small animal in America. Big demand. Clean, fascinating work. Send 10c for copy of leading rabbit magazine and our Rabbit Books, P N 5. Gilmore's Rabbit Farm, Santa Barbara, Calif.



PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

Western Meat
Company
SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

GLOBE "A1" FEEDS

- Judge them on Business Principles!

FEED FOR SWINE,
STOCK AND POULTRY

ASK YOUR DEALER

THE HOME CIRCLE

HER AIRPLANE SERMON.

Grandmother there, hears the engines
of air—

Sees the airplanes sailing by;
Sailing by, and out of sight.
Under and ever the rainbows bright,
Higher than home-birds fly!
Sailing on, through the dark and
dawn,
And then like the light o' the rainbow
—gone!

"It's the miracle-time
That I've lived to see—
Man, like the wild birds,
Flying free—
God's good to you and me!"

Over the city the birdman's wing
Hover, and dart, and seem
Like shadows—they say—
Now of gold, then of gray.
Shadows you'd see in a dream.
And they fly to the east, and they speed
to the west,
And the storm drives them home, like

birds to the nest!
"It's the miracle-time,
Where the great wonders be,
But God's love is greatest,
And that's all we see—
God's good to you and me!"

—Frank L. Stanton, in Atlanta Con-
stitution.

A PAPER DOLL'S HOUSE.

Helen had no brothers or sisters
to play with her, so sometimes she
had a hard time amusing herself. She
had lots of dolls and dishes and doll
furniture; but one gets tired after
awhile of dressing dolls, and the
grandest tea-party loses most of its
charm when there's no one but dolls
to share it. She even tried inviting
Fido, but his table manners were bad.
Puss's were not much better, either,
so they were not invited a second
time. But Helen had the jolliest,
pleasantest mamma imaginable, and
she was a fine playfellow when she
had time. She was always thinking
up new games for Helen, and different
ways to make pretty toys.

One day she brought in a blank-
book about fifteen inches long and ten
inches wide. It opened endwise, like
a postcard album.

"What do you guess this is going
to be?" she asked Helen, her eyes
sparkling with enthusiasm.

Helen shook her head.

"A house for your paper dolls!"

Helen could not see how a book
could become a house, but, if mamma
said so, it was all right. She could
do anything.

Mamma opened the book at the first
blank page.

"This is to be the hall, so let's hunt
some furniture for it." So they got
out some old furniture catalogues,
magazines, and papers, and began to
look for suitable pieces of furniture.

"Shall we have it in mission, or wal-
nut, or oak? You like this heavy oak
set? All right: we'll just cut out this
hat-rack and paste it over here on the
page. Then this settee and two
straight chairs. Now for a rug and
some pictures."

By this time Helen understood all
about this interesting sort of house,
so she begged to finish its furnishing
all by herself. When she wanted a
door or a window, she drew them on
the page, and then pasted up her
draperies and curtains. What a de-
lightful task it was to furnish the
parlor or drawing-room, and the bed-
rooms—one for each doll—were a joy
for many days. It took a long time
also to furnish the dining room, and
to find dishes, silver, and glass to
suit her taste. The kitchen was most
interesting, and you may be sure it
was fitted up with everything that the
most fastidious paper-doll cooks could
wish for.

"Now, isn't this a nice house," said
her mamma, "for your large family
of paper dollies that have been knock-
ing about with nowhere to lay their
heads, so to speak? Of course, all you
have to do when the rooms are ready
is to put each doll in his or her room
and close—the book!"—Child's Gem.

PHILOSOPHY.

For indeed the fact is, that there are
idle poor and idle rich; and there are
busy poor and busy rich. Many a
beggar is as lazy as if he had ten
thousand a year; and many a man of
large fortune is busier than his errand
boy, and would never think of stop-
ping in the street to play marbles.
There is a working class—strong and
happy—among both rich and poor;
there is an idle class—weak, wicked
and miserable—among both rich and
poor. And the worst of the misunder-
standings arising between the two or-
ders come of the unlucky fact that
the wise of one class habitually con-
template the foolish of the other. If
the busy rich people watched and re-
buked the idle rich people, all would
be right; and if the busy poor watched
and rebuked the idle poor all would
be right. But each class has a ten-
dency to look for the faults of the
other.—Ruskin.

FASHION NOTES.

Novelty wool scarfs in beautiful
colorings, to be worn with a tiny
leather belt, are among the fall nov-
elties.

Satin seems the favored material
for the new afternoon gowns. But-
ton-trimmed and braided, it makes
very smart church or street dresses.

Tuxedo style sweaters and jersey
coats are much in evidence, both in
the shops and on the streets.

One of the new things in furs for
young people are the chokers—just a
broad band encircling the neck with
a bow at the back.

Jersey tubing, forty inches wide, for
the making of skirts without seams,
is shown in the stores.

Leather coats of tan, made revers-
ible, belted and with modish collars,
are one of the novelties of the season.

Accordeon pleated skirts in either
plain navy or plaid materials are new.

Knit cloth suits in heather mixture
are shown for fall and winter wear.

Bags of leather and fabrics and the
ever increasingly desirable beaded
bag are shown in dozens of novel de-
signs.

REFRESHING DRINKS.

All fruit drinks are much better if
made with syrup instead of sugar. To
make this syrup, boil two cups of
sugar and a pint of water for ten
minutes; when cool, put in a jar or
bottle for future use.

To the juice of three lemons and a
can of grated pineapple add this
amount of syrup and a quart of cold
water for a simple drink.

To a plain lemonade, a few drops
of essence of peppermint may be
added, or a bit of green vegetable col-
oring with a sprig of mint.

Any dried fruit or fruit juice may
be added that tempts the appetite and
you have a fruit punch instead of a
lemonade.

Iced tea should be served very cold
with plenty of sugar, slices of lemon
or orange, and a little mint.

Iced coffee should be diluted while
hot with milk and sugared to taste,
then have cream added just before
serving. A dash of whipped cream
adds to the flavor and attractiveness.

Iced chocolate is served in a novel
way if chunks of ice are put in a tall
glass and thick, hot chocolate poured
over them. The ice dilutes as well as
chills the drink. Whipped cream, a
drop of vanilla, and a sprinkle of nut-
meg flavor this beverage.

The popular milk shake can be
made at home by beating with a Dover
egg-beater two teaspoonsful of thick
chocolate syrup for each glass de-
sired, with milk and a small amount
of ice cream. When this is served
with a straw in a tall glass the chil-
dren will call it a "really party."

ORDERS ARE ORDERS.

"Now, then, line up alphabetically
for pay!" said the sergeant. "What's
your name, my lad?"

"Phillips, sir."

"Well, what yer doing up here? Get
back with the F's at once!"—Minne-
apolis.

CANNING COMPOUNDS.

Housewives should not use canning
compounds that are sold under vari-
ous trade names for use in home can-
ning of fruits and vegetables, because
many such compounds are harmful to
health. This warning is sent out by
the California State Board of Health,
under advice from the Bureau of
Chemistry of the U. S. Bureau of
Agriculture.

These preparations contain salicylic
acid or boric acid in powdered form,
the use of which is unnecessary, if
proper methods of canning are used.
Furthermore, the Federal Food and

Drugs Act prohibits the use of harm-
ful preservatives in food, and house-
wives must help to maintain the
health of the Nation, by refraining
from the use of these compounds.

OOZING JELLY.

If the liquid of the jelly oozes out
from under the paraffin, it is not wise
to neglect it, for there is danger of
mold forming. Remove the paraffin
and wipe the top of the jelly with a
clean cloth, being sure that the edges
of the glass are clean and dry. Then
put on fresh paraffin. All paraffin
tops should be put into a tin can to
be reheated for future use.

DREADNAUGHT
BLAZING AWAY IN COST-DEFENCE!



The Chap from Missouri

Nothing is "Good Enough" for the man from Missouri. Once
convince him that there is something better and he adopts it.
Everyone thought wood and coal was good enough until city
gas came into use. Now you couldn't get them to go back to it.
If city gas were piped into your cook stove, the result would
not be satisfactory because the heat is not there. So to offer
the convenience of city gas and apply it to the wood stove, a
better and hotter gas had to be produced. As that was possible
only with coal oil, or common kerosene, it was necessary to
devise a means of maturing, or drying this gas so that it would be a reli-
able product, day in and year out—for wet gas from kerosene is a trouble-
maker and expensive. Knowing this and the failures of the past, we set
about Dreadnaught construction in a scientifically correct manner, by
providing an easy, but natural means, of perfecting a dry gas. This was
accomplished by the simple, but very effective little square block, or drying
dome and a straight "lift" to the gas. It's an honest little burner and
made **RIGHT** in Los Angeles. Operates on gravity. Can be installed in
any stove without aid of plumber. Will be glad to mail your circular. If
you can suggest a good agent for your county would appreciate it. We
sell Burners, not "rights."

BURNER, VALVE AND DRAIN

GUARANTEED AND MAILED ANYWHERE—\$6.50

SCIENTIFIC SPECIALTIES CO., Mfrs.

310 South Hill Street,
Los Angeles, Cal.



I take this method and this op-
portunity to thank my many pa-
trons for their favors during the
past 5 years.

I wish also to invite you to see
my exhibits in the Poultry Build-
ing at the State Fair.

Meet me personally and let's
get better acquainted.

Yours for Success,

JOHN G. MEE,

ST. HELENA, CAL.

Breeder of

BRONZE TURKEYS,

EMBDEN GEES.

COLLIE DOGS

CORRECT LUBRICATION
FOR MOTOR CARS • MOTOR TRUCKS

CONSULT THE CHART

Zerolene is made in various consisten-
cies to meet with scientific accuracy the
lubrication needs of each type of automo-
bile engine. You have the benefit of ex-
perts' advice when you consult our Correct
Lubrication Charts. Get a chart for your
car.

STANDARD OIL COMPANY
(California)

“IF.”

“If you can talk with crowds and keep your virtue,
Or walk with kings nor lose the common touch,
If neither foe nor loving friend can hurt you,
Yet all men count with you but none too much,
If you can fill the unforgiving minute
With sixty seconds’ worth of distance run,
Yours is the earth and everything that’s in it, and which is more,
You will be a man my son.”
—Kipling.

THE HUMBLE CARROT.

Carrots diced, cooked until tender, and served with a common sauce are not to be despised, but for those who like their carrots disguised, or at least toned down in flavor, the combination of diced carrots and peas is very acceptable. The color contrast is pretty and when peas are scarce, the contents of the dish may be materially increased.

Carrots, cooked and finely diced, or put through the meat grinder, when mixed with mayonnaise and served on lettuce leaves make an economical salad.

But the crowning achievement of all for carrots is their use in jam. Cook until nearly done enough for the table, drain well and then put through the meat grinder. To two cups of that ground mixture, add one cup of fruit, either raspberries, blackberries, or strawberries. Put on to cook with sugar as for any jam and when ready to seal the carrots have become an integral part of the fruit with which they were combined and have entirely lost any individual flavor.

DYSENTERY PREVALENT.

The California State Board of Health reports that outbreaks of dysentery have occurred frequently during the past few months at many places on the Pacific Coast. Several of these outbreaks have occurred in groups of children and unless brought under control promptly, it may be a great factor in increasing the infant mortality rate. It is important that all cases of dysentery be brought under control immediately in order that the precious lives of little children be saved.

Tramp—Kind lady, would ye please give a poor man a bite to eat?
The Lady—What! You here again? I will call my husband immediately.
Tramp—Excuse me, lady, but I ain’t no cannibal. I bid ye good-day.—
Boston Transcript.



Do you know the fineness of real tea-flavor or only the tang of coarse tea and tannin?

Common tea is the coarse tannin-flavored tea. It costs less per pound than Schilling Tea but more per cup.

Why not have good tea while you are about it?

There are four flavors of Schilling Tea—Japan, Ceylon-India, Oolong, English Breakfast. All one quality. In parchment-lined moisture-proof packages. At grocers everywhere.

A Schilling & Co San Francisco

FOOD PRODUCED BY FARM ANIMALS.

Which farm animal do you think produces the most human food for the food consumed? The following table gives the number of pounds of edible solids produced from 100 pounds of digestible matter consumed:

Cow (milk)	18.0 pounds.
Hog (dressed)	15.6 pounds.
Calf (dressed)	8.1 pounds.
Poultry (eggs)	5.1 pounds.
Poultry (dressed)	4.2 pounds.
Lamb (dressed)	3.2 pounds.
Steer (dressed)	2.8 pounds.
Sheep (dressed)	2.6 pounds.

But don't be deceived by this table. It does not necessary follow that the animal which produces the greatest number of pounds is the most profitable.

In the first place, the comparative values of the animals must be taken with consideration. For instance, one cow costs as much as eight or ten sheep, so the investment is greater and greater proportionate returns must be expected.

In the second place, some animals such as cows and hogs, require more care than others, such as steers and sheep, so the labor required is more costly.

In the third place, the kind and value of the feed consumed must be taken into consideration. If sheep can be maintained largely on weeds and waste, and dairy cows require high-priced feeds, the sheep will produce their human food at a much lower cost per pound than cows will.

So see what kind of feed you have, how much labor you can depend upon, and how much money you have to invest. Then you'll know how to stock your farm properly.

RED HANDED.

At a summer camp, one morning in late August, a man approached his pretty daughter and said:
“What time did you send that young Simpson home last night?”
“I don't think it was very late.”
“It must have been close to midnight.”
“Midnight!”
“Didn't you send him out of the back door and hustle off to bed when you heard me coming in?”
“Why, I must have been in bed for hours before you came in.”
“You heard me come in?”
“Yes. I guess you woke me up. I heard what you said, too.”
“Is that so? You say you had been in bed for hours?”
“Uh huh!”
“That's funny. I wonder how that chimney could be hot enough to burn my hands like this.”

THE SECOND EXODUS.

The tourist had lost an Airedale pup which he prized very highly. He rushed into the office of the town paper and wrote out an ad offering ten dollars reward for the return of the pup.

He returned in a few moments to add the words: “No questions asked.”

The only person in sight was a very sulky small boy.

“Where's the staff?” asked the tourist, glancing around the deserted room.

“Out looking for your dog,” replied the boy, sourly.

WINTER FLOWERING SWEET PEAS.

Now is the time to make the first sowing of sweet-pea seeds for winter blooms. Seeds sown now should blossom by November, continuing on during the months when cut flowers are exceedingly scarce. Buy only good varieties, for they are much more beautiful in color as well as longer of stems.

“Johnny,” said his mother, “if you don't quit smoking cigarettes you won't grow a bit.”
“Don't care if I don't,” responded Johnny, sullenly.
“And, of course,” continued the good woman, “if you don't get any bigger you will still have to wear clothes made from your father's old ones.”
“I guess I'll quit, ma.”

What Do You Know About Pianos

Assuming that you can “tell a good tone,” can you judge the hundred and one things which enter into the making of a Piano, the things which have their part in making and maintaining a good tone? Do you know the differences in plate and scale design? Are you familiar with the various actions? Are you a judge of the wood, the wire, the felt, the veneers and all the other materials which enter into the making of a Piano?

Probably not—not one person in a thousand possesses this expert knowledge. After all, when buying a Piano you depend greatly upon the expertness and the integrity of the Dealer or House. Let your greatest care be the selection of the Piano House. Tell that House what you would like and what you can afford and they will guide your selection of a Piano with expert judgment and a sincere desire to serve you well. Beware of a “cheap piano”—in the end it is the most expensive. Avoid the alluring statements of some dealers—they are but pitfalls to catch the unwary. Protect yourself by going to a Piano House with a reputation for integrity and fair dealing—you will never regret it.

We invite you to call at any of our stores—or write us asking for illustrated catalogs and prices.

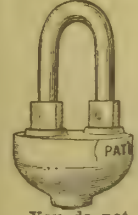
We are dealers in Steinway and other Pianos, Pianolas and Duo Art Pianos, Aeolian Player Pianos, Player Rolls, etc.

Sherman, Clay & Co.

Kearny and Sutter Streets, San Francisco
Fourteenth and Clay Streets, Oakland
Ninth and J Streets, Sacramento
325 E. Main Street, Stockton
J. and Merced Streets, Fresno
190-192 S. First Street, San Jose
Stores also at Vallejo, Portland, Seattle, Tacoma, Spokane.

The PREMIER BURNER

It's the Test That Tells



The Premier has a wonderful record, extending over four years. This winter, as was the case for the past three years, there will be a fuel shortage and the Administration asks that you conserve fuel. There can never be a shortage of Kerosene (coal oil), this being a by-product.

You do not have to chop it up. And it does not make ash es. This winter, make up your mind to enjoy the comfort you envied last year in your neighbor.

Complete outfit for No. 7 and larger cook-stoves...\$20.00
Complete outfit for No. 6 and smaller cook-stoves...\$12.50

Your inquiry or order is most courteously solicited.

VAUGHAN & MATTISON, Agents
225 Market St., San Francisco, Calif.



MORE LIGHT THAN 20 OIL LAMPS
AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electricity. More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp.

COLEMAN QUICKLITE
No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over. —will last a lifetime.

Write our office for Catalog 21-R P

THE COLEMAN LAMP CO.,
(Successors to)
COLE LITE & SALES CO.,
120 S. Los Angeles St.,
Los Angeles, Cal.

The total world's wool production is around two and one-half billion pounds, of which Australia and New Zealand lead with some 655,000,000 pounds.

PREMO
Film Packs

Developed

Mail us your exposed Film Pack. We develop twelve exposures, size 2 1/4 x 3 1/4, 25c.; 2 1/4 x 4 1/4, 30c.; 4 x 5, 35c. Prints on Velox Paper at reasonable prices if desired. The best grade of work.

HOWLAND & DEWEY COMPANY
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610 South Broadway, LOS ANGELES, CAL.

The Keeney School
2200 21st Street,
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Day and Boarding School. Fall term opens September 11, 1919. General and College Preparatory Courses. School is accredited to the Universities and Colleges of California. For catalogue address
MRS. HENRY OLIN KEENEY, Principal.

Market Comment

Sacramento Hops \$50 Per Bale.

The entire Sacramento Valley crop of hops has been sold in advance, averaging \$50 per bale. The crop is estimated at 43,000 bales.

Farmers' Products Gain in Price.

Prices paid to farmers as shown by the report of the Bureau of Crop Estimates were 17.1 per cent more for their products during July this year than for the corresponding month in 1918.

Rice Growers Getting 6c.

Paddy rice has advanced to \$6 a cental. Millers are offering \$5.50 to \$6 as against \$5.25 to \$5.50 a week ago. Spot prices hold about steady at \$11.85 for choice and \$12.25 for fancy domestic. Futures are at \$11.25 for fancy and \$11 for choice.

Almond Crop Opens at 35c.

Sales of this year's crop of almonds opened last week with 35 cents a pound for Nonpareils and Texas Proflics. The first shipments were made from Ripon orchards. The almond crop in the Sacramento valley is being sent to the packers.

Corporation Domination Charged.

The Fruit Growers of California, a co-operative concern formed to market green fruits, forwarded a complaint to the Federal Trade Commission last week charging the California Co-operative Canneries and the Santa Clara Valley Growers' Association with being dominated and controlled by Armour & Co. They charge unfair advertising, suppressed competition and non-co-operation within the meaning of the Federal Trade Act.

Fruit Loss \$1,000,000 a Day.

A telegram to trainmen in the East in behalf of the fruit crop of California was sent by most of the co-operative associations, canners, shippers, market men, and by the State Market Director last Wednesday, urging special exception in the Railroad strike in the movement of fresh fruit, tin plate, tin cans, fuel oil, sugar and other supplies for canneries. The closing down of canneries and spoilage of fruit is estimated as a loss of over a million dollars a day, and shortage of fruit for American consumption.

Walnuts Prices in the Air.

A statement of the present walnut situation from the association headquarters says that while the majority of the trade does not expect a price of over 30c a pound for No. 1 soft-shell they have been prepared not to lay too much stress on their judgment and as to uncertainty say: "No man living is capable of making an accurate prediction of opening prices at this early date. Ideas often change from 3c to 4c a pound within the week preceding announcement of opening prices."

Price Fixing Unfair.

Governmental regulations of prices in food commodities is onerous and unfair, declared by Frank D. Stringham, Acting Food Commissioner for California. Stringham said: "The abnormal prices now prevailing will continue at least another year. The only way to reduce prices and consequently the high cost of living is to increase production and decrease the demand. Any combination of men, whether it be an organization of farmers, of laborers, or of financiers, that uses its power to create an artificial and inflated price in these times is guilty of a crime and should be punished accordingly."

Fruit & Vegetables at Eastern Points.

California Malaga Grapes, 4's, were reported dull and weaker this week at Eastern markets, auctions sales ranging generally from \$2 to \$3, with top of \$3.75 in Philadelphia. Shipments increased moderately to 867 cars. Sweet potato movement increased sharply to 343 cars, compared with 149 last week and 142 for the corresponding week a year ago. Tomato shipments have been very light in recent week, 113 cars moving this week compared with 582 the corresponding week a year ago. Owing to the railroad tie-up, shipments will probably be discontinued for some time.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, August 19, 1919...

WHEAT.

The supply of wheat seems ample for all demands in San Francisco, although it is stated that arrivals are slow. All grain markets are dull.

Per bushel—

No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
Early Baart	Nominal
California, per cbl	\$3.65 @ 3.70

BARLEY.

Barley was weaker this week both for spot and futures. Feed sold from \$3.00 to \$3.05, but the price of shipping, of which there is not a great deal left, was unchanged. On futures, December sold for \$3.07½ and May at \$3.17.

Feed	\$3.00 @ 3.05
Shipping	\$3.20 @ 3.30

OATS.

Oats were weak in sympathy with the barley market, and the general lack of demand. Quotations, however, are nominally unchanged.

Red feed, per cbl	\$3.00 @ 3.25
Red for seed	Nominal
Black for seed	Nominal
Re-cleaned Red or Black for seed	Nominal

CORN.

While the demand for corn is small compared with the other grains, it was the leader last week locally. A few small sales are reported at last week's quotations.

California	\$3.80 @ 3.90
Egyptian, choice	Nominal
Milo	Nominal

HAY.

Receipts of hay for the week were 2971 compared with 2818 of the previous week. The receipts by rail were much larger and about equalled the arrivals by water. With the railroad strike these growing receipts will undoubtedly be greatly cut during the present week. The market was fairly well-maintained and at times strictly fancy hay sold above the market quotations. The demand for stock hay that is free from foxtail is quite active at prevailing prices, but as most of this type of hay is heavily charged with foxtail, sales of this quality are difficult to negotiate. Alfalfa is doing well under heavy receipts.

No. - Wheat, or Wheat & Oat	\$15.00 @ 18.00
No. 2 Wheat, or Wheat & Oat	\$12.00 @ 15.00
Choice Tame Hay	\$16.00 @ 18.00
Wild Oat Hay	\$10.00 @ 14.00
Barley Hay	\$12.00 @ 16.00
Alfalfa Hay	\$17.00 @ 22.00
Stock Hay	\$ 9.00 @ 12.00
No. 1 Barley Straw, per bale	.50 @ .80

FEEDSTUFFS.

The market for feedstuffs is dull with lower prices on rolled barley and rolled oats, both of which are quoted a dollar under last week. The market is so dull that it is reported that some of the feedstuff makers are going into handling seed as a side line.

Roller Barley	\$65.00 @ 66.00
Roller Oats	\$63.00 @ 64.00
Cocoon Meal	\$48.00
Cracked Corn	\$79.00 @ 81.00
Alfalfa Products	\$36.00 @ 37.00

POTATOES, ONIONS, ETC.

The breaking out of the railroad strike in this section of the State has paralyzed the wholesale and commission district. The potato and onion market was not strong before, and just what effect the strike will have is causing a considerable worry. Stocks in this city are considerable and there is no present difficulty in shipping more by river. But with no outlet the local dealers believe there will be a slump if shipments are piled up in this city. So far no changes are made in quotations, but decided changes may be looked for if the strike continues. Arrivals of tomatoes during the past week broke the market to such an extent that the best Bay tomatoes were sold with difficulty for 75 cents for a large box. Until the price recovers it is not expected that more will be sent to this market. River tomatoes also dropped to half of last week's quotations. Green corn was also in excess of the demand and sold much lower than last week. Sweet potatoes were slightly weaker.

String Beans	2½ @ 4c.
Peas	5 @ 7c
Carrots, per sack	\$1.25 @ 1.50
Rhubarb, Strawberry, box	\$1.25 @ 1.75
Cucumbers	.50 @ 70c
Eggplant, box	.50 @ 60c
Lettuce, per crate	.75c @ 1.25
Celery, crate, Oregon	None
Tomatoes, River, per large box	.50 @ 65c
do, Bay	.50 @ 75c
Sprouts	Nominal
Summer Squash, lugs, Alameda	.50 @ 60c
Green Corn, Alameda, sack	\$1.50 @ 2.00
Potatoes—Oregon	\$2.00 @ 2.25
do, Garnets, new on street	\$2.40 @ 2.75
do, Idaho	None
do, local whites	\$2.25 @ 2.50
do, Rivers	\$2.00 @ 2.35
do, Sweets, new, lb.	.5 @ 5½c
Onions, Warehouse Stock—Australian	
Browns	Nominal
do, new red	Nominal
do, Browns	\$2.00 @ 2.25
do, Yellow	\$2.00 @ 2.25
do, Green, Alameda	\$1.00 @ 1.50
Garlic	.18 @ 20c

BEANS.

No relief for the holders of the 1918 bean crop has yet appeared, and the entire market is weaker with lower quotations on Mexican reds and large whites. The California Bean Association has announced that future conditions may be improved by the fact that the association has established standard grades for the coming crop. Notwithstanding the publicity given to the fact that beans are one

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, August 26, 1919.

The unprecedented demand for Bartlett pears, even under extremely heavy offerings of California and Northwestern stock, is unexplainable. The present offering of pears has been the heaviest in the history of the industry for this season of the year and prices, if anything, showing a sharp advance over the previous day's sales.

There is a strong demand for all varieties of fruits, with the possible exception of freestones, the market on which took a decided slump during the past week. This cannot be attributed to competition from Eastern fruits but it would appear that the consumers had a surfeit of table peaches. Clings are in very sharp demand at extremely high prices. The offerings are not very heavy, but the stock arriving in good condition is being bought in freely.

The market on plums did not react from the week previous, but remained about the same level. Practically no lower sales but the offerings, which were very heavy, moved rather sluggishly.

The heavy shipments of Malagas now arriving in the East do not seem to have affected the demand. Fruit is carrying in good condition and on account of being well sugared, the offerings are being disposed of freely and stocks in the retail stores cleaning up at practically no losses. We anticipate that the demand for Malagas will be active at satisfactory prices, throughout the remainder of the season.

What few Tokays have arrived in the East, showing color and sugar, sold for high prices. The first car of Florin's via express made a satisfactory sale. Florin stock is in good condition and well colored and should move to good advantage. Lodi Tokays moving

in light supply. Shipments will increase next week and will be well under way by the 5th.

There is still considerable speculation on wine grapes. The stock that has arrived in Eastern sections has sold at an advance of 50c to 75c over the prices received for the corresponding date last season. It is predicted, and the prediction well founded, that if wine grapes arrive in the East in good condition and well sugared, that there will be a market for all the offerings regardless of the tonnage. The demand seems to be unusually strong and prices will, in some instances, on good stock, rule higher than table grapes.

Shipments of tree fruits are light and the season on this stock should pretty well clean up, with the exception of Mountain Bartlett, within the next two weeks.

Outside of a few market flurries caused by strike conditions which have unsettled certain sections all markets are ruling strong, demand active, and conditions as a whole very satisfactory.

Averages for the week:

NEW YORK: B. Hardy Pears, \$3.50; Bartlett, \$3.85; Tuscan Peaches, \$1.94; Elberta, 75c; Albright, \$2.67; Crawford, 80c; Malaga Grapes, \$2.67; Tokays, \$3.30; Thompson Seedless, \$1.70; Muscats, lugs, \$1.67; Kelsey Plums, s/c, \$3.30; Kelsey, box, \$3.50; Tragedy, \$1.40.

BOSTON: Elberta Peaches, 93c; Crawford, 85c; Lovell, 90c; Albright, \$2.37; Bartlett Pears, \$4.25; Malaga, \$2.50; Thompson Seedless, \$1.67; Tokay, \$3.37; Muscat, \$1.87.

CHICAGO: Bartlett Pears, \$3.52; Malaga Grapes, \$2.20; Seedless, \$1.65; Elberta Peaches, \$1.14; Lovell, \$1.23; Crawford, Grand Duke Plums, \$1.82; Giant, \$1.60; \$1.16; Grand Duke Plums, \$1.82; Giant, \$1.60; Gros, \$1.75.

Special Citrus Market Report

Los Angeles, August 25, 1919.

The orange market is not buoyant. At this season of the year there is an abundance of deciduous fruits on the stalls which compete with all varieties of citrus fruits to their detriment. To make the situation a shade worse, the offering of Valencia is unusually large for this season of the year.

Quotations range from \$4 to \$4.50 for choice fruit down to \$2.50 to \$3 for inferior grades. There is no fruit leaving the

State at this date owing to the railroad tie-up. There are between 4,000 and 4,500 carloads of Valencia still to ship of this season's crop.

There is also a noticeable let-up in the demand for lemons, though prices still rule high. Quotations are \$5 to \$6 f. o. b.

According to latest report, shipment of oranges for the season to date are: Oranges, 30,700 carloads; last season to date, 13,000; lemons, 8,750; last season, 5,050.

of the cheapest food products on the market at present, dealers say that no demand has yet developed.

Bayos, per cbl	\$6.25 @ 6.50
Blackeyes	\$5.50 @ 5.75
Cranberry beans	\$4.50 @ 4.75
Limas (South, re-cleaned)	\$12.00
Pinks	\$6.60 @ 6.75
Mexican Reds	\$5.50 @ 5.75
Tepary beans	\$2.50 @ 2.75
Garbanzos	10.50 @ 11.00
Large whites	\$6.50 @ 7.00
Small Whites	\$7.75 @ 8.00

POULTRY.

Just what effect the strike on the railroads will have on the poultry market it is too early to predict. During the past week prices were steady and unchanged in their range. The receipts have been normal and the local consumption just about enough to account for the arrivals. With little demand for poultry for storage at the present time and no possibilities of shipping surplus stock out of the State or to other sections of the State, together with the fact that no shipments can reach this market except by boat, gives the market a confused appearance for the coming week, with the local dealers deluged week, which the local dealers decline to make comment on.

Turkeys, dressed, young spring, lb.	.45 @ 50c
Broilers 1½ lbs. and under	.30 @ 32c
do, 1½ to 2 lbs.	.30 @ 32c
Friars, 2 to 3 lbs.	.30 @ 32c
Hens, extra, per lb., colored	.34 @ 36c
do, Leghorn	.28 @ 32c
Smooth young roosters, per lb. (3 lbs. and over)	.34 @ 36c
Old roosters, colored, per lb.	.22 @ 23c
Geese, young, per lb.	.22 @ 23c
do, old, per lb.	.22 @ 23c
Squabs, per lb.	.45 @ 50c
Ducks, young	.25 @ 28c
do, old, per lb.	.22 @ 23c
Belgian hares	.15 @ 16c
Jack rabbits	\$.15 @ 3.00

BUTTER.

All the dairy products are in a chaotic condition today on account of the railroad strike. Butter has been strong throughout the week reaching the highest price for extra since May. On Tuesday when the price of firsts passed the previous day's quotation of prime firsts, the latter became nominal and no bids were made on Tuesday and Wednesday. The advance in price of butter this week was probably due to the higher prices in the Eastern markets. With the railroad strike in progress no more butter can be shipped outside the State, or in fact to many points in the State; as a consequence, it is reported that a number of dealers have sent the creameries' instructions to ship no more butter to this market until the situation clears. Should a shortage of fresh butter occur in this city there is plenty in storage to prevent suffering, but the dealers are not inclined to accept butter that may come in by boat and place it in storage in the face of present food agitations. What effect this refusal to accept more shipments will have on the creameries and dairies remains to be seen.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	.49	.51½	.52½	.53½	.54½	.55
Prime First	.50½	.50½	.50½	.52	.52	.52
First	.49½	.49½	.49½	.49½	.52½	.52½
sou. Andeh.						.5

EGGS.

The effect of the strike on the shipment of eggs to this market may not be so serious as it is on butter. However, local dealers will have to cut down on their receipts if eggs sent are to be used in this market exclusively. If shipments continue in excess of local needs prices will doubtless go lower to allow a greater number to go into storage. Up to today eggs were very firm and advanced in price for all descriptions.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	.52½	.53	.53½	.54½	.55	.55
Firsts	.51½	.51½	.51½	.51½	.51½	.51½
Ex. pullets	.50	.50	.50	.50½	.51½	.52
Undersized	.34½	.34½	.34½	.35	.36	.36

CHEESE.

The cheese market is dull, with only minor changes. Unless of long duration the strike will have less effect on cheese than the other dairy products.

California Flats, fancy	.31½c
do, Firsts	.30c
Y. A., Fancy	.34c
Oregon Triplet	.31½c
do, Y. A.	.32½c

FRESH FRUIT.

There was a good demand for fresh fruit this week, grapes being the leader with heavy arrivals. Strawberries were unchanged, as were blackberries, but raspberries were again advanced in price. Cantaloupes were somewhat erratic, but on the whole were lower. Other changes in prices were of minor character.

Apples	
do, Gravensteins	\$1.75 @ 3.00
do, Alexanders	\$1.75 @ 2.25
Skinner Seedling	\$1.50 @ 2.50
Crabs	\$1.00 @ 1.25
Apricots, bulk, lb.	.6 @ 7c
Figs	\$1.00 @ 1.25
Plums, box	.75c @ 1.25
Grapes, Seedless	\$1.00 @ 1.25
do, Malaga	\$1.25
do, Tokay, large box	\$1.75 @ 2.00
do, Muscats	\$1.25
Pears, No. 1	\$2.50 @ 3.00
do, No. 2	\$1.50 @ 2.00
Peaches	.75c @ 1.50
Strawberries, chest	\$10.00 @ 18.00
Loganberries	None
Raspberries	\$16.00 @ 18.00
Blackberries	\$ 8.00 @ 9.00
Cantaloupes, Standards	\$1.25
do, Ponies	.75c @ 1.00
do, flats	.50 @ 65c
do, Honey Dew, lb.	Nominal
do, Persian, lb.	.2 @ 2½c
Watermelon, lb.	.1 @ 1¼c

CITRUS FRUITS.

There were no changes in prices of citrus fruits and the demand is stated to be steady.

Oranges, Valencia	\$4.25 @ 5.50
Lemons, fancy	\$4.50 @ 7.30
do, choice	\$5.00 @ 8.50
do, standard	\$4.50 @ 4.50
Lemonettes	\$3.50 @ 4.50
Grapefruit	\$4.00 @ 5.00

DRIED FRUITS.

The buyers have retired entirely from the dried fruit market so far as negotiating for further supplies is concerned. It is stated that none of them would be willing to buy at the present time at a considerable reduction on the figures given below at which the latest sales were made. In addition to the general situation the railroad strike has complicated matters to such an extent that few buyers would take a carload of fruit at any figure. As one dealer expressed it, "The bottom dropped out of the market."

Apples	.....\$20 @ 22
Pears	.....16 @ 18 1/2 c
Peaches	.....17 @ 18 1/2 c
Apricots	.....24 @ 30
Prunes	.....12 @ 13 1/2 c
Figs, Adriatic	.....14 @ 20 c
do, Calimyrna	.....16 @ 23 c

RICE.

Quotations of spot rice were unchanged this week at \$12.25 for fancy and \$11.85 for choice. Futures were somewhat weaker at \$11.00 and \$10.75, respectively. Paddy is nominally quoted at \$4.25 and \$5.25 to growers.

HONEY.

Recent announcements, indicating a shortage of refined sugar, has put more heart in the local honey market, and the demand is said to be on the increase. Several shipments from the Valley were said to have been on the way when the railroads were tied up by the strike.

Water White Orange Blossom	.....18 @ 20 c
White to water-white sage (subject to production)	.....18 @ 20 c
Amber Mountain (Sage-Buckwheat)	16 @ 18 c
Light Amber Alfalfa	.....14 @ 15 c

WOOL.

The wool market is firm, both on the Pacific Coast and at the East. Growers and dealers are confident of the value of their holdings, and are not overanxious to sell.

Humboldt	.....52 1/2 @ 63 c
Mendocino	.....50 @ 57 1/2 c
Sacramento	.....45 @ 47 1/2 c
San Joaquin	.....42 1/2 @ 47 1/2 c

HIDES.

The humble hide, both horse and cow, is coming into its own. In spite of herculean efforts to keep the prices down, they persist in soaring up and up, until they are nearly out of sight. Country hides of all descriptions are in strong demand, especially those of heavier grades.

Wet Salted—No. 1 native steers, 50 lbs.

up, 36c; No. 1 extremes, 30 @ 45 lbs., 45c; No. 1 butts, 45 lbs. and up, 38c; No. 1 native and up, 38c; No. 1 native cows, 60 lbs. and five butts, 28c; No. 1 center branded hides, in all grades, 2c less than base price and No. 2 center brand 3c less; No. 1 wet salt kip, 15 @ 30 lbs., 50c; No. 2 wet salt kip, 15 @ 30 lbs., 47c; No. 1 wet salt calf, trimmed, 79c; No. 1 wet salt calf, untrimmed, 73c; No. 2 calf, 2c per lb. less.

Wet Salted Horse Hides—No. 1 large, skinned to hoof, \$10 @ 13; No. 1 medium, skinned to hoof, \$7 @ 9; No. 1 small, skinned to hoof, \$1 @ 3.50; No. 1 colts, skinned to hoof, 50c @ \$1.

PELTS.

Quotations by a local firm are as follows: Pelts—Long wool, 9 @ 12 months' growth, \$2.50 and up; medium wool, 6 @ 9 months' growth, \$1.50 @ 2.50; short wool, 5 and 6 months' growth, 80 @ \$1.50; shearings, good, 1 @ 3 months' growth, 25 @ 75c; shearings, shaved or damaged, 10 @ 20c; lambs, large, long wool, \$1.25 and up; lambs small, 25c @ \$1; milk lambs, 5 @ 25c.

LOS ANGELES.

Los Angeles, August 18, 1919.

Owing to the complete railroad tie-up consequent on the general strike, no market report has been received from our special Los Angeles correspondent, nor is the information available from any other source. We append a few items of stray market news that have fallen in our way.

BUTTER.

Creamery, extras58c

EGGS.

Extras, 52c; case count, 48c; pullets, 46c.

CHEESE.

Cheese, per pound35c

COTTON.

Cotton closed in New York last Tuesday steady at a net advance of 3 to 16 points. Spot cotton, quiet; middlings, \$32.25.

ALFALFA.

The Alfalfa Growers of California, Incorporated, 525 Central building, Los Angeles, furnish the following quotations on alfalfa hay, which are selling prices to purchasers of carload lots, f. o. b. Los Angeles. The grower, to arrive at his selling prices, f. o. b. his station, should deduct the carload rate of freight from below quotations:

No. 1 dairy	.....\$27.00 @ 28.00
Standard dairy	.....\$24.00 @ 26.00
Stock alfalfa	.....\$17.00 @ 19.00
Standard alfalfa	.....\$21.00 @ 23.00

and bulls at Stockton on Thursday, September 18. San Joaquin county embraces a rich dairying section, yet this is the first sale of its kind to be held at Stockton, and dairymen will find it an excellent opportunity to secure high-class foundation stock to add new blood to their herds, or to secure registered bulls for grade herds. To give an idea of the quality of the stock to be offered it is only necessary to mention the bulls at the head of these great herds. King of the Black and Whites has 39 A. R. O. daughters—the largest list of any bull on the Pacific Coast. Supreme Glista Pietje, the king of high testers, is from a cow with two 32-pound records and his dam, her full sister and seven nearest dams have an average of 4.5 per cent butterfat. That's the kind of breeding that makes profitable producers.

RIVERSIDE FAIR PROMISES BIG.

For several years the Southern California Fair at Riverside has ranked next to the State Fair in importance and this year it will be no exception. W. W. Van Pelt, the live wire secretary and manager, says they are going to have a whopper of a fair, both in the livestock and agricultural divisions. He is arranging to more than double the space for cattle, sheep, hogs and goats, and even then it is expected that there will not be enough room. The largest tent that has ever been used has been secured for general exhibits and it will be more than filled, as several counties are competing for county prizes.

The fair this year will be more of an educational institution than ever before. The judges are men of statewide notoriety and not only will they act as judges, but will be on hand for any information called for during the fair. The Farm Bureau is establishing a tent in which demonstrations by specialists will be conducted. Prof. Voorhies of the State University will be on hand to assist in the work, as well as farm advisors and assistants from different counties.

WESTERN BERKSHIRE CONGRESS SALE.

The Western Berkshire Congress announces a sale of bred sows, gilts and young boars to be held in the show ring at the State Fair following the judging of the Berkshire classes Tuesday afternoon. This sale is made up of donated consignments of breeders as a means of raising funds for carrying on Berkshire promotion work and posting the special Berkshire classes at the Fall shows. The donation sale plan was inaugurated last year when W. M. Carruthers was President of the Congress and proves to be a good means of raising funds. A nice lot of pigs have been consigned to the coming sale, which will be cried by Col. Ord L. Leachman of Sacramento.

Classified Advertisements

Rate in this directory, 3c. per word each issue.

MISCELLANEOUS.

WANTED—To make contract for purchase of 1500 apricot trees (Tilton and Blenheim), to be delivered in December, or early next January. Apricot roots preferred. Need not be more than three feet high. Don't care for fancy trees at fancy prices—want good roots. Address Dr. J. L. McClelland, Los Banos, Cal.

CORN HARVESTER—One-man, one-horse, one-row, self-gathering. Equal to a corn binder. Sold to farmers for twenty-three years. Only \$25, with fodder binder. Free catalogue showing pictures of harvester. Process Corn Harvester Co., Salina, Kan.

ORCHARDIST AND RANCH MANAGER of executive ability. Experienced in stock and general farming desires charge of going place. Would consider lease or investment. Box 1650, Pacific Rural Press.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

AGENTS—Mason sold 18 sprayers and Autowashers one Saturday. Profits, \$2.50 each. Square deal. Particulars FREE. RUSLER COMPANY, JOHNSTOWN, OHIO.

AGENTS WANTED—SELL AUTOMOBILE Tires and Tubes on liberal commission. Address Arnott & Co., Dept. 11, Los Angeles.

MARRIED MAN—Hog and general farming experience required. Box 1640, Pacific Rural Press.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

PATENT ATTORNEYS. WEBSTER, WEBSTER & BLEWITT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weissbaum Pipe Works, 160 Eleventh street, San Francisco.

POTATO SACKS—50,000 (No. 1) at 11 cents F. O. B. cars S. F. C. A. Romadka, Columbia Hotel, S. F.

COUNTRY LANDS.

FOR SALE ON ACCOUNT OF DEATH and dissolution of partnership, our home of 67 acres; 50 acres nuts and fruit. Good income. No gravel or waste land; some alfalfa. Beautiful location on the S. P. R. R. 11 miles from Sacramento; 1 mile from Elk Grove. Fine schools; good roads; all conveniences. Place noted for its fancy products. See some of these in Sacramento County Exhibit State Fair. Buildings, pumping plants, etc., A-1. Price includes tractor, team, farm equipment, farm tools, etc. No better bargain ever offered. Tribble Bros., Elk Grove, Calif.

DAIRY AND ORCHARD RANCH for sale by owners, about 120 acres. Good location, new buildings. Will be sold on easy terms and reasonable price. \$10,000 will be accepted as first payment. Alex T. Gibson, P. O. Box 561, Chico, Cal. Residence, 216 East 1st Ave., Chico, Calif.

WANTED—By young married farmer, to rent a ranch for cash or crop share, suitable for raising hogs, cattle or sheep. One fully stocked preferred. Address E. F. Ladouceur, Concord, Cal.

The New 16 valve Twin City Tractor PAYS BIG DIVIDENDS

For the first time in the history of the tractor industry, the 4-cylinder, 16-valve engine (valve in head type) is now applied to a tractor. The TWIN CITY 12-20 with its 16-valve motor actually develops 25 per cent more than its rated horsepower.

This new 12-20 is a light weight tractor that will out-pull, out-last, and out-dividend other tractors of equal rating.

Not built down to a price, but built up to a fixed ideal—to do the work assigned to it better than it has ever been done before.

The highest grade tractor will unfailingly prove the least expensive and pay the biggest dividends.

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San Francisco, Cal.

Los Angeles.

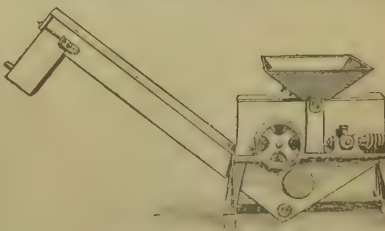
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Does not blister or remove the hair and horse can be worked. Pleasant to use. \$2.50 a bottle, delivered. Describe your case for special instructions and Book 5 R free. ABSORBINE, JR., antiseptic liniment for mankind, reduces Strains, Painful, Knotted, Swollen Veins. Concentrated—only a few drops required at an application. Price \$1.25 per bottle at dealers or delivered.

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THOMAS R. BROWNE
STOCKTON, CALIFORNIA

Special Livestock Market Report

Written for Pacific Rural Press.

San Francisco, August 27, 1919.

CATTLE—The American National and the California Livestock Associations are attacking the alleged "packing trust" and are asking the Senate Committee on Agriculture for federal control of the packing industry. According to the local association the things aimed at are: A licensing system which will place the packing industry directly under the control of the Department of Agriculture. Taking control of stockyards from packers and throwing them open to all under reasonable and equal conditions. Wrestling control of stockyards' newspapers, market news, commission men and banks from the packers. Declaration that privately owned refrigerator cars are common carriers. Establishment of foodstuff warehouses under the provisions of the pending Kenyon bill. The local supply of beef cattle about equals the demand. Agitation over the high cost of living and reduced demand makes a weak market. It is reported that stock growers are not buying feed for winter use, as the price of beef does not justify the high price of feed. Cattlemen will feed only such stuff as is grown by themselves.

GRASS STEERS—	
No. 1 weighing 950 to 1100 lbs.	.....10 @ 10 1/2 c
No. 1, weighing 1100 to 1300	.....9 1/2 @ 10 c
Second quality	.....8 @ 8 1/2 c
Thin	.....6 @ 7 c
Cows and Heifers, No. 1	.....8 @ 8 1/2 c
Second quality	.....6 1/2 @ 7 1/2 c
Common to thin	.....4 @ 5 1/2 c
Bulls and Stags Good	.....5 @ 6 c
do, fair	.....4 @ 5 c
do, thin	.....3 1/2 @ 4 c
Calves, lightweight	.....12 1/2 @ 13 1/2 c
do, medium	.....12 @ 12 1/2 c
do, heavy	.....10 1/2 @ 11 1/2 c

SHEEP—In the Eastern markets live mutations have been on the upgrade during the past week. Locally the run has been quiet and about equals the demand. Good breeding

ARE YOU GOING TO NATIONAL DAIRY SHOW?

The 1919 show to be held at Chicago, October 6 to 12, promises to be the most complete and notable of all Dairy Shows. It will include a thousand of America's choicest dairy cows and every department of the milk industry, production, manufacture and sale.

Dean H. E. Van Norman of the University Farm, has been asked to organize a party of Californians interested in the dairy industry to go east to the show together. He proposes that those desiring to go in a party secure reservations on the Overland Limited train, via Southern Pacific, Union Pacific and Northwestern to Chicago for the train leaving San Francisco October 2nd and arriving in Chicago October 5th. Those from the southern part of the state should secure reservations on the Salt Lake train No. 2, leaving Los

stock of all ages are in strong demand. Lambs, Yearling10c do, Milk12 @ 13c Sheep, Wethers8 1/2 @ 9c do, Ewes6 1/2 @ 7c HOGS—While a drop in quotations is noted this week the undertone of the market is strong, and the drop is hardly warranted on the basis of increased cost of production. The slight decline in price can only be accounted for by the diminished consumptive demand. There is a real scarcity of hog products, and no serious break of a permanent character is anticipated. Packers are in a waiting position in respect to buying. HOGS—Hard, grain-fed, 100 to 15018 1/2 c do, Hard, grain-fed, 150 to 30018c do, Hard, Grain-fed, 300 to 40017 1/2 c

Portland, Ore., August 26, 1919.

CATTLE—Steady; receipts, none. Steers, best\$11.00 @ 11.50 do, Good to Choice Steers\$10.00 @ 10.50 do, Medium to good\$ 9.00 @ 10.00 do, Fair to good\$ 7.50 @ 8.50 do, Common to fair\$ 7.00 @ 7.50 Cows & Heifers, good to choice\$ 7.00 @ 7.50 do, medium to good\$ 7.00 @ 7.50 do, fair to medium\$ 6.00 @ 7.00 do, Canners\$ 3.00 @ 5.00 Bulls\$ 6.00 @ 7.00 Calves\$14.00 @ 16.00 HOGS—Steady; receipts, 76. Prime mixed\$21.50 @ 22.00 Medium\$20.50 @ 21.00 Rough, heavies\$19.00 @ 20.00 Pigs\$18.50 @ 19.00 SHEEP—Steady to strong; receipts, 226. Lambs, East Oregon\$12.50 @ 13.00 do, Valley\$11.50 @ 12.50 do, Fair to medium\$ 9.50 @ 10.50 do, Yearlings\$ 7.00 @ 8.50 Wethers,\$ 7.00 @ 7.50 Ewes\$ 5.00 @ 7.50

Angeles the same day, October 2nd, which joins the Overland Limited train at Ogden.

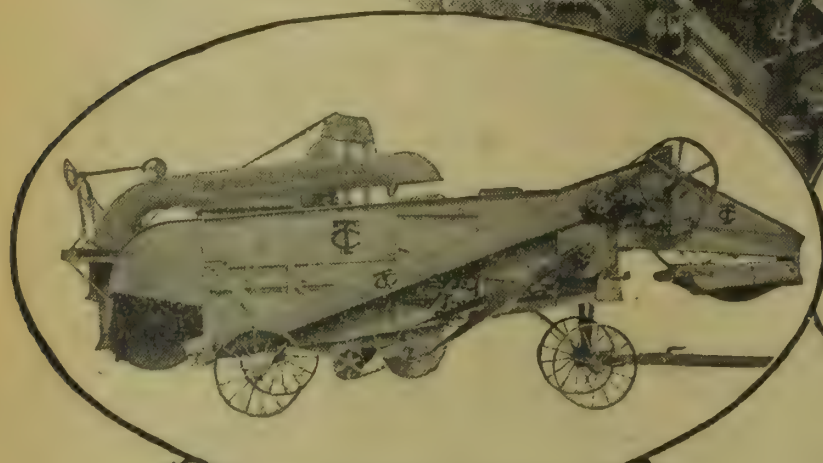
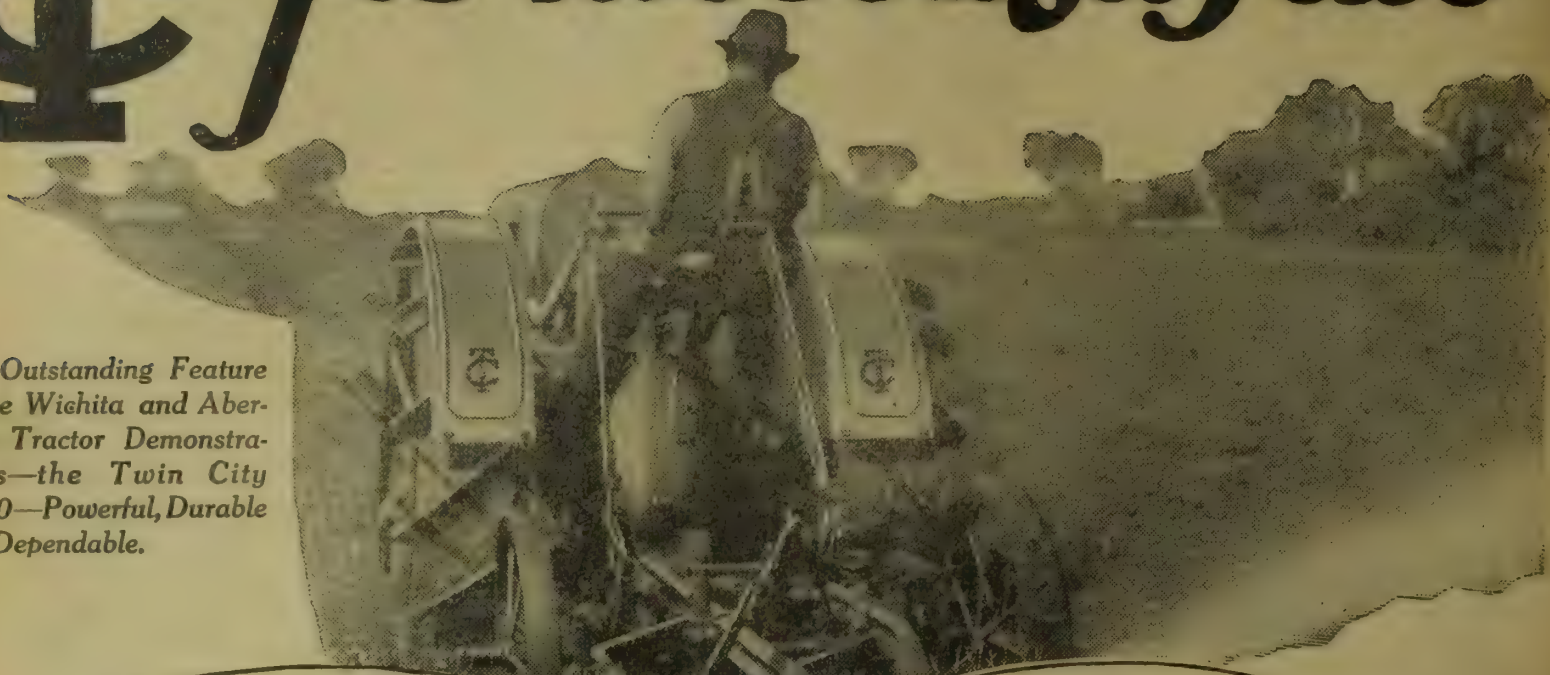
Reservations should be made through the local ticket agent. A slightly reduced rate may be secured by the purchase of a so-called "all year tourist excursion ticket," good returning any time within the year. Request should be made for reservation in the "Dairy Show Sleeper" by local ticket agent wiring the Consolidated Ticket Office, 50 Post St., San Francisco. Persons hoping to go are asked to notify Dean H. E. Van Norman, Davis, California or S. H. Greene, California Dairy Council, 268 Market St., San Francisco.

BIG COMBINATION HOLSTEIN SALE.

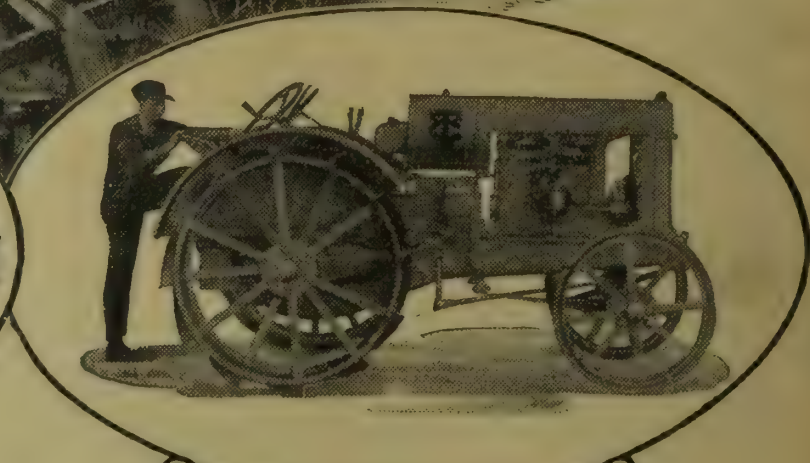
The Henderson Company, Sacramento and Bonita Stock Farm, Lodi, will join in holding a public sale of 65 registered Holstein cows, heifers


for the Tough Jobs

The Outstanding Feature of the Wichita and Aberdeen Tractor Demonstrations—the Twin City 12-20—Powerful, Durable and Dependable.



 All-Steel Thresher



 12-20;

THIS NEW 12-20 has a great reputation to uphold. Therefore, before offering it for sale, it was put into service on every kind of field and farm work—the toughest jobs, the hardest strains—to make it prove its strength and power and stamina. We are proud to put our trade-mark on it. And every farmer can be proud to own the tractor that bears that mark.

Here Are a Few of Its Striking Features:

Four-cylinder, vertical sixteen-valve engine, valve-in-head type, with removable cylinder sleeves and counterbalanced crankshaft. (For the first time this powerful type of motor is applied to tractor use.)

Sliding spur-gear transmission, two speeds forward, direct drive on both. Easy of access, dust proof and running in oil. Bosch high-tension magneto with impulse starter.

The Twin City 12-20 Tractor is produced in one of the largest tractor factories in the world, by the most thoroughly skilled mechanics and some of America's foremost engineers.

It will prove the most dependable and economical tractor for any farmer to buy.

Write us today for complete details. Also ask for full particulars of the Twin City All-Steel Thresher.

Minneapolis Steel & Machinery Company, Minneapolis, U. S. A.

BRANCHES and DISTRIBUTORS

Manufacturers of the Famous Twin City 16-30, 25-45, 40-65 and 60-90 Tractors

Minneapolis Steel & Machinery Co.—Denver, Colo.; Des Moines, Ia.; Peoria, Ill.; Fargo N. D.; Great Falls, Mont.; 154 Nassau St., New York City.

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Frank O. Renstrom—San Francisco, Cal.

Baskerville & Dahl—Watertown, S. D.

TWIN CITY

12-20 Kerosene Tractor  with 16-valve engine

THE PACIFIC RURAL PRESS

SAN FRANCISCO

SEPTEMBER 6, 1919

LOS ANGELES

Tractor and Implement Prices Going Up

Written for Pacific Rural Press by R. E. Hodges.

IM GOING TO HAVE A TRACTOR, all right. Horse feed is too expensive. Horse chores take too much time. Horses are too slow in hot weather. Horses require too many men to drive them and we can't get the men. But I'll wait a while until tractor prices come down."

You will wait a long, long time, my friend, and meanwhile you will lose more in the expenses you mention than any possible reduction in tractor prices could save you. You will also lose your opportunity to enlarge your operations so as to make the most of the prevailing high prices for farm products.

We have written direct to the headquarters of all the leading tractor manufacturers asking two questions: "Are tractor and implement prices likely to be lower within the next twelve months?" and "Why?"

their Pacific Coast prices, but they are considering a return to their former figures. Prices have in a few cases been reduced on one or more machines made by a concern, but not on their remaining machines, showing an attempt to unload not based on cost of production. Several have raised their prices recently and others have avoided raising prices only because their business had increased to so great a volume this season. Still others expect to advance their prices within a few months. One manufacturer points out the great probability that reductions in weight of machines, increased power and speed, eradication of faulty machines, and improvements in design will enable purchasers to get more drawbar horsepower for their money.

Wage Drop Must Precede Lower Prices.

The only possibility for further reduction in prices of farm implements



This tractor is doing better work than four horses could do; but it is going where only one horse could go. Guardsheets over the cultivator prevent damage to trees whose branches in the picture are drawn away to expose the harrow. Tractors and implements to fit every condition of California farming will be shown and worked at the Tractor Demonstration to be held near Los Angeles September 16 to 21, under the auspices of the Traction Engine and Implement Dealers' Association of Southern California. This will be the greatest opportunity you will have to observe the improvements made in tractors the past year, and to compare the various makes and sizes that may be suited to your conditions. You will meet at the Demonstration thousands of tractor users whose experiences will help you greatly. You will see the machines in action at belt work and pulling all kinds of implements for seedbed preparation, crop cultivation, and harvesting. No other opportunity will be so good or so inexpensive or so profitable as this will be for you to see just how economical tractors and tractor implements can be for you. Take also a careful study of motor trucks and trailers, which can do for your horses on the road what tractors are doing in the fields. Figure up how much it is costing you per ton per mile to haul your farm products to market, including a man's time. Then at the Demonstration find out how much it will cost per ton-mile to haul the same products by truck and trailer. The power farmer is the one who will illustrate the survival of the fittest.

These manufacturers are scattered all over the United States, but they are all facing the same conditions, and they unanimously made the same reply with various added explanations.

Tractor prices cannot be lowered during the next twelve months, but they are likely to be raised. The reasons are that labor costs are higher than ever and promise to go up. Materials are costing almost as much as when present prices were fixed and they also are likely to go up because labor is the chief factor in their production.

A very few makes of machines have been lowered in price this year. Tractor men who did not shave prices are unanimous in saying that those who did were merely attempting to get rid of overstocked or obsolete models. At least one company which reduced prices did it because too great a differential seemed to have been named between their Eastern and

admitted by manufacturers or economists is if wages of laboring men should be reduced. But they all agree that wages cannot be reduced until the cost of living goes down, which means lower prices for farm products.

Strike conditions at the present writing indicate that workingmen do not intend to permit any lowering of wages, and the universal success of strikers indicates that they will have their demands for increased wages.

We may well accept the present price levels and bank on them. The history of previous wars has shown that post-war prices decline very slowly, getting back to normal only after a decade of high prices. The leaders in statesmanship and business emphatically state that we are on a new and permanent high-price level. The farmers who first make up their minds to this and conduct their business accordingly will soon be forging ahead of those who wait for lower prices.

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JNO. J. FOX - Horticulture
THOS. F. MCCONNELL - Livestock

EDITORIAL.

RACKET A RELIEF RECOURSE.

THICK fog spread between the promontory whence we chose to see the war-fleet entering the Golden Gate, and we saw no more of that glorious portal nor the contents of it than did Captain Drake 340 years ago, but he was knighted for the discovery of it just the same. But the sirens shrilly cried and the cannons roared beneath the cover until the rocks of our lofty perch trembled, and we knew as well that the great marine spectacle was transpiring as though our spectacles had revealed it to us.

Trumpets blared and the throng cheered as the exponents of California's pure-bred animals swung into the Grand Parade at the State Fair and the sounds thereof might have reached the ears of the lone watcher on the dome of the State Capitol though sight of the impressive pageant might not enter the range of his vision.

As we write, the President of the United States is going forth from the National capital to lift up his voice in the hearing of the people in all parts of the country, from the Washington monument to the Golden Gate, and selected statesmen are following him to shout discordant refrains into the popular ear. All will hear this jargon of politics and patriotism and grow wise for the country's good, though relatively few can actually see the geysers whence the oratory gushes forth. The scriptural injunction was not to him who hath eyes to see, but rather "he that hath ears to hear let him hear"—for manifestly the auricles are the chief gateways to the souls of men.

It was no platitude to declare, as did our forefathers, that the fundamental requirements of this country's greatness and longevity are "free soil, free speech and free men," and probably the application of the principles involved in such embodiments of freedom was never more essential to the welfare of the American people than at this moment. The only relief from riot, rebellion and social and industrial disorders which now threaten us, will be found in recourse to racket. It is the American safety-valve!

EVEN A TALKING-MATCH MAY HELP.

The great swing-around of patriotic, political and even partisan oratory which will cover the country from the fountain heads of such uproar at Washington does not appeal to us as the most important line of racket which is about to be raised. It may, however, help to direct the ears of the people to a deeper sound. It matters infinitely less, it seems to us, how we stand related to the outside world than how we stand related to each other in honest efforts for the permanence of this country and the prosperity of our own people. If we understand each other and patriotically strive for our own good will toward each other in our social and industrial relations and for our own qualities of citizenship, we shall incidentally achieve a national solidarity which will not only take care of itself in the world, but will exert the most potent influence in leading the world aright. Therefore, we count a cordial and patriotic league

of Americans to secure fair-dealing and good will among ourselves as a thing more important, more likely to endure, and more humanly beneficent for the outside world also, than our participation in the patched-up league of nations, which is now proposed, can possibly be. Therefore, we desire to place emphasis upon that proposition.

It is announced that President Wilson will not wait for Congress to arrange for a general conference between those who are actually participating in production in this country and those who are employing others, or are financing those who are employing them. The proposition has been mooted for some time, but Secretary Lane put the matter concretely on August 28 in this way:

Events seriously threatening the welfare of the country are rapidly drawing to a climax. There should be a joint meeting of employers, employees and all other elements directly interested in the industrial problems. While it might be termed a conference of capital and labor, those are rather indefinite terms. While capital, as representing finance, should, of course, have representation, there should also be representatives of management and of those groups, which, under capital, have a more immediate contact with the problems of labor and production as they arise in the mills and shops and on the farms.

First, there should be a determination of the principles that should govern in all relations between employer and employee. This should be founded on good conscience, and should cover the question of wages to labor and return on capital, opportunity for advancement and betterment and recognition of merit. Second, should be the determination of ways by which these principles might be carried out.

These methods should all be laid before the conference and from this basis of known, tested methods, there should be worked out a general program applicable to the whole of our industries—not just one method, but a selection or combination of several methods applicable to the different lines of industry, but all meeting the principles laid down and bearing the endorsement of having been proved in actual practice.

Even if such a conference should be no more in itself than a great talking match, we believe it will be very useful in bringing to the knowledge of all the people, what the contentions are which are dividing the American people into industrial classes, each seeking to have its way regardless of the rights and requirements of the other. All can then judge where fair play and sound principle lie—in the different contentions, or somewhere between them. At present the public mind is confused in the maze of selfishness, self-will and industrial fallacy which seem to dictate the utterances and actions of ex-parte champions and organizations.

REASONABLENESS ESSENTIAL.

What seems to be most lacking in current actions and declarations between labor and proprietary enterprise which employs labor, is reasonableness. We offer no treatise on the subject but cite an instance or two informally.

Last week there was a strike in the Los Angeles district—not because most of the strikers had a grievance, but because they knew a man who claimed to have—what is called a sympathetic strike. And from the beginning there arose what promised to be a general public calamity in the course of which (to mention only one phase of it) much of our fruit crop of the current year would have been lost, the growers of it would have failed to recover the wages they paid for the growing of it; the workers in packing and preserving establishments would have been denied their right to work for their living; other workers in other parts of the country would have been deprived of lines of food which they esteem, etc. And yet it was claimed to be a self-denying, disinterested affair—a sympathetic strike. Is such action reasonable?

Last week throughout the country there were strikes threatened, which may still be menaces for aught we know, because of the high cost of living, the fact being ignored that productions are in good part high in cost because of the high cost of labor, and the claim was made that wages must advance as fast as produce prices advance and labor proposed to lift itself by its own bootstraps! And how about the corollary of that theorem? It has been claimed that wages must be advanced unless the cost of living becomes less, but we hear no admission that the rate of wages ever could be less even though over-production (stimulated by the false notion that there was great profit in it or for higher reasons) should drop disastrously to the

over-zealous producer. The general contention seems to be that wages must advance with the cost of living, but must never decline with the fall thereof, because every employing, proprietary interest in production is profiteering and labor is not. Is that a reasonable proposition?

And how about that brilliant proposition which is now before Congress as a phase of the government ownership of the railways: the Government to buy the roads and entrust their operation to three groups of citizens: (1) the railway workmen; (2) the managers thereof as representatives of the public chosen by the government; and (3) a group of experts of various kinds to direct the management, also chosen by the government—in other words, the labor organizations holding apparently the balance of power in all political parties constitute their own membership directors of one-third of the management and elect the politicians, who will have the power to appoint the other two-thirds thereof. Of this beautiful scheme Judge Lovett of the Union Pacific says:

"If the railroads are turned over to those operating them, with unlimited authority to fix their own wages and hours of work, it is obvious that transportation rates will have to be increased again and again, until they become unbearable. Human nature makes it impossible that human men should be allowed to fix their own wages and own hours of work for others to pay. It is the people who will pay the freight, rather than the railroad owners, that are most interested. The farmer, whose products are worthless without transportation, the consumer, the manufacturer in every line of industry, and, indeed, all the people, will suffer the consequences of exploitation of the railroads by the unrestrained selfishness of those engaged in the operation of them.

Is such a scheme reasonable? Under the sort of government management which we have had during the war the wages of employees have been increased about a billion dollars per year. Who can say how much it will be when employees raise their own wages? It may be claimed that the public has always been damned by the proprietary management of the railways and therefore has nothing to lose! Perhaps so—but is the new proposition any more reasonable?

MAKE A NOISE ABOUT IT.

It seems to us that the only way to arouse the people to fairly consider the reasonableness of such things is to make a noise about them. We have cited several actions and declarations from the labor side, because labor is out in the open doing and saying things in public view and hearing. There are probably just as many things on the capitalistic side of society and industry, the reasonableness of which should be questioned, but capital is not so frank and outspoken as labor, and is therefore not so easy to arraign. That is one of the best reasons for the holding of the public conference at which both capital and labor shall state their claims and each endeavor to impeach the reasonableness of the other. Of all the issues which have arisen during the one hundred and forty-three years of our national life only one has led to martial conflict, and that recourse is universally conceded to be our greatest national mistake. Many greater and more fundamental differences have been settled in the true American way—by way of the platform and the ballot-box. From all the discord and unrest which now exist there is the same avenue of escape, and that is by appeal to the judgment of the American people to decide where fair play and reasonableness lie in any matter whatever. Anarchy and disorder must be extirpated by the enforcement of law. Undesirable citizens must be placed beyond the power of doing detriment to the country, as the law provides or shall provide. All questions which are compatible with honor, honesty and good citizenship will be answered in our national way if we can raise sufficient racket over them.

PACKERS—PATRIOTS OR PARIAS?

In order to sustain the Golden Rule of racket which we have so confidently laid down for American prosperity, national, sectional and individual, we have to admit that in some cases it takes a lot of long-continued noise to clear up some things. For example, there is a great tumult over the meat packers—particularly over the big five of them. All during these passing days we are

hearing so much that our ears are really too full for clear utterance, and still we believe that there will come a clear note through all the racket if our ear-drums hold out. Out from Washington there comes a discordant roar, though we do get now and then pæons of praise for the packers as custodians of the people's pabulum—dispensing it as popular appetite demands, and, in that way, patriots preservative of the national well-being. Now and then also we get condemnatory psalms, declaring that the packers ought themselves to be canned as profiteers who keep the people hungry. We can hardly keep silent during all this uproar, although we must frankly acknowledge that we do not yet know which side to shout for. California seems to be on both sides and we have to claim that the men who are so confident in their declarations ought to know more about packers' operations than we possibly can know. The matter seems to stand in the public eye this way:

Porterville dispatch to the Chronicle, August 23.—Cattlemen almost without exception are unalterably opposed to Government control of the meat-packing industry, and expect to send from the San Joaquin valley some well known member of their association to oppose federalized industry before the committee now holding sessions on the Kenyon measure. Government control has been followed by an absolute lack of efficiency wherever it was tried as a war measure, said one of the leading beef men of this district here today. The same blighting influence applied to the meat-packing industry will mean the ruin of the cattle men of this Coast, who are compelled now to use careful business methods to yield them a profit.

Washington press dispatch, August 30.—The American Livestock Association has long realized the impossibility of proper conduct of the livestock business when subject to the entrenched monopoly of the packer combination, said a message signed by H. A. Jastro, as chairman of the Association market committee. We recognized and endorse the general plan for thoroughgoing and Federal control of the packing business which shall in the future prevent the abuses growing out of world-wide concentrated power preying alike on producer, consumer and wasteful in many of its methods.

Here, then, we have cattlemen in two adjoining counties of California—Tulare and Kern—radically opposing each other in their views of the desirability of government control of packers' operations and in their estimates of the public services of the packers themselves as conductors of enterprises of great public moment. There might, of course, be different views as to the desirability of government control, because that is a matter of opinion to the support of which perhaps adequate demonstrations cannot be cited by either side. We are ourselves opposed to government interference with producers except on the demonstration of immorality and law-breaking, because we believe co-operative action by producers, who are predominantly honest and fair-minded, is all the regulation which production needs. But when two leading producers in two adjoining counties differ so diametrically as to what is good for the cattle industry of California, the situation seems to require noise enough to compel all who have their livelihoods at stake in the business to join hands to get to the bottom of it.

QUERIES AND REPLIES
By the Editor.
Inquirer Must Give Full Name and Address.

Vetch as a Honey Plant.
To the Editor: Is vetch a good honey plants?—E. R. T., Hydesville.
Yes; if its blooming season with you meets a long-felt want. It usually blooms early in the spring and may nick-in very desirably.

Railway Commission and Corporations.
To the Editor: Please tell us if you know of your own knowledge of one instance the Railroad Commission has decided in favor of the common people against the corporations?—Subscriber, Newman.
Yes; we know of a person to whom the corporation desired to give a pass to ride on the cars as much as he wished to and the commission refused to let the corporation do it.
Shy-Bearing Mulberries.
To the Editor: If W. M. S. of Biggs, who complained of the fruit-bearing of a mulberry tree, which he desired only for shade, still desires scions

of a scant-bearing tree, I have a white mulberry which is a quick grower and shy bearer and can supply him. When should they be sent?—W. Sargeant, Box 742, Arlington, Riverside.
To the Editor: I noticed in the August 16th issue of the Press, W. M. S.'s inquiry for a non-fruiting Mulberry. I have a very large mulberry in my front yard that is a non-bearer, and if you will tell W. M. S. to write me in January or February, I will be very glad to send him all the scions he needs to graft his tree with.—F. M. Johnson, R. 2, Box 87, Napa.
Mulberry grafting should be done in the spring—just as the buds are swelling on the old tree, but the scions should be previously cut and kept dormant.

What Grapes and Plums?
To the Editor: I have 20 acres that have been in alfalfa about seven years, and I am thinking of planting it to grapes and plums next spring. What varieties would you advise me to plant? The Emperor grape and the Santa Rosa plum have been recommended. Can you give me any information on them?—F. W. H., Exeter.

We can seldom answer such a question—not only because it involves a business policy which every man ought to decide upon for himself, but because the answer is almost wholly dependable upon what a man can see for himself in his own locality. We know, of course, that the Emperor grape is a largely grown and often very profitable variety and that the Santa Rosa plum is making a good record as a shipping plum, but the really important things for you to decide are: (1) Are either or both of these fruits doing well in your vicinity on such land as you have to plant; (2) as neither of these fruits is of any use except for fresh shipments, do they come in in such condition and at such a time that shippers will desire to handle them from your location. If they are either out of condition or out of time, they will make you wish your alfalfa back again. The fruits you mention are all right and promising in their way. You must decide for yourself whether they are likely to go in your way.

Suckering Rose Bushes.
To the Editor: Is it not advisable, immediately upon appearance of the red-leaved suckers on rose bushes, like the enclosed, to remove them; also the shoots from the roots, like the enclosed, to prune them out? I have always in the East been taught to cut them out, but some think here that the pruning of a rose must only be done once a year and that the sucker branches must be kept until after blossoming.—W. G. L., Geyserville.

It is certainly desirable to rub off all such suckers from the main branches of a rose bush and to dig for them to remove them where they start from the roots—unless you need them to renew the branches. In that case such suckers can be made useful. This of course does not refer to strong breaks of flowering shoots from the smaller branches, for that is the way the bush gets stronger wood to bear larger flowers. One therefore has to use discrimination and judgment in pruning the rose as in pruning any other plant. Pruning by rule is unreasonable and perhaps there is no rule more unreasonable than that you must prune roses only once a year or that you must keep suckers till then. Prune a rose whenever you see a reason for doing it. Every time a rose is cut from a bush it should be done with regard to a pruning effect—that is to help the bush to make strong blooming shoots and not to fritter away its energy upon a great mass of weak brush.

Plowing and Blossoming.
To the Editor: In this neighborhood we make a practice of plowing our orchard as soon as soil conditions permit after the 1st of March. We have not taken the trees into consideration very much, thinking that it would not make any difference to them when the plowing was done so long as we kept plenty of moisture in the ground for summer use. My observations for the past two seasons have caused me to think that the time of plowing may have a very noticeable effect on the number of apples that the trees produce. My experience has been that trees plowed before coming into full bloom produce lightly while those plowed when the bloom is dropping produce best. Now two season's experience is not enough to form any definite conclusions on so I would like to know what your opinion is.—G. S., Watsonville.

This is a very interesting matter, but it is one upon which one should not allow himself to formulate an opinion or conclusion except upon the basis of observed facts which he cannot explain in some other way—that is, he should be unavail-

WANT WORK AT GOOD PAY.
We are going to add more men to our circulation force. They need not have experience or capital, but must be red-blooded, dead-in-earnest fellows, who enjoy interviewing people and are not afraid of hard work.
If you have an automobile, are free to travel, believe in the Rural Press, and would like to present it to others, perhaps you can qualify for the position. It pays a straight salary and is permanent.
If you think you are the man we are looking for, tell us why. Convince us that you should have the position and we will make you an attractive offer.

ably forced to such a conclusion. Our judgment is that to be thus forced to the conclusion which you conceive, would be little less than a pomological calamity, because if all orchard plowing should be deferred until the fruit has set, it would be practically impossible to do it at all over large areas of fruit, or to do it only inefficiently, and that would mean an incalculably serious loss of moisture—not only directly, by turning up the soil to dry spring air, but, indirectly by having a surface which would favor evaporation all summer. Therefore, you must get away from your idea if you possibly can. Keep on observing comparable areas of early and late plowing in the hope that a beneficent truth will shine out in your experience. If after a few years more you cannot escape from your present state of mind that late plowing is the price of fruit, we will try to help you devise a way in which what we now anticipate to be the ill effects of it may be avoided.

Tomatoes Pushed Too Hard.
To the Editor: I have tomato plants which seem to be going wrong. They are now large, healthy-looking plants with dark green vines three to four feet long, but they have not enough young tomatoes on them—especially the larger and more healthy ones, while others have plenty of young tomatoes almost to normal size. The flowers of the large plants blast or fall off. They are on good sandy loam and have been irrigated twice or three times. Is this a natural condition for them at this time or is there anything I could do for them or something I have done to cause this?—J. A. W., Palo Alto.

The young plants which cast their flowers have in some way received more than their share of the water or manure or spot of rich soil and have grown too fast to set fruit. Tomato plants cannot fruit if they have too much prosperity. The faster they grow in the earlier part of the season the less fruit they will set. Let them quiet down and do not give more water unless they show shriveling of the leaves. You may get a late set and a late crop of such plants if the frost does not get in first.

Corn Smut and Walnut Sirup.
To the Editor: Will you kindly tell me if there is a remedy for smut on corn, and if there is one, what is it? I also enclose a leaf from a black walnut which is covered with a sticky substance. Nearly all black walnuts are covered in this way here this season. Will you tell me what is the cause and also what is the remedy?—H. C. H., Gilroy.

There is no remedy for corn smut except to prevent its spreading farther by cutting out and burning smutty ears as soon as they are seen. No treatment of the seed has done any good. That works with the smut of barley and wheat but not with corn smut. Smut is spread by putting manure from cattle fed on smutty stalks on corn land. Such manure should be used on land for other crops. Your black walnuts have scale insects on the bark and the stickiness of the leaves comes from the honey dew which falls from these insects. There is no remedy except to kill the scale insects, and that is hardly practicable on large black walnut trees without greater cost of outfit, material and labor than owners are willing to undertake.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agricultural Weather Bureau at San Francisco for the week ending September 3, 1919.

Stations—	Past Week	Rainfall		Temperature	
		Seasonal To Date	Normal To Date	Highest	Lowest
Eureka .....	.00	.02	.23	68	52
Red Bluff .....	.00	.00	.04	100	62
Sacramento .....	.00	.00	.01	98	54
San Francisco .....	.00	.01	.01	78	54
San Jose .....	.01	.01	.04	86	52
Fresno .....	.00	.00	.00	100	62
San Luis Obispo .....	.00	.00	.05	82	54
Los Angeles .....	.00	.00	.00	84	58
San Diego .....	.00	.01	.00	76	64
Winnemucca .....	.00	.00	.34	96	50
Reno .....	.08	.08	.41	90	50
Tonopah .....	.01	.35	.72	88	58

Horses, or Small Tractors, or Big Tractors?

Written for Pacific Rural Press by R. E. Hodges.

IF YOU HAVE A BIG ORCHARD, will it be more economical to use numerous horses, or fewer small tractors, or still fewer large tractors, in all cases of equivalent horsepower? Anderson-Barngrover, with a young 500-acre orchard in eastern San Joaquin county, says that numerous small tractors are best. They have three 12-20 and four 10-18 tractors.

Why Tractors Rather Than Horses?

Horses have not been used on this ranch except to plow close to the trees. They will not be used, even for that, next year. It is planned to hitch a walking plow behind the tractor plow or other implement, and let a man manipulate it to finish next to the trees.

How Many Horses and Men?

Seven men are kept all the time to run the tractors, in addition to Clarence Anderson, who superintends and "experts" their operation. These seven tractors do the work of at least 72 horses. In orchard work it would require at least 18 men to drive the horses. So the tractors save about ten men's wages, upkeep, and irritations. It may be that the tractor drivers get higher pay than hired "mule-skinners"—they are paid 47 cents per hour; but they are a better class of men—they do better work, use their heads better, and skin the trees less. We were told that they are easier to get than "mule-skinners."

They do not need a tractioneering education, because one man can take care of the troubles on all of the tractors. The writer saw one man started out on a morning recently. He had never driven a tractor. His preliminary education was simply to show where and how often he would have to grease and oil the machine, how to clean and refill the water air-cleaner, and how to operate the levers for various speeds forward and reverse.

Barns, Feed, Harnessing, Cleaning?

The tractors at night are lined up at headquarters and are ready for work the next morning with perhaps a half-hour of greasing, etc. An equivalent number of horses or mules would require a big barn, big storage space for hay, big feed bills, and considerable time nights and mornings and noons in feeding, harnessing, currying, and cleaning up. There would be expected enough troubles among the horses to make necessary a continual rearrangement or laying off of teams.

Could Horses Do It as Well?

"But even if tractor operation cost more, which it doesn't, we get enough better cultivation and enough better results by getting the work done on time, to make up for a great difference," said Mr. Anderson.

"If we used horses we would have to multiply our investment in implements; but the implements would have to be lighter and would not do so good work. It is well known that weed cutters tend to create a hard layer due to repeated use through the summer, and that layer continually grows at the expense of the cultivated mulch on top. This increases evaporation of soil moisture which we are trying to save.

"With our tractors we use heavy weed knives, which go down four inches all summer whether we use them once a week or once a month. We had special duckfoot knives put on a tractor chisel frame. It is the only weed cutter we have found that we could keep cultivating at full depth all summer. That is due to the pitch of the knives and the weight of the frames. This cultivates an eight-foot strip at each trip and pulls a plank or harrow behind. Three trips finish a row.

Does Morning Glory Like Tractors?

"On one quarter section we have various spots of morning glory which the tractors are killing. The only way to kill it is to keep it from show-

ing above ground. With three tractors we run the weed knives deeply over the whole piece both ways once a week. Here is where it is absolutely necessary to get the work done on time every time."

Why Numerous Small Tractors?

It would take three or four of the largest-sized tractors anybody would want to work in an orchard to match the horsepower of the seven small tractors. Use of the large tractors would require half as many men (including the trouble-shooting superintendent), and these men would want

per tractor or 784 hours total loss of time per year going to the fields and returning. Some loss would of course be encountered in bringing machines in for repairs anyway, and it would take some time for the men to come in by truck or automobile for their meals. Assuming the necessary loss at half the time now used unproductively, 392 hours of tractor-man work are wasted. The men are paid on this basis—\$184.24 a year for time unnecessarily used going back and forth. The tractors' time is worth something, much more than that of the men at

than the big tractors do.

"They work up a dust mulch in summer better than small tractors could," says Mr. Dixon. "Their bigger working parts are less affected by the dust than those of the small machine. They guide perfectly and instantly by regulating the speed of the tracks, so that with the biggest one, the driver gets his implements within four inches of the trees but has never skinned one of them. We do prune our trees more uprightly on account of the tractors."

Use Tractors' Full Power.

"Can you load the big tractors heavy enough to make them operate economically in summer?" we asked.

"Well, for plowing in the spring-time," replied Mr. Dixon, "we can give each tractor as many plows as it can handle economically. We can plow close to the trees without getting the tractor too close and without giving it the side draft that a smaller tractor might have to take in order to keep itself far enough from the trees.

"For summer cultivation it would be economical to use a tool 21 feet wide in our 24-foot rows and make only one trip per row each way. That may leave an 18-inch square around each tree uncultivated, but it leaves the tree unscarred, and no weeds grow in that square anyhow during the summer."

Big Tractors Subsoiled Orchard.

About the first job for the big tractor was one which the small one could not have done, yet it proved highly profitable. The entire orchard was subsoiled one fall to break up the hard plowpan. That winter the Calaveras overflowed the ranch four feet deep in places one night, yet the next day no water stood on the surface. Since the subsoiling, this orchard takes irrigation water much better all season. Hunt Bros. and Mr. Dixon do not doubt the economy of their large tractors.



Seven tractors, such as shown above, with seven men, do the work of at least 72 horses and 18 men to drive them.

higher pay. There would be a certain saving in wages, which Anderson-Barngrover believe would be more than counterbalanced by the disadvantages.

Would Big Tractors Do As Well?

Among the disadvantages mentioned are greater difficulty in turning at ends of rows and in getting close to trees. There would be greater loss of time if something should go wrong. It would mean one-third or one-fourth of the power idle instead of one-seventh, as it now is when a tractor is temporarily out of commission. All tractors have to lay up occasionally for adjustments and repairs.

A big tractor, to make economical use of its power, would have to cultivate a full row at once. That would involve either leaving a very considerable strip unplowed or uncultivated along the tree rows or else using implements so wide that it would be next to impossible to avoid chopping the trees on one side or the other. To make two trips per row so the operator could watch one row and get close enough without skinning trees, would require more implements behind the tractor to make economical use of its power than are necessary for the summer cultivations.

Cheaper to Leave Tractors Afield?

Not everything has been ideally developed for tractor use on this ranch—which is to be expected. But experience has pointed the way to definite plans for greater efficiency. Anderson-Barngrover have no adequate equipment for making tractor repairs, but no doubt such will be installed.

A great waste is the present practice of running the tractors in to headquarters at noon and night time. True, they run in at 3½ miles per hour while at work they run 2½ miles per hour, but even at the greater speed a great deal of time, steel, and distillate are wasted.

It is 1¼ miles to the end of the ranch one way and nearly a mile another way, but a half-mile average per trip to the working grounds is estimated by Mr. Anderson. That means two miles a day going to and returning from work. Over one-half hour per day is thus lost for each tractor and its driver.

Nothing but rain ever stops the work on this ranch. It is estimated that the tractors are in use 225 days per year. That means 112 hours per year

certain seasons. The distillate, oil, wear and tear also count something in 392 running hours.

So a 225-gallon tank has been bought. It will be mounted on a truck or wagon for distillate, and smaller tanks will be put on for lubricating oil, transmission oil, grease, and water. One man will tank and lubricate the machines after work hours so they can be kept going practically the full ten hours per day.

No Doubt about Tractors.

There is no question in the minds of the owners that good cultivation is making a better orchard than common; and there is no doubt that tractors are the most certain and economical power to accomplish the needed cultivation when it does the most good.

Large Tractors in Orchard Preferred.

The most pertinent question that might arise in an up-to-date orchardist's mind is whether large tractors or more small ones aggregating the same horsepower would be most desirable. Hunt Bros., who have 340 acres of bearing fruit trees not far from the Anderson-Barngrover orchard prefer large tractors. For a number of years they used a wheel tractor of about the first make put on the market in California. It had ten horsepower on the drawbar, but was so much heavier than wheel machines of the same power now on the market that this make is not manufactured any more.

After a few seasons' use, it became apparent that something was compacting the soil so that about the third irrigation each season would hardly go down. No particular study was made as to whether this was the fault of the heavy wheel tractor or of the implements used, or of their operation. But the old tractor was discarded and heavier machines of the track-type were given the orchard work. One of these is rated at 20-35 horsepower and the other at 22-45 h. p., but they exert less pressure per square inch.

These have given entire satisfaction, according to General Manager F. A. Dixon, and they have not compacted the soil. A man walking in their tracks leaves his footprints in the summer dust mulch, showing that he exerts more pressure per square inch

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The Country Boy the Nation's Backbone

(Written for Pacific Rural Press by Jno. J. Fox.)

The natural law, recognized since time began, that necessity makes men strong, has been grandly exemplified during the past few years. The German Chancellor's adopted motto, "Necessity has no law," we repudiate. For our men have been strong in sacrifice. The fact that success often blinds the eyes of men is another lesson that is generally driven home after a great war or in times of great prosperity. The present reconstruction period is no exception.

The immense demand for our farm products and the high cost of labor have resulted in creating unheard of prices for our wares, yet employers in all the rural districts are more or less uneasy. Why? Conditions are hard to define.

In talking with farmers in different sections of the State on the subject of labor shortage the following points are brought out. We expected, as soon as demobilization started to find our experienced agricultural boys drifting back to the land—to the business they know. What has happened?

The stirring events through which they have passed have produced a feeling of unrest among the lads that only time and perhaps necessity and reflection can overcome. Large government works and corporation construction plants are paying enormous wages and the boys are naturally excited and think they can do better "with the bunch" at the "works." Thousands are peddling small things, living from hand to mouth rather than settle down again. Extraordinary demand has increased the cost of everything and though we are willing to pay all that the traffic will stand many men will rather hang around the city from strike to strike than return to "the land."

One farmer said, "I have sold my cows and will turn stock cattle into my pastures and raise grain or pasture on my farming land. My brother and I are centering all our efforts on our prunes, pears and grapes now and letting everything else go. Our men are really blind to the opportunity they will have now for a year or perhaps two of making big money. 'Labor' has the right to set prices on what they have to sell and (Federated) they have the power to do this. Now they want to set the prices on what we have to sell, no matter what we have to pay for labor or production. And the cost of production varies (apart from the cost of labor) enormously with the seasons, as was instanced last year. This would be simply reducing the farmer to a virtual condition of slavery again."

The Farmer Has to Take Many Chances.

Against wind, rain, plague, insects, fire, frost, drought, water, overproduction, unstable markets and what not. Apart from the interest on his investment, the farmer today would consider himself rich if he could net 75 cents or \$1 an hour for his own personal hours of labor. But he has to pay \$1.50 an hour for any work done at a garage. We are not talking of the few wealthy big operators, but the average farmer. Some ten years ago the Government figured the net income of the farmer of the United States at an average of less than \$600 a year on which he had to support his family. The past few years he has been making money, for he has had to redouble his efforts to feed tens of millions of unproductive men and women. The shortage of farm labor is going to make the cost of production still greater. This cost is away up and the middle man "has to live." The sooner the farmer-boy gets back to the fields where he belongs and takes a lead again in rural activities and intercourse, the better it will be for him and all concerned. It is a fact that during the season of reconstruction after a great war, a period of prosperity follows for a time till that which has been destroyed has been replaced and till projects that have been delayed are completed. When all requirements have been filled there follows generally a period of reaction. Everybody knows this.

Why Then Are the Eyes of Men Blinded?

Now is the time of plenty of work

and good wages. Now is the time of opportunity by steady application to provide for the future and own a home—either in town or country. One of our wise old forbears depicted "Opportunity" as a glad some maiden, fleet of foot, with outstretched hand. Grasp that hand before it is out of reach and you are carried blithely along to "Success." If her brightness is too blinding, put on your contemplative smoked glasses and then grab that hand. "Prosperity," her twin-sister, will clasp your other hand and all you have to take care of is your head and your feet. In other words retain your balance and "watch your step" to avoid a fall.

That completes and summarizes one complete phase. The next one shows us that forbearance and encouragement are needed for practical reasons.

Not a week goes by that we do not meet one or more returned soldiers—sometimes several. The feeling of unrest when they first leave the army we can well imagine. They have been torn from peaceful pursuits and subjected to an iron discipline, foreign and distasteful to the American character but suffered because the country demanded it. They have been put into the highest physical condition and then suddenly deprived of all and it is too sudden. They are all restless and uneasy like a racehorse that has been put in tip-top condition, then slipped into an empty corral or hitched to a sled. Several different men said they were going to the mountains to "get hold of themselves"—to sleep and rest and "get this militarism out of their system." One came into the office yesterday who had been staying two months with his folks in Salt Lake; he was "so uneasy he couldn't settle to anything, but is now feeling on edge for something definite to do." He has a little money and we helped him a little about locations. He was in the 91st on the Argonne. Another we met on the train going to Sacramento who was very blue but tried not to show it. He had made definite arrangements to stay one month in Modoc County to "try to adjust his mind to changed conditions," God help him! and then go to work. He hoped to get on a newspaper. We took him in to dinner and learned much. There are doubtless many fathers who say, "My boy has been back a month now and he hasn't done a darn thing. The army life has ruined him." No allowance is made for a psychological condition which is quite general.

Give the Boys a Little Time and They Will Gradually Come Round.

That army life no more ruined them than it did the veterans of the Civil War. As time is given them to digest the reason for the great "shake" and their part in it, they will come round and be better men than ever for the experience. My own lad sails in with the fleet after an absence, largely in European waters of over two years. We fathers must give the boys plenty of rope and they will work out their own salvation. The boys must understand their own condition and feel that it is recognized by others, and parents must have patience. Boys that are worth a whoop will "take on" as soon as they can "keep hold."

Who Are the Greatest Losers?

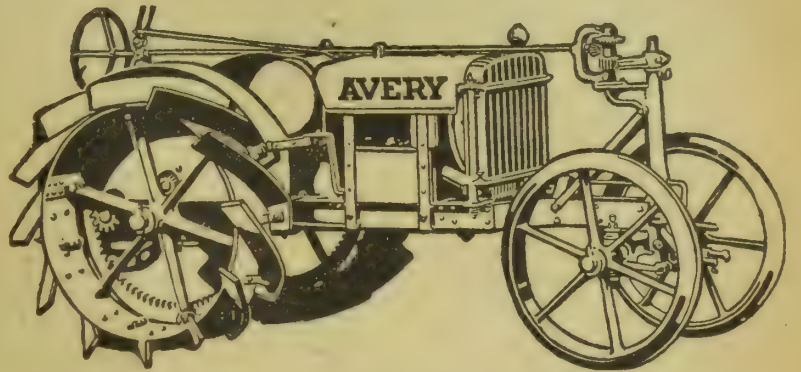
The small farmer who does his own work and is generally helped by his family is the greatest sufferer apart from the boys themselves. These are busy times and the father is naturally anxious for his son to "buckle to" pretty soon after he sheds his putties. He must not be surprised if the boy finds it impossible to adjust himself to such a quick change. The best way is to talk things over frankly in the family. It is to the interest of both for both to have an interest in the

work—a share interest in the business will put quite a different complexion on matters. The boy will find himself anyhow, but how much quicker he will find himself when there is a chance for "standing," teamwork and real personal interest. Friendly advice is going to help the boys where punching them up and bawling them out will hinder. We fathers have the experience and the equipment, the boys have ambition and "pep." They have learned the lessons of discipline and organization. After those tense nerves and muscles have slackened off a bit, youth and maturity will make a dandy team. "Toleration" is the word—and it has to be mutual.

The ideas in this last paragraph are taken direct from a gallant young soldier who has been through the mill of disciplinary experience and has found himself. After our boys have had a good furlough they will return and report for duty. Meantime we have to "carry on."

In a recent report from A. G. Robinson of the California Associated Raisin Co. announcement was made that grapes will be tested by the association free of charge to determine their sugar content. This is one of the means taken by the growers for making better raisins.

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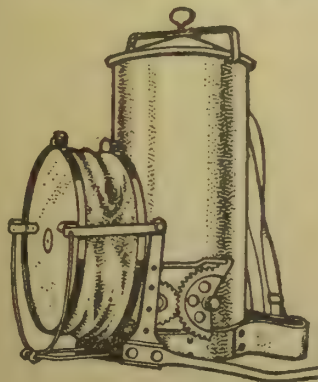
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Tulare Citrus District Under Review

(Written for Pacific Rural Press by D. J. Whitney.)

From Fresno county south to Kern county, along the thermal belt close to the foothills, and centering mostly around Porterville, Lindsay, and Exeter in Tulare county, is the great citrus district of Central California. Most of the acreage is yet comparatively young, so the importance of the district for citrus production is bound to increase greatly when this young acreage comes into maturity.

Up to a few years ago the prospective fruit grower in the district, particularly in Tulare county, never figured upon planting anything but oranges, provided he had the land, water, capital, and imagination. There were some exceptions—mainly persons whose capital was so scant that they thought better to try cheaply established, early-maturing deciduous fruits, like peaches, or possibly olives or grapes. The standard planting, however, was oranges, save in the small and very favorably located Lemon Cove area, where excellent results with lemons gave the district the name.

Troubles of the Orange Grower.

The fairest summary of the citrus situation in the district at present can be gathered from two facts: First, the average grape grower, or grower of deciduous fruits, will say that he would not take an orange grove as a gift. Second, those citrus growers who stay with the game and have undeveloped land, practically always plant it to oranges when they plant anything.

The explanation is simple. There are more ways to get into trouble with an orange grove than with anything in the fruit line available, and people who do not play the game right usually find most of these ways. But from the other side of the question, when the orange business is handled properly, even when bad seasons, frosts, the June drop, and everything else in the way of trouble is considered, there are few crops that will do as well as oranges.

This condition will apparently always exist; for when ordinary fruit is worth a nickel, an orange will be worth a dime. Their real merit for eating will always, it would seem, make them high in price, and the troubles that confront the orange-grower (and these troubles are all over the world, and not merely in some certain district) are more than offset by the value of the fruit—provided always a person has the right conditions for orange production.

The Troubles Well Repaid.

The only thing that would be worse for the orange industry than the troubles would be not to have these troubles, for if oranges could be produced as easily and cheaply as peaches or apricots, ruin would come with rapid steps. Therefore, when all is said and done, orange growing is a first-class, though very delicate, proposition, and the only man who should go into it is the man who is to go right in every sense of the word. A long purse is one requisite.

In figuring whether to plant oranges or not, there are certain things to think of. First, is soil. In Central California, when a person finds a location suitable for oranges, the soil is quite certain to be satisfactory also. The soil in this district against the foothills is not likely to be sandy, though in Southern California some fine groves are on sandy soil. It may be a chocolate loam, hogwallow, which is sandy clay, red, worthless looking, underlaid by hardpan, expensive to put into condition, but hard

to beat for any kind of fruit when it is finally in shape, or it may be dry bog, first cousin to adobe, and with a full supply of adobe habits. On all of these, and on other types of soil also, first class groves can be found.

Next thing for consideration, but first in importance, is the water supply, which is a serious matter now that a number of dry years has come and land development has drawn heavily upon natural supplies. The orange tree suffers badly if all the water needed is not available at the right time. The fruit grower ought to be sure of water whatever he plants, but he must be more particular with oranges than anything else. Of all suitable fruits for the district figs seem to be the least risk if water may run short occasionally and olives apparently are the second best risk.

Avoiding Frost in Selecting Location.

Then comes frostlessness of location. (There is in reality no such thing. Frost will hit anywhere in California except on islands off the coast, but the term is used to apply to locations where frost injury will not be so serious by far as on the bottom lands.)

In early plantings, when it was thought that oranges were the only fruit worth planting, groves were started far out from the hills where ordinary hard freezes cut back the young trees nearly every year, and it was a race with the frost every fall on mature trees to see whether the grower or the weather would win the crop, the weather winning once in every so often, and a little oftener in these days where fair ripeness is a necessity for fall shipment.

This kind of a location is poor business. Ignoring altogether the risk of crop loss by fall freezes, or the loss of young trees by winter killing, the trees here do not succeed so well as in the more favorable locations. Traveling over all the district in spring, one will notice that the trees on upper and warmer ground are darker and richer in foliage than those on the colder ground. They are not pinched so much by the cold. They develop more in bark and leaves in winter and early spring than those on cold ground. They seem to get a better start in blooming, in setting fruit, and in holding the fruit that does survive the bloom. Therefore, the grower in a frost-favorable location runs less risk of tree-killing, crop-freezing, and has less expense or necessity for smudging, than the grower on the lower, colder land. His trees also thrive better.

Other kinds of fruits succeed so well in this district, both culturally and financially, that a man has no right to plant oranges in a risky location. Many of the older groves, it would seem, had better not have been planted, judged by this measure, but it is also fair to say that many of these groves, planted where a man might figure it was not best to plant, have been, are, and for all that can be seen, will continue to be, excellent money-makers.

The Right Man Succeeds.

After all is said and done in the orange business, the most important thing of all seems to be the man behind the venture. A poor stick may do fairly well with many crops, but it takes the right kind of a man to do well with oranges, and, in spite of many complaints and troubles, the right man seems to find oranges extremely profitable.

The prospective planter, therefore, must figure whether he is the right



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CITRUS CONDITIONS IN TULARE COUNTY.

(Written for the Pacific Rural Press.)

"My estimate of this season's crop of Valencia, Navels and Lemons, based on a normal production of 100 per cent, is as follows: Valencia oranges 80 per cent, Navel oranges 70 per cent, and Lemons 90 per cent," said Frank R. Braun, Horticultural Inspector of Tulare county. In reply to further questions, he said: "There has been some difficulty in securing labor for canneries, although the fresh fruit was handled without encountering this trouble. Labor is in demand for harvesting grapes and figs; is, in fact, quite short." The acreage of citrus fruit to be fumigated this year will reach roughly about 2,500 acres. Liquid gas will be used exclusively."

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Renewed screw casing costs from one-half to two-thirds less than standard pipe. Large savings on standard pipe, fittings and valves; special fittings made to order. Pacific Pipe is thoroughly tested and guaranteed for 150 pounds working pressure; asphaltum dipped; serves every purpose. Let us save you money. Write!

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ANCHOR Brand Velvet Flowers of Sulphur, also E A G L E Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, LEAVING NO ASH. VENTILATED Sublimed Sulphur—Impalpable Powder, 100% pure, in double sacks, for Dry Dusting and making Paste—(Atomic Sulphur).

For LIME-SULPHUR SOLUTION, use our DIAMOND "S" BRAND REFINED FLOUR SULPHUR. We can furnish you this Sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out in labor for spraying your orchard, even if you pay your men \$4 per day for making the solution and applying same.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre DIAMOND "S" BRAND POWDERED SULPHUR, 100% pure. This has increased various crops up to 500%.

Also PREPARED DRY DUSTING MATERIALS, Tobacco Dust, Dry Bordeaux, Dusting Sulphur Mixtures, etc. And "Anchor" Brand Standard LIME-SULPHUR SOLUTION 33 deg. Be., Sulphur Paste, Nicotine, Black Leaf 40, etc. Fungicides and Insecticides. Carried in stock and mixed to order.

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man and whether or not he has soil, water supply, and location for a good grove, and lastly, whether some of the other fruits that are having a tremendous boom in the district, would not suit him better, after all. To guide him in his choice he will find many fruit-growers swearing at oranges, and many orange growers saying nothing but letting other fruits alone while they plant more oranges. "Every man to his taste," is an extremely wise policy.

REMOVING ROOT-KNOTS IN SUMMER.

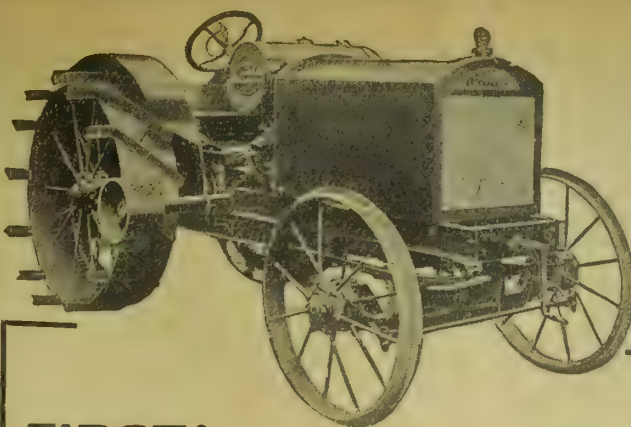
To the Editor: Noting an inquiry relative to removing crown-gall from trees during the growing season and your suggestion that readers send in experiences, I send mine. I have theorized like this: The diseased tissue (or galled tissue) does no good to the tree and the tree cannot suffer if it is removed. I have cut out great areas from large cherry and plum trees during the growing and dormant seasons and covered with either Bordeaux paste or asphaltum. As the Bordeaux later flakes off and the asphaltum does not, I prefer the latter, but whitewash over it to prevent excessive heat radiation. The asphaltum is an excellent disinfectant, sticks closer than a brother, and is cheap. Lately I have used, instead of asphaltum, prepared asphaltum paints, such as Oronite or J. M. Roofing or cement paint. These are in liquid form and easier to apply than asphaltum. They dry readily and form a protective coat over the wound. In no case have we had any bad results from cutting out crown-gall at any season. Sometimes we do not get all of the gall the first time. We watch it and cut again if any gall shows up on the edges of the wound.—E. O. Amundsen, County Agent, Auburn.

FAIR RENT FOR FRUIT ORCHARD.

To the Editor: In renting a fruit orchard for crop rent, what would be correct rent—one-third or one-fourth? The orchard contains apricots, prunes and walnuts.—S. R. B., Linden.

[The usual practice in renting a fruit orchard for crop rent is for the owner to receive 50 per cent of the gross proceeds, said owner providing teams, sprays and all equipment, but no labor of any kind. In view of high prices this practice may have been modified in the past two years of high prices, but we would not care to take chances one year with another for less. The owner usually retains the right to decide on final sales and transacts the business—always when Japanese are concerned.—Ed.]

The 12,000 acre Island farm, near Fallon, Nev., which was subdivided 15 years ago, and since then many times resubdivided is producing very diversified crops and the herds of cattle have been replaced by successful wheat, barley and alfalfa. Douglas and Renfro one of the leading firms on the project threshed 600 tons of wheat, about 200 tons of barley besides growing lots of alfalfa.



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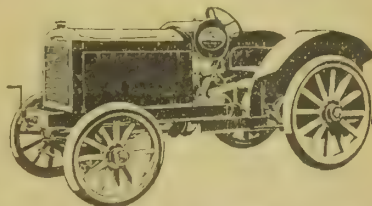
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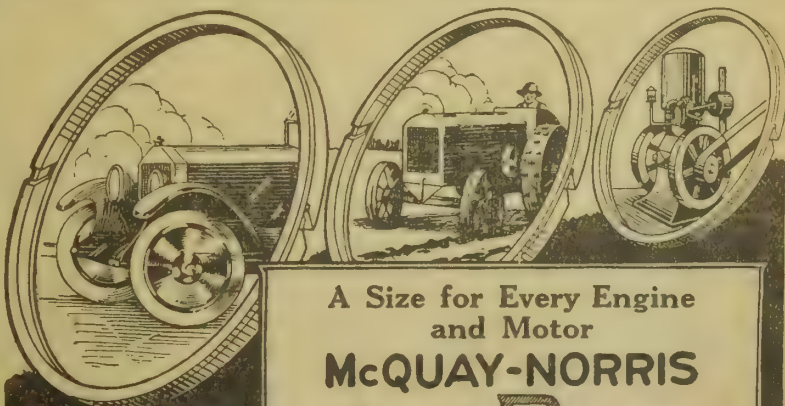
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MORE POWER ON DRAW BAR

Our "special proposition" on all orders placed at this time is particularly attractive. It will interest you. Write at once for full particulars.

The wonderful work of the famous Sieve Grip wheels has never yet been duplicated by any other kind of traction. Plow, cultivate and work up the seed bed with Sieve Grip Samson's without packing the soil. Low price—A "special" proposition. Circular "P" free on request.



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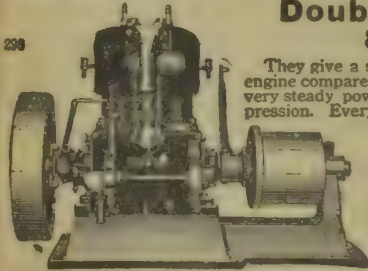
as ordinary farm engines, but run even more steadily and quietly, because of perfect balance and accurate Throttling Governor.

Because of their light weight, they are the most useful farm engines, as they can be moved so easily from job to job, doing many jobs other engines cannot do.

They are also very durable—in fact, the Cushman service record on American farms—where 50,000 of them are at work—justifies our claim that Cushman Motors are the most durable farm engines in the world.

Double Cylinder Motors

8, 15 and 20 H. P.



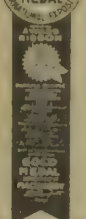
They give a service the tractor cannot give and no other farm engine compares with them in equipment. Two cylinders give very steady power. They do not wear unevenly and lose compression. Every running part protected from dust and properly lubricated. Equipped with Throttling Governor, Carburetor, Friction Clutch Pulley and Water Circulating Pump without extra charge.

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Here and There in the Fruit Business

Peaches for the Future.

A big peach nursery is to be started at Porterville, and the entire supply of peach pits suitable has been bespoken from a local cannery. Fifty acres is to be planted later for a supply of peach seedlings to be budded to peaches and prunes.

Australia Is Planting Vines.

Orders have been received by the Department of Agriculture in New South Wales for large numbers of wine varieties of grapes grafted on resistant stocks. Two phylloxera resistant rootlings in strong demand are two of our own California favorites, Riparia X Rupestris, 3306 and 3309. Others are Mourevdre X Rupestris, 1202, and Riparia X Cordifolia-Rupestris 106.8. Bench grafted vines are selling at about \$50 per thousand and rooted resistant stock unworked \$15 per thousand f. o. b.—cash with order.

Tuolumne County Apples.

Most of the apple growers in Tuolumne county have sold their entire crop of apples, orchard run, at good figures, it is reported, as there was spirited competitive buying from several different counties. There is a good crop of excellent quality, which may run to 1200-1400 tons. The apples are of firm quality and carry good color. They also dry heavy. A co-operative packing shed and dryer will doubtless appear another year in this growing apple section.

Large Merced Orchards Maturing.

Driving out to the east of Merced many large areas of orchard are set out and will soon be making themselves felt in the various industries. The Bear Creek Orchard Company has 160 acres in olives—Missions and Manzanillos—inter-set with peaches and apricots five years old and bearing good crops. Figs with peaches inter-set also look very thrifty and promising. A. L. Munger has 120 acres of thrifty young figs and 40 acres in olives, and M. D. Wood has 95 acres set to walnuts and five acres of figs two years old, in one block. George Boyd has 160 acres set to figs in this section—mostly Adriatics. In spite of the fact that help was difficult to obtain, all these places are looking well kept and the trees have made good growth. As the large districts unite to govern their own affairs so is prosperity apparent. Irrigation and drainage are the problems of paramount importance in the inland valleys. And results can only be achieved through united effort.

Grafting Over Red Astrakhans.

Several years ago a certain fruit-grower had a lot of Red Astrakhan apple trees that he wanted to work over to something that paid better, and he chose white Astrakhans. Afterward he was advised by experts that it was no use—he might just as well take them out as "sappy bark" and subsequent rot would do them up. He stripped off the suckers and growth from a number in order to concentrate the energy of the trees on the scions. In a year or two these trees

died. Others he left, with everything growing on them that showed on the trunk and limbs. They are, of course, a mass of brush below, but the trees are sound and healthy; there is no "sappy bark" or blight and the new grafts, now four or five years old, are carrying a heavy crop of fruit. Which looks, as though the heavy growth allowed to remain on, had relieved this strong growing tree of its superfluity of sap and should lead to interesting experiments in other lines. This same grower sprayed his apples for thrips this year as they scarred and russeted his apples last year.

Almonds and the Hand of Providence.

About the middle of July we called on an almond grower of foreign birth to see what he was doing in the shape of mite and red-spider control in his orchard. It was a good-sized orchard of trees 16 or 18 years old of Nonpareils, I X L, Ne Plus and a few Drakes and Texas. The foliage was in very poor condition, and some trees had already lost a lot of leaves. The rest were ashen grey or yellowish. There is no doubt a part of the injury was due to drought, intensified by deferred plowing and poor cultivation, but we noticed that growth had been poor for several years. We ventured, however, to call attention to the injury he had suffered and was suffering from almond mites. To our utter astonishment he gave us to understand that "the trees always begin to lose leaves in July—it was natural. They had to shed leaves so as to mature and fill out the nuts!" We found that he did not belong to the Association or the Farm Bureau Center—the connection of which with the plot one sees."

Cherry Trees Stand the Knife.

The exploded theory that cherry trees cannot stand pruning was exemplified by a story told by C. K. Johnston, editor and publisher of the San Jose Mercury, at the recent meeting of growers and scientists for the establishment of deciduous experiment stations. Commenting on the variability of ideas and practice regarding pruning, he said: "I don't know much about trees but thought my cherry trees needed pruning, so consulted a few cherry men. One said, 'The cherry will not stand pruning. You must let it alone.' Another said, 'You can prune it a little—perhaps once in three years—but great care must be exercised or you will lose all your fruit wood.' Still another man said, 'I will send you the best cherry pruner in the county; he will do what is right. Don't be afraid if you see half your wood on the ground.' Well, I was away three days when I received a phone message that my trees were being ruined. On my return I found some neighbors shaking their heads over the shocking mutilation my trees had been subjected to—they would bear nothing a year following the butchering. Well, to make a long story short, the next year those trees produced the largest crop of cherries they had ever borne. Good bye!"

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PERFECT FARM MACHINERY

LACK OF LUG BOXES HURTS
PEAR GROWERS.

(Written for Pacific Rural Press.)
This season has demonstrated most forcibly that pear growers must provide themselves with more lug boxes. The canners have not been able to provide enough boxes fast enough to serve growers, many of whose supplies of field boxes were wholly insufficient to serve their needs. From this condition a considerable loss has been suffered.

No. 1 Pears Sold as Windfalls.
One pear grower said: "Because the canners were not prompt in furnishing boxes I lost five tons of No. 1 pears—had to sell them for windfalls." Now five tons of pears at \$85 a ton is \$425. The pears were sold for \$50 a ton, making a loss on five tons of pears of \$250. Supposing this man had bought, say 200 lugs, at 25 cents apiece, which is \$50. It would have been enough to handle that five tons of pears and so saved \$200, and his boxes would have been returned to him.

We will now record, for the benefit of other growers who were in the same straits, an incident that happened this year. One man, a member of the Pear Growers' Association, applied for a release of his fruit in order that he might ship his pears East. This release was granted him and his fruit was "counted out" so far as the association's sales were concerned.

Full Supply of Lug Boxes Advance
Pears from \$75 to \$85 a Ton.

A few weeks afterward he changed his mind and wanted the Association to sell his pears for him, but they couldn't find buyers for this extra 100 tons. So the grower tried himself and the best offer he could get was \$75 a ton. He had almost given up hope of doing better when the fact came out that he had 2500 lug boxes of his own. The canner immediately offered him the \$85 a ton if he would ship the fruit in his own boxes and the sale was made.

He thus made \$1,000 clear by using boxes that had cost him only \$500, and these boxes were, of course, returned to him. Besides, he was not obliged to wait for boxes or to worry about whether they would arrive in time or not, because he had them on the place.

This year (when good money has been made on pears) should see all pear growers plentifully supplied with boxes for next year. There is ample spare time to make them up in the winter or rainy days and much of the loss and aggravation, as experienced this year, can be obviated.

WET OR DRY SULPHURING.

To the Editor: The only apology I have for coming back at Mr. Davis is that I have received a number of letters of inquiry in regard to wet vs. dry sulphuring.

Some eight years ago some of the first almond growers of Arbuckle clubbed together and bought a dry-sulphur machine. Some of them used it the second year, but all condemned it. If, after six days from dry spraying Mr. Davis finds spiders large enough to "plow their way through sulphur," it is evident he did not get the old spider. Hence he goes after them four times six days apart, which must be discouraging.

I agree with your correspondent of July 19, page 60, that one thorough application as soon as the old spider appears does control them. A thorough application means double-shoot the rows—up one side and down the other. I can show you eighty acres near me, sprayed about the same time and only half done which is now badly infested, while mine is free.

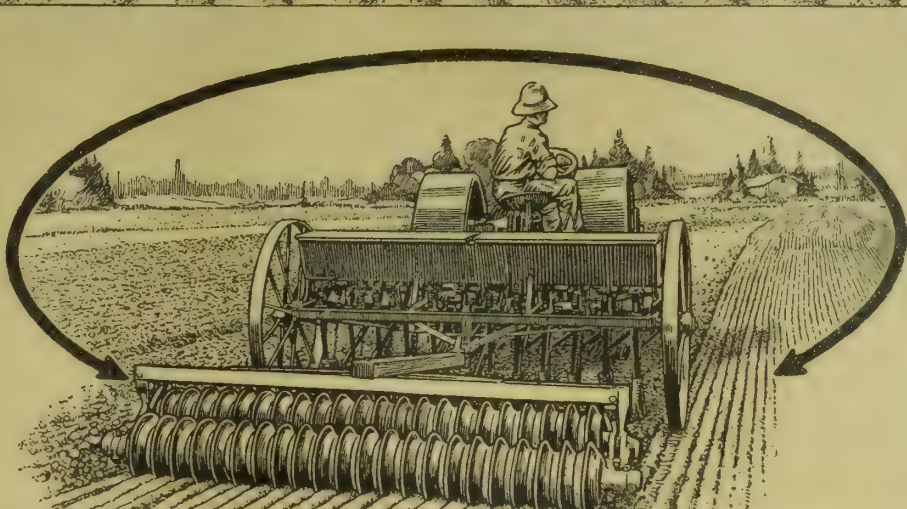
So, too, the difference in cost: Mr. Davis admits it takes three days to dry-spray 50 acres. Three days' time four times over is 12 days with two men and a team at \$10 per day makes \$120. The wet way will take three men 57 days at \$14 per day, making \$70, and my equipment did not cost \$100 more than Mr. Davis'. Besides, it earned me \$70 on the outside at \$6 per day.—I. L. Sweet, Arbuckle.

Pears and figs have been cultivated in California for 150 years.

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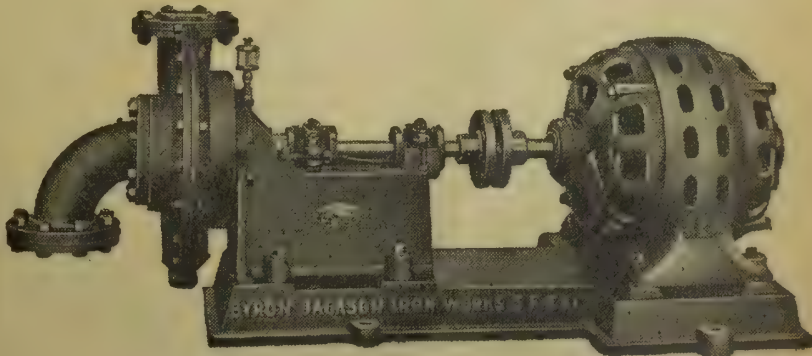
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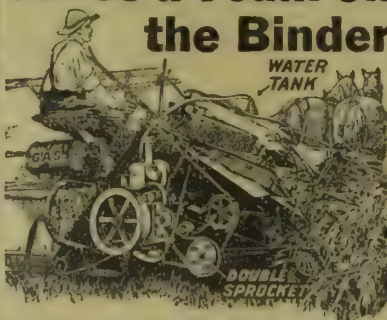
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The Cushman 4 H. P. is the one Successful Binder Engine. Thousands are in use every harvest. Fits any binder. Engine drives sickle and all machinery. Since horses have only to pull machine, two horses will easily handle 8-ft. binder in heavy grain. In a wet harvest Cushman Engine saves the crop, as it keeps sickle going when bull wheel slips.

Very Important—The weight of the engine on the rear of the binder, only 167 lbs., is balanced by the simple cone water cooler on the front of the binder. This balancing, and the water cooling, to prevent overheating on all day runs, are necessary to successful work in a hot field.

After harvest Cushman engine does all other work. Very light weight and easy to move around, yet runs more steadily than most heavy engines, because of Throttle Governor and perfect balance. 4 H. P. weighs only 190 lbs.; when stripped for binder only 167 lbs. 8 H. P. only 320 lbs. Also 5 and 20 H. P. sizes.

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Power Farming Has Come Inevitably

By William L. Hughson.

Power Farming has made such rapid strides during the past few years that the ranchers, orchardists and agriculturists in general, are now confronted with the problem of either adhering to the old fashioned and antiquated way of tilling the soil or adopting the newer and more efficient method of using power farming machinery.

The war has been responsible to a great extent, for the rapid advancement and the perfecting of different power farming tools, for "food will win the war" is a slogan that still rings in our ears; and how this country rushed the food-stuffs to the hungry millions and saved a starving world is a matter of record.

In this speeding up program the tractors and more efficient farm tools played an important part. In one instance the manufacturer of a well-known tractor shipped over six thousand of his tractors to our allies in Europe, whose lands were either devastated or suffering from lack of cultivation because the man power was being used in the fighting lines. Thousands of acres were made to produce their share of food through the importation of these tractors.

Development of Plows.

Since the beginning of time, man has had to prepare a seed-bed. The hieroglyphics on old Egyptian monuments as well as other ancient records, show that a wooden stick was used to make a furrow, and branches and twigs bound together was the substitute for a barrow. While this method is apparently obsolete, it is still in use in some of the uncivilized parts of the world. Seed was broadcast by hand over this crude seed-bed, and even this principle which has been handed down from the ages is still indulged in, in many parts of our own country.

After the wooden stick came the wooden mold board plow, which held sway until an iron point was added to the share to give added wear, and permit working of harder soil.

In 1797 a cast iron plow bottom was made and patented. This had the share, mold board, and landside all in one piece. To renew a worn point meant the purchasing of an entirely new bottom. In 1813 a cast iron bottom was manufactured that more nearly approached our present style.

Then came the single riding plow which was later followed by the two-gang plow. This style of plow enjoyed unusual popularity, showing that farmers are ever ready to adopt any practical device that will lessen their fatiguing work.

It was during this period that the manufacturers began to pay particular attention to the kind of materials that went into their products, crucible steel, shares, soft-center shares and others making their appearance, all with the view of bringing greater efficiency to farm tools.

Many varied and complete mechanical farm tools and contrivances followed in rapid order, such as combined harvesters and binders and other equally important improvements; but with all of these wonderful new inventions the horse was still relied upon to do his part.

Tractor Work Better than Horse Work.

The coming of the farm tractor revolutionized agriculture; of this there can be no doubt. It was not the purpose of the tractor to do the work as well as a horse or a team of horses, but to do it better. It is not the purpose of power farming machinery to do the work as well as the older methods, but to do it more efficiently and more economically.

It is an established fact that the old methods of a farmer's life, with its continual chores and heavy work coupled with long hours, has been responsible for many sons and daughters leaving the old home and seeking the cities, to evade the drudgery that loomed before them.

The newer methods of power farming however have changed the entire

scheme of things, for with the addition of a tractor, modern farm tools, the many mechanical and automatic devices, such as milking machines, sawing machines and others, taken together with the many duties a tractor can perform when the power on the belt is used, has lightened the farmer's burden considerably, doing their work more speedily and surely more economically. This taken together with the many devices now on the market to aid the women-folk on the ranches and farms, has changed considerably the conditions that formerly existed.

The numerous exhibits and demonstrations of power farming machinery held all over the country, have proved much to those who till the soil, and progressive farmers were not slow to see the benefits that would accrue from its adoption.

Many farmers and ranchers are still adhering to the older methods, in a similar manner as the livery men in the early days of the automobile. They finally had to bow to the horseless carriage.

It perhaps is true that the early tractors were somewhat lacking in necessary essentials, but the rapid development of this industry has brought many changes and improvements. It is stated authoritatively that one tractor manufacturer built and experimented with sixty-three different models of tractors covering a period of years, before he put one on the market. This same manufacturer insisted that the tools which this tractor should pull, should be so constructed that they could be operated from the drivers seat, obviating the necessity of having an extra man accompany the tractor to operate the tools. That this latter idea was logical is borne out by the fact that today several of the largest manufacturers are making tools exclusively for use with the tractor and power-lift plows are being demanded by farmers.

The different colleges of Agriculture are strongly urging the use of power farming machinery, which opinion has been reached after exhaustive study and experiments with the modern methods. It has been clearly proven that a horse consumes as much food in a year as can be raised on a four or five acre lot, which might otherwise be used for a productive crop. In the off-season, a tractor and its belt power can perform multitudinous duties on a ranch, while the horse must remain idle.

Behold at from every angle, a new era has dawned for the "man with the hoe," and in a few years one will look back upon the present times, and wonder how it was at all possible for the rancher to produce the food that now feeds the world.

Deformed and puny chicks are unfit to raise. Dispose of all cripples and weaklings as soon as possible.

BEEMAN GARDEN TRACTOR

It plows, harrows, cultivates, runs any 4-h.p. stationary machinery

WRITE FOR
CATALOG



H. V. CARTER MOTOR CO.
Distributors

Agricultural Implements of All Kinds.
724 Van Ness Ave., San Francisco.

It takes Brains to recognize a Good Tractor

WHEN you build a tractor to be sold on the basis of the service it gives, it has got to be sold to a man of brains.

Appearances speak for themselves.

Anybody can tell what a Tractor looks like—whether it has three wheels or four, whether the engine is upright or horizontal, whether its gears are enclosed or at the mercy of sand or gravel.

But it takes brains to get at the facts—to look into tractors instead of merely at them.

More and more, the farmers of this country are looking for the facts which determine the serviceability, economy and long life of a tractor.

And they are finding them in the G O type of tractor—the four-wheel, four-cylinder type, towards which the whole industry is tending. There are no tracks or sprockets in the G O Tractor to become filled with sand or to use up power in overcoming friction.

They are finding them in the G O driving mechanism—an exclusive feature which cannot be duplicated or imitated. With the G O friction drive, there is no possibility of stripping gears, because they are always in mesh. The speed of the tractor can be changed while in motion. It can be adjusted to any kind of work either in the field or at the belt—there are six speeds forward and six reverse.

They are finding them in the G O construction—so simple that anyone can keep it running strong and true. Every part is accessible. Every gear is enclosed in dust-proof casings—runs in oil. The driving wheels are independently controlled, making it easy to turn short, plow close to corners or pull out of any hole.

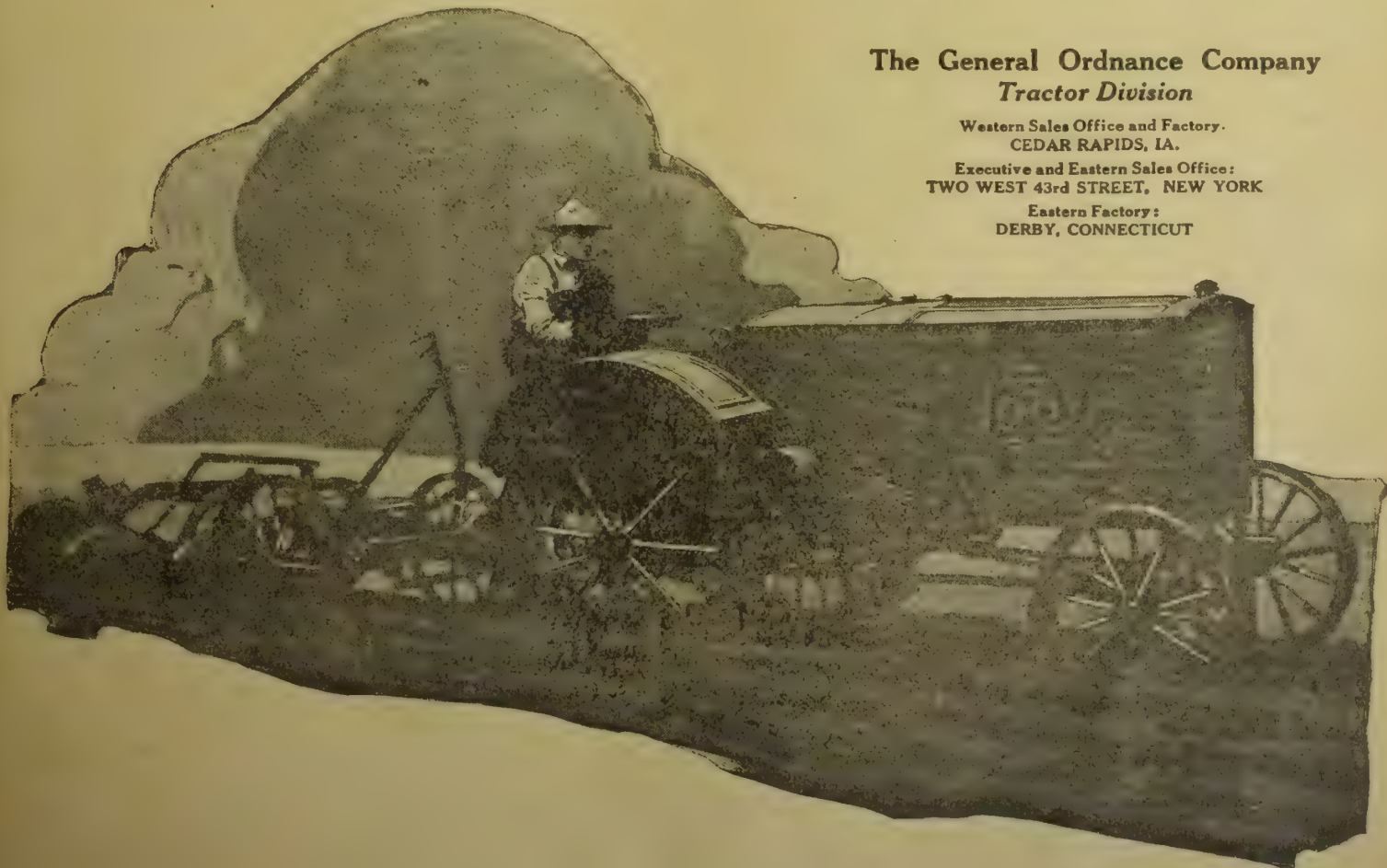
The man of brains, who is looking for more facts—for facts about the company behind the G O Tractor, its resources, its guarantee, and its idea of tractor service—can get them without obligation by addressing any of the offices below.

The General Ordnance Company Tractor Division

Western Sales Office and Factory.
CEDAR RAPIDS, IA.

Executive and Eastern Sales Office:
TWO WEST 43rd STREET, NEW YORK

Eastern Factory:
DERBY, CONNECTICUT





Model A Special Loaded
with 15 cans of milk.

UTILITY

TRAILERS

Large Hauling Profits Made CERTAIN

Employ the excess energy developed by your truck or passenger car and thereby reduce hauling costs 50 per cent or more. Utility Trailers, by right of their superiority in construction and operating efficiency, should be your logical selection of auxiliary hauling units.

CAPACITIES:

2-wheel trailers, 12 sizes, 800 pounds to 1½ tons.

4-wheel trailers, 5 sizes, 1 to 5 tons.

Los Angeles Trailer Company

1328 Palmetto Street, Los Angeles, Cal.



Reproduction from actual photo showing
2-ton UTILITY TRAILER and 3½-ton
truck, carrying an 8-ton load of Egyptian
corn. Operated by the Bannister Grain
Company of Bakersfield, California.

Write for new catalog
"Trailerized Transportation."

Suggestive Agricultural Pointers

(Written for the Pacific Rural Press.)

Rice Growers Need Livestock.

Rice growers must eventually undertake livestock, according to Mr. Adams of the Maxwell Irrigated Farms Co. of Colusa county. This company had about 8,000 acres of rice last year, and made good money turning in 2,000 hogs to clean up the stubble.

Hellebore Safe Poison for Vegetables.

Where chewing insects or worms are attacking vegetables or nearly mature fruits, arsenical poisons are frequently inadvisable. Powdered white hellebore roots are poisonous to insects, but only slightly injurious to man and the powder quickly loses its poisonous qualities. It may be dusted onto the plants with twice its bulk of flour or sprayed wet using ten teaspoonfuls per gallon of water.

Before Borrowing, Paint Your Buildings.

A banker states that the appearance of a man's farm influences him as much as its intrinsic value in the amount of money he will lend on it. That is another way of saying that character is as good security as real estate. Paint is one of the cheapest ways of improving the appearance of buildings. If the house and farm buildings are neatly painted as often as necessary their owner is a better risk than one who lets his buildings deteriorate.

Faster Sugar Beet Digging.

A man and two horses working continuously under average conditions will lift approximately 1½ acres of beets per day. A man with four horses can lift two or two and a half acres per day. The amount of work done can be increased by adding an extra horse. It is chiefly a matter of power. In Monterey county that power is supplied in compact form, conveniently controlled by one man in the form of a motor cultivator delivering five horsepower at the drawbar. The digger is attached to this in place of cultivation implements.

Freight Rates on Grain.

The freight rate on wheat in carloads of 60,000 pounds minimum weight, is 64 cents per 100 pounds from California terminals and intermediate points to Galveston, and 68½ cents to New Orleans, according to G. W. Luce of the Railroad Administration. The rate on whole barley in carloads to Galveston and New Orleans is 56 cents per 100 pounds. Carloads must have minimum weight of 80,000 pounds except where cars of smaller capacity are furnished, but not less than 60,000 pounds in any car. This 56-cent rate also applies to whole barley from California points to New York when routed via Southern Pacific, G. H. & S. A., and Morgan line and in connection with the Santa Fe system, thence Mallory line.

Grain Fire Damage Doubled.

To the Editor: Answering your inquiry, we are still collecting data on the damage done by fires in grain fields and on the range. This data will not be ready until next fall, at which time we will get out a statement of the losses sustained in the state this year. The loss of grain has been very large and I think will be at least twice what it was last summer. I investigated a grain fire in Butte county which did \$30,000.00

worth of damage and another grain fire near Byron is reported to have done \$17,000.00 worth of damage. The largest losses were sustained in Glenn, Colusa, Butte, Solano, and Yolo counties. A great deal of efficient work was done by the rural fire organizations of the State, but in spite of their efforts the losses were very high on account of the large amount of inflammable material, dry weather and heavy winds.—M. B. Pratt, Deputy State Forester.

Have Your Scales Tested Free.

To the Editor: I have clipping of your issue of August 16th under the heading of "Have Your Scales Tested." It reads in part as follows: "The State Superintendent of Weights and Measures will have your scales officially tested and sealed at nominal cost." I wish you would kindly correct this statement and advise your readers that the services of this department of every character, whether it be inspection of apparatus, prosecution of complaints, or investigations, are free to the public. This also includes every service of the County Sealer. The payment by any person for any of this service to a Weights and Measures Official constitutes a malfeasance under the Act.—Chas. G. Johnson, State Superintendent Weights and Measures.

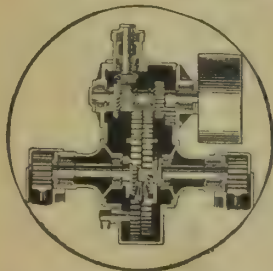
Superphosphate Prices.

A 30 per cent reduction in fall prices of mixed commercial fertilizers was forecasted a while back by the U. S. Department of Agriculture. But the reduction is not materializing on rock phosphate and superphosphate so much as expected. Superphosphate in bags in quantities of 30 tons or more was quoted at \$24 per ton f. o. b. Baltimore, Philadelphia and Cartaret last spring and prices asked for fall trade are \$22.50. Strikes in Florida and Tennessee phosphate mines have reduced production. The Department of Agriculture has notified manufacturers of superphosphate not to advance present prices without submitting specific data on real and unavoidable higher costs of production since June, 1919. California superphosphate fertilizers come largely from the copper mines. Two companies in California are manufacturing this fertilizer and there is plenty to supply all demands. The price is \$25 per ton in bags f. o. b. factory.

Weed War Waging.

Various county horticultural commissioners are getting into the weed war under the State law, by which it becomes their duty to see that noxious weeds are controlled. These overworked officials have not had the time required to enforce with gloved hands the law against weeds and have consequently let it lie in innocuous desuetude. But in Solano County Horticultural Commissioner C. M. Gates has been getting results along the highways. In Tulare county Horticultural Commissioner C. F. Collins has been attacking the Arizona thistle around Porterville through Inspector F. A. Doty. The Southern Pacific infestations have been cleaned up and property owners are co-operating. In Imperial county Horticultural Commissioner F. W. Waite has tried ineffectually to keep out the Johnson grass that comes on cotton seed imported from Arizona. He has asked the Arizonans to delint such seed and has given it a second delinting.

The LAUSON Wins Again



The LAUSON Transmission is fool-proof. Even an inexperienced operator cannot strip the gears. All gears are enclosed in a dust-proof case and operate in bath of oil.

at Delavan, Wisconsin

James Murphy, Manager of 1600-acre Tilden Farms, ordered a LAUSON after watching the operation of 26 tractors in a competitive test.

The LAUSON FULL JEWEL TRACTOR did not make a stop for adjustment of any kind from the crack of the pistol to the finish of the Delavan Demonstration.

The reasons for this performance are evident in its construction—its full jewel movement with 24 roller and ball bearings, its dust-proof construction, its gears running in a bath of oil, and the practical agricultural experience incorporated in its design.

Full details on request.

Distributors for Oregon, California, Arizona and Nevada

DE LAVAL DAIRY SUPPLY CO., 63 Beale St., San Francisco, Cal.

THE JOHN LAUSON MFG. CO.

New Holstein, Wis.

Write for interesting Tractor Bulletin No. 42



SAVE THAT BURR CLOVER SEED.

(Written for Pacific Rural Press.)

There is always a demand for burr clover seed—every fall. It wouldn't take long to scoop up a lot out of the wagon beds and save it instead of shoving it out of the tail gate with your foot and losing it.

Send the kids out to the little flat by the creek or in that corner of your orchard land where the stamps and rocks prevent cultivation. They can rake and sweep up \$10 worth of seed in a morning. Shake the trash out with a six-tined fork and sift out the dust; then sell it to a seedsman. He will pay you for it and will hull and clean it. It's the little things that count. Any of the big seedsmen are in the market for burr clover seed now. In two months from now they probably won't want it. A garden rake and a bass broom, and then let the kiddies have the money.

MUELLER PIPELESS FURNACE

Features That Guarantee Successful Pipeless Heating

TODAY, thousands of families enjoy the comforts of properly heated homes and yet save money on their fuel bills. The Mueller Pipeless Furnace, an achievement of the engineers and heating experts of the Mueller organization, has made possible this greater economy and comfort.

No longer is it necessary to shut off rooms from the rest of the house in winter. You can heat *all* your rooms properly and yet spend $\frac{1}{3}$ to $\frac{1}{2}$ less for fuel than when using stoves.

Note carefully the strong features of the Mueller Pipeless shown on this page. No other pipeless furnace is designed like the Mueller, and no other pipeless furnace therefore operates as efficiently. For the Mueller Pipeless applies the principles of pipeless heating scientifically and correctly. It gives 100% heating efficiency for the fuel consumed.

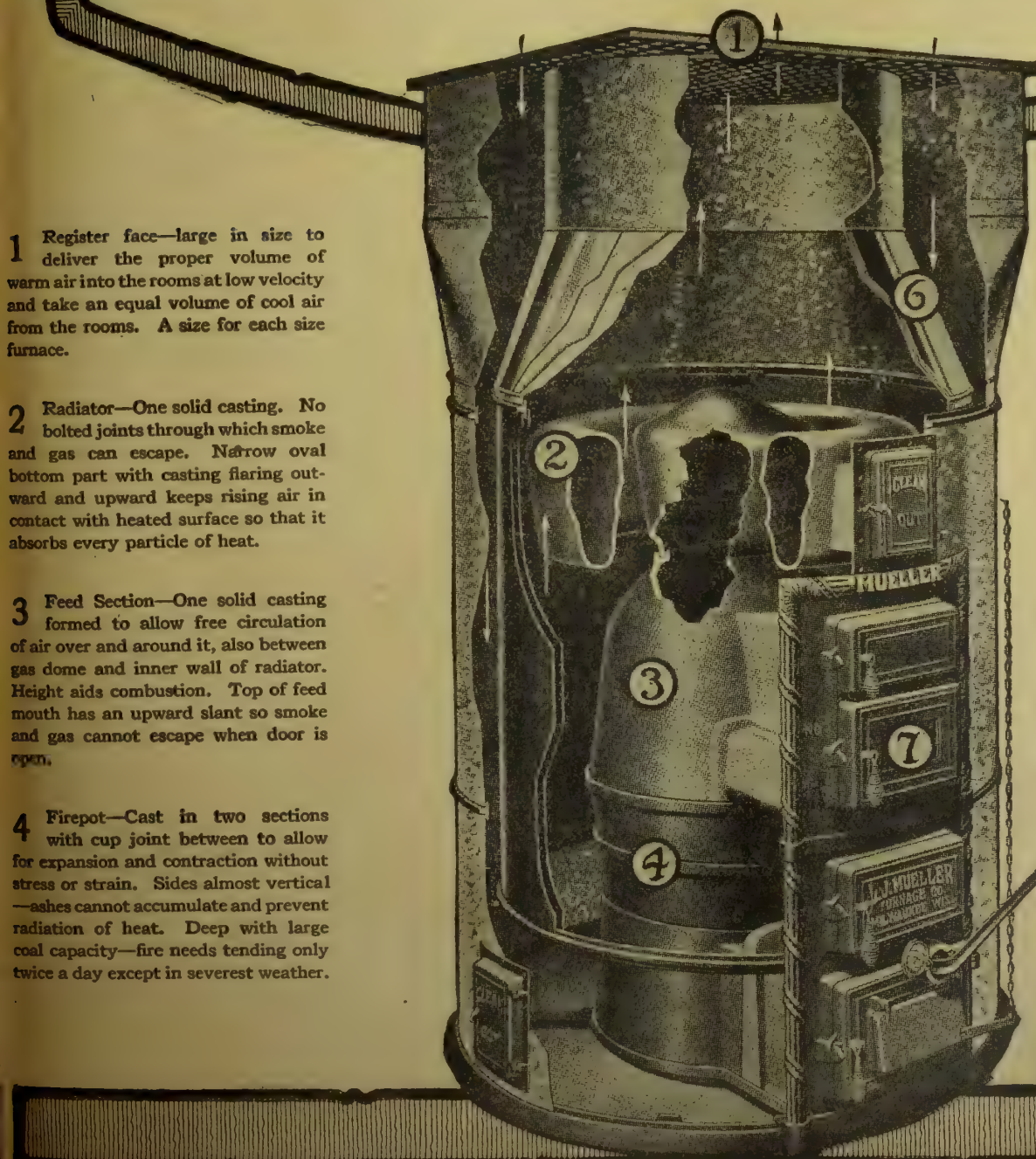
The Mueller Book, "The Modern Method of Heating Your Home" explains the Mueller features in detail. Send for it. Learn just how this remarkable furnace is built at every point, how easy it is to install, how easy to operate. Burns hard or soft coal, coke, wood, lignite, gas or oil. Read some of the letters that have been received, telling of health, comfort and fuel saving.

Get full information in the Mueller book, telling why this remarkable furnace is, beyond all question, the most efficient, economical and dependable you can buy—guaranteed to heat the whole house comfortably.

L. J. Mueller Furnace Co.,

Makers of Heating Systems of All Kinds Since 1857
231 Reed St., Milwaukee, Wis.

Distributors for California:
Holbrook, Merrill & Stetson, San Francisco and
Los Angeles, Cal.
22 other distributing points. Immediate shipment to any part of the country.



1 Register face—large in size to deliver the proper volume of warm air into the rooms at low velocity and take an equal volume of cool air from the rooms. A size for each size furnace.

2 Radiator—One solid casting. No bolted joints through which smoke and gas can escape. Narrow oval bottom part with casting flaring outward and upward keeps rising air in contact with heated surface so that it absorbs every particle of heat.

3 Feed Section—One solid casting formed to allow free circulation of air over and around it, also between gas dome and inner wall of radiator. Height aids combustion. Top of feed mouth has an upward slant so smoke and gas cannot escape when door is open.

4 Firepot—Cast in two sections with cup joint between to allow for expansion and contraction without stress or strain. Sides almost vertical—ashes cannot accumulate and prevent radiation of heat. Deep with large coal capacity—fire needs tending only twice a day except in severest weather.

5 Air passages permit free and unrestricted ascent of warm air and descent of cool air. This is essential as pipeless heating depends for its success on easy air circulation. (Indicated by arrows).

6 Special insulated type of hood and inner casing construction. No escape of warm air into the cool air chamber. Outer casings made of galvanized iron. Inner casing of two sheets of rust resisting iron, substantial and durable.

7 Fire door—fits tight. Stays open when firing. Double door makes bigger openings for large chunks of coal or wood. Cast iron perforated plate on inside of lower door has horizontal slide to admit air and make fire burn well.

**Clip the Coupon
and Mail
it NOW!**

L. J.
Mueller
Furnace Co.
231 Reed Street
Milwaukee, Wis.

Gentlemen:—
Without obligation
on my part, please
send me your free
booklet "The Modern
Method of Heating Your
Home" and name of near-
est dealer who can show me
the Mueller Pipeless Furnace.

Name _____

Postoffice _____

State _____

AGRICULTURAL NOTES

C. C. Morse & Co. report that there is no carry-over of alfalfa seed.

W. V. Shear, well known to potato growers of California, has been appointed to a position in the State Department of Agriculture. He will have charge of the new potato certification law.

The Canadian Government has established commercial grades for potatoes, and is engaged in an educational campaign to extend interest in growing the types which can make the grades.

Public hearings were held in Atwater and Turlock last week to aid the growers in standardization of their sweet potatoes. They must be graded now to conform to the standardization law on fresh fruit.

The San Joaquin County Fair will be held in Stockton, October 6 to 11, inclusive. Ten thousand dollars has been pledged which assures a good fair. The many breeders of premium livestock in the county will show.

The Federal bill apportioning \$50,000 for the stimulation of seed production and seed reporting service has been signed by the President, and California will hold a survey of vegetable and flower seeds as her share.

The Zumwalt ranch, near Williams, and the Parrott Grant rice are declared to be the two best rice fields in the United States, by an executive of the U. S. Grain Corporation, just completing a tour of the rice fields of the country.

The California Bean Growers' Association is securing funds with which to send a committee to Washington to make a fight for a tariff on beans. The tariff will be based on the difference in cost of production between foreign countries and America.

Pension systems of California public utilities for the benefit of employees who have spent their best years in their service, are approved by the Railroad Commission, and the cost is considered a proper charge against operating expenses.

More melons have been shipped out of Madera this season than ever before. One firm, the Arakelian Bros., planted about 1,000 acres on the San Joaquin river and will have sent out by trucks, 12 miles to the railroad, about 100 carloads by the end of the season.


Approximately 300,000 pounds of potatoes were seized in Seattle recently on the charge of hoarding. There were also in storage 490,000 pounds held by Japanese, but these were not touched under the law that allows growers to store their products.

Julius Barnes, Wheat Director, stated before Congress that the average price of wheat to growers paid in July was \$2.20, and in August was \$2.27, or an average of 12c to 15c above the average price during two years of the fair price control, so that the \$1.50 fear was ungrounded.

A shipment of dehydrated products was recently made to the Czechoslovak Army in Siberia by the El. Clemens Horst Company, saving in transportation cost \$20,000 over the ordinary canned food. The plant near Sacramento is now filling a government order to be used for experimental purposes by the Department of Agriculture.


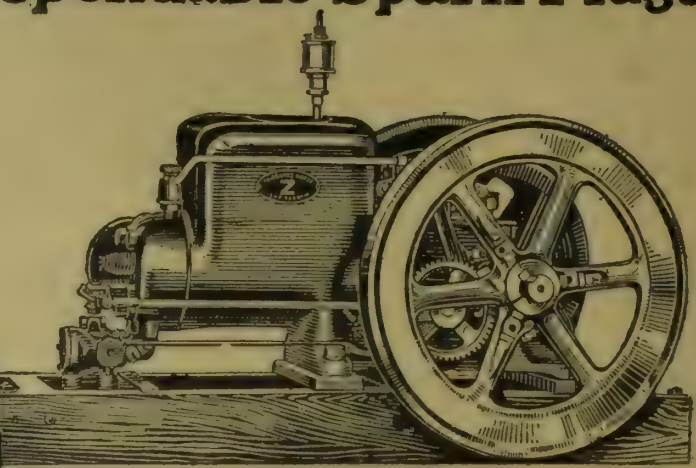
The Louisiana Farmers' Association has figured the cost of cotton production on a 40-acre field, including land rent, mule rent, feed, man labor, fertilizer, seed, etc., at \$2,067. This makes \$51.67 per acre or 32 cents per pound, which indicates an average yield of 161 pounds of lint per acre.

From a little over 14,000 acres more than 118,000,000 cantaloupes were obtained in the Imperial Valley, or one for every man, woman and child in America. Two and one-half million crates were required and 7,830 cars to move the crop. The net return to growers was \$1,710,072. From 800 acres of watermelons over 13,000 tons of melons were taken which netted growers \$66,240 or \$82 an acre.



Champion

Dependable Spark Plugs

**Are Equipment on All
Fairbanks-Morse "Z" Engines**

FAIRBANKS-MORSE famous "Z" kerosene engines for the farm are now equipped with Champion Dependable Spark Plugs.

These sturdy, economical engines are making work easier for more than 250,000 farmers. Ranging in size from 1½ horsepower to 15 horsepower, they are adapted to countless power jobs. They run cream separators, milking machines and washers. They operate electric light plants and water systems. There is hardly a power need that is not met fully and capably by one of the reliable Fairbanks-Morse "Z" kerosene engines.

Fairbanks Morse "Z" engines hold an enviable reputation for performance, economy and quality. The choice of Champion Dependable Spark Plugs as standard equipment for this line of engines, means still another important step in insuring their satisfactory operation under all conditions.

Champion Dependable Spark Plugs have proved their worth in all weather and in all climates on every type of internal combustion engine. Their adoption by Fairbanks-Morse is but one more proof of the high esteem in which they are held.

Champion Spark Plug Company, Toledo, Ohio, U. S. A.
Champion Spark Plug Company, of Canada, Ltd., Windsor, Ontario

Champion AS 14
Price \$1.00

California will be producing over half of the rice yield of the United States in five years and leading all other states, according to a survey made by J. R. Leguenac, chief of the rice division of the U. S. Food Administration. This year's acreage in the Sacramento valley is 140,000, with an estimated yield of 35 sacks to the acre. Our production may exceed that of Texas this year, which will leave us second to Louisiana only. It is estimated that 1,000,000 acres are available for rice planting in the Sacramento valley.

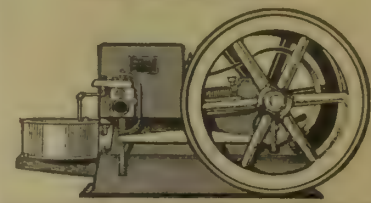
Fifty per cent of the hop crop has been contracted for by France, England, China and Japan. Shipments started last week at the market price of 50c a pound. A higher price is anticipated for those not contracted for, as the demand is strong even in the United States. In the Sacramento valley the crop of 40,000 bales, or 8,000,000 pounds, will be worth \$4,000,000. The yield of the State will be 30,000 bales more, or a total value of \$7,000,000. The acreage around Sacramento of 5,200 acres is a 15 per cent increase over last year, as the demoralization of the 1917 hop market reduced the 1918 acreage. With the prospect of high markets this spring the acreage was increased again. The California crop will be sold in Eng-

WITTE Engines

2 to 30 H. P.
Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

A. H. SIMPSON CO.

129 FREMONT ST.
SAN FRANCISCO, CAL.



land under a Belgium label, as the variety is identical, and the fields of Europe are reduced one-half in acreage. Approximately 7,000 persons are picking hops in the valley, wages being \$5 to \$6 a day.

HAUSER'S ORGANIC FERTILIZERS

BUILT FOR
CALIFORNIA CONDITIONS
Send for Booklet, "Fertilizer Efficiency"
—Tells You Why

HAUSER PACKING CO.
Los Angeles, California

Elephant Grass

(Napier Fodder)

CANES FOR FALL PLANTING
by simple method of sugar-cane propagation. 1000 joints, \$25. 500 joints, \$15. 100 joints at \$5 smallest order filled.

H. L. WAGNER
Descanso, San Diego Co., Calif.

HORTICULTURAL JOTTINGS

In order to make a good showing at the September fair, the Oakdale Fair committee has arranged to place all fresh fruits grown in the district in cold storage until that time.

The Earl Fruit Company is erecting a new packing house. It was erected at a cost of \$10,000 containing everything modern in equipment. The building has been leased to Pope Bros. and Ray Van Buskirk, who will conduct the packing this year.

Labor shortage is reported from Madera, although as high as \$4.75 a day is being paid for pickers of fruit and grapes. It is reported that one vineyard, picking by the tray, has given its pickers a chance to earn \$15 a day in piecework.

Shelter Clark of Anderson (Shasta county) expects five tons of dried prunes from an acre of ground. His trees have never been cut back and the branches arch to the ground with the weight of fruit. He irrigates several times thoroughly during the season.

The old Gridley Cannery has been purchased by Libby, McNeil & Libby, which is to be dismantled and a more modern plant constructed in its place, ready for operation in the season of 1920. Included also in the plans is the building of a number of cottages in which to house cannery employees.

One rancher of district 10, Marysville, is displaying samples of Sellers and Orange cling peaches, which weigh an average of three-quarters of a pound. These peaches were taken from a three-year-old orchard of Yuba county, covering six acres, and netting the owners more than \$5,000.

The Citrus Exchange of Tulare county have made repeated efforts to secure experts from the experiment station at Riverside to conduct investigations into orange culture and have at last been successful, as J. T. Barrett of the station staff will be here soon to take charge of such work.

According to growers in the Sacramento valley, California's almond crop, which represents 98 per cent of the entire American yield will be the greatest in the State's history. The 1919 crop will probably total around 7,000 tons, or twice the volume of the 1915 crop. The value of this year's crop is placed at \$3,000,000.

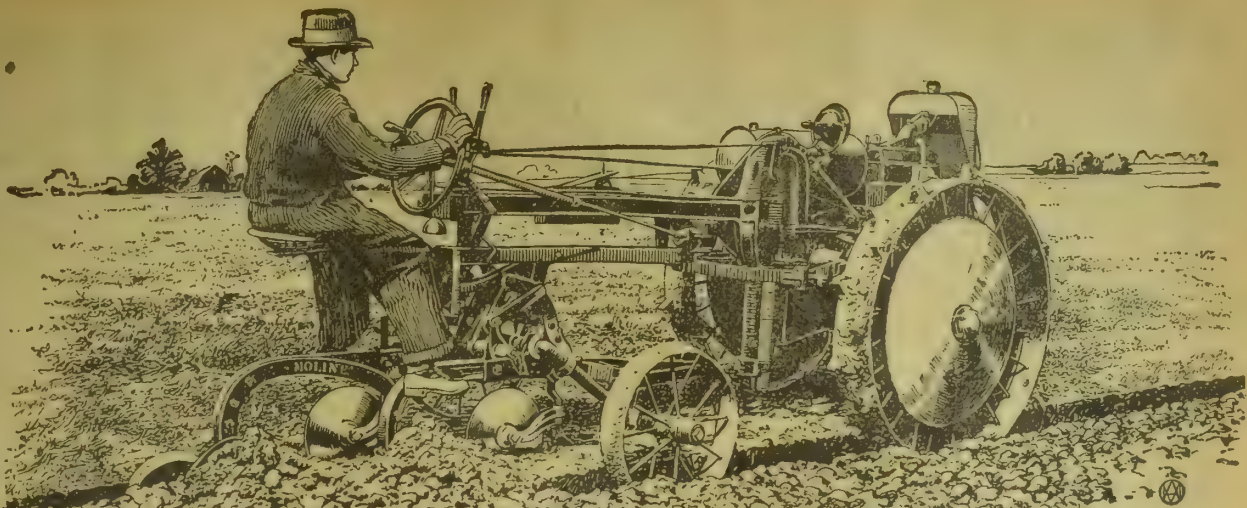
Recent contracts have been made indicating a grape movement of 25,000 cars this year, compared with 16,368 cars last year. This is approximately 300,000 tons, valued at \$37,500,000. It is estimated that probably three times the normal quantity of the table varieties will go East. Grape growers are receiving 25 per cent more for their crop this year than in 1918, prices of the table variety ranging from \$80 to \$150 a ton.

Arrangements have been made through organization channels to handle the large over-run this season in small sizes of clings. A large tonnage of cling peaches will not be accepted by canners, due to the hot weather which prevailed during July. The California Peach Growers, Inc., expects to handle this fruit. It is understood that a market has been provided through which this fruit can be sold to yield a fair profit—dried whole.

In hopes of developing the peach most highly valued by the canners, J. F. Dudley, president of the Silva-Bergthold Nurseries of Newcastle, George A. Lamiman, horticulturalist of the company, and Eugene F. Fowler inspected the local plant of the California Packers Corporation, and visited the most famous orchards of Sutter county, in company with Harry P. Stabler, county horticulturist, and A. L. Hill, superintendent of the cannery.

The Viticultural Division will dry most of the crop from the experimental vineyard in the new evaporator, at Davis, which is now practically ready for operation. However, they will also dry on trays in the sun some of the leading varieties of grapes for comparison. The evaporator is designed closely after the one described by Prof. W. V. Cruess in Bulletin 15 of the State Commission of Viticulture.

Tractor Ad No. 40—399 lines



MOLINE

System of Power Farming

You buy a tractor to make money. The more money a tractor or implement will make for you the more you are willing to pay for it.

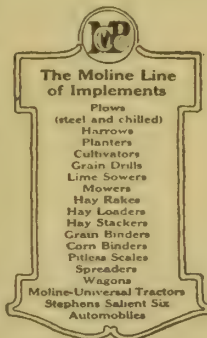
Consider then what a tractor will make for you in dollars and cents—how much man power it saves, how many horses it displaces, and the more and better work it will do. That is the way to buy a tractor—the purchase price alone should not influence you.

When you buy a Moline-Universal Tractor you get one of the finest power plants on wheels. You get a completely equipped tractor, with self starter, electric governor, electric lights, belt pulley, power lift gang plow—everything you need.

You not only buy a quality tractor, but a complete system of power farming. The Moline-Universal enables you to do all farm work including cultivating. One man operates both tractor and implement from the seat of the implement.

Actual figures from over 200 farms in 37 states show that the Moline System of Power farming saves an average of 1½ men and 5 horses per farm.

Figure what such a saving will mean to you. Considered from this point of view the Moline-Universal is the lowest priced tractor made. Thousands of farmers are proving this every day. Write us today for full information. It's free on request.



Moline Plow Company, Moline, Ill.

Atlanta	St. Louis	Stockton	Denver	Minot
New Orleans	Poughkeepsie	Spokane	Kansas City	Sioux Falls
Dallas	Baltimore	Portland	Omaha	Des Moines
Oklahoma City	Los Angeles	Salt Lake City	Minneapolis	Bloomington, Ill.
	Indianapolis	Columbus, Ohio	Jackson, Mich.	

In a recent report from Auburn, Cal., we are told that K. Myamura a Jap, was fined \$50 by Judge Davis for violation of the new standardization law. The Judge, in delivering his verdict, stated in part: "These violations are becoming so flagrant that the fines will be doubled each time you are brought into court. In this way I hope to put a stop to this illegal shipping!" So it reads this way: 1st offence, \$50; second offence, \$100.00; third offence, \$200.00; fourth offence, \$400.00.

The California Packing Corporation displays an excellent cartoon in its house organ this week, depicting a smilingly expectant "world" waiting to be served with their products by attentive canners. It is labelled "Our Job." This is the right spirit and every productive worker, whether he be the harvester, packing house employee, grower, or freight handler, should look upon feeding the world as "Our Job." To deliberately waste a pound of food, with famine as our near neighbor, is not only criminal but suicidal.

A WADE does 10 mens work Saws 25 cords a day!

A money-maker and hard work saver for land clearers and wood-cutting contractors. One man can move it from cut to cut. Simple and reliable. Hundreds in use all over the U. S. When not in use for wood cutting, the 4 H. P. motor will run mills, feed mills, feed cutters, pumps, etc.

"My Wade Saw is cutting wood for less than 3 cents a cord."—F. J. Williams, Burns, Ore.

"I have sawed through five-foot solid oak logs at the rate of one foot a minute."—N. P. Myers, Laramie, Calif.

America must burn more wood for fuel. One Wade will do 10 men's work at one-tenth the cost. Write for free Book, "How Dan Ross cuts 40 cords a day," full details and special price.



4th ANNUAL AND TRACTOR IMPLEMENT DEMONSTRATION

• 1919 •
SEPTEMBER 16th. to 21st. INCLUSIVE

NO
ADMISSION
CHARGES
**FREE
PARKING
SPACE**
GOOD
MEALS ON
GROUNDS

COME ALL!

MELROSE AVENUE

and **CRESCENT AVENUE**

LOS ANGELES

P.E. Cars from Hill Street Station direct to
DEMONSTRATION GROUNDS via Sunset Boulevard
DEMONSTRATION CONTINUOUS DAILY

From 9 to 5 - Exhibits by leading tractor
implement - motor - automobile - oil - accessory
and electrical distributors

TRACTION ENGINE IMPLEMENT DEALERS ASSN. OF SO. CAL.
R.M. O'Neill - Mgr. 112 So. Los Angeles St., Los Angeles Main 655

REMEMBER THE DATES AND BE SURE TO BE THERE

**KILLEFER
EFFICIENCY**



**KILLEFER
QUALITY**

THE KILLEFER MANUFACTURING CO.

**REAL TRACTOR IMPLEMENTS
BUILT FOR WESTERN CONDITIONS**

We will be pleased to see and demonstrate for you
at the big Tractor and Implement Demonstration to
be held at

**Hollywood, Calif.,
September 16 to 21, inclusive**

Our full line of Tractor Implements. Our big tent
will be full of implements, consisting of

**AUTOMATIC LIFT SUBSOILERS,
AUTOMATIC DOUBLE DISCS,
TRACTOR CHISELS and CULTIVATORS,
BEAN and BEET CULTIVATORS,
BEAN CUTTERS,
WEEDERS and MULCHERS,
ALSO TEAM TOOLS.**

Watch for the Big Sign

The Killefer Manufacturing Company

2209-21 SANTA FE AVE.

LOS ANGELES, CAL.

Mechanical Power on the Farm

MORE TRACTOR DEMONSTRATION EXHIBITORS.

Visitors to the Los Angeles tractor implement, truck, trailer, and accessory exhibit and demonstration, September 16 to 21, inclusive, can witness tractors operating hay balers, feed cutters, silo fillers, pumps, bean threshers, grain separators, harvesting machines, and pulling all kinds of tillage implements. They can get all the data they want about tractors and other exhibits from the exhibitors and from ranchers who have used these power farming machines. Men who have such machines will be there to learn the past year's developments. Those who have not yet invested will be there to find out whether power farming will pay them and which machinery pays best. There will be something doing all the time from 8 a. m. to 5 p. m., and dinner may be had on the grounds at city prices.

Among exhibitors additional to those mentioned in last week's issue will be:

The Killefer Manufacturing Company, who will show their Standard Subsoiler, Tractor Chisels, Orchard and Field Cultivators, Automatic Disc, and for the first time at any demonstration their Automatic Subsoiler.

The Samson Sales Company will have on exhibit their new model 30X. This model is equipped with Remy System of Ignition and Lights, Willard storage battery, and electrical controlled governor.

C. L. Best Gas Traction Company will show for the first time their new 60 H. P. Tracklayer; also their small 25 H. P.

The Holt Manufacturing Company will have their usual exhibit of the 40-75 H. P. and 22-45 H. P. with their full line of plows and land levers.

The Avery Company will show the following: 40-80 H. P., 18-36 H. P., 14-28 H. P., 8-16 six-cylinder new model, six-cylinder new model 5-10 H. P., new model cultivator, and the Avery Separator.

The A. F. George Co. will show Yuba tractors in sizes 12-20, 20-35, and 40-70; John Deere Tractor Moldboard and disc plows; John Deere Tractor disc harrows, John Deere packers and pulverizers, manure spreaders, corn binders, ensilage cutters operated by tractor, hay press operated by tractor, feed mill also operated by tractor, and many small tools will be included in this exhibit.

The Los Angeles Auto Tractor Co. will exhibit the Little Bear Tractor, especially adapted for orchard and small ranch work.

The Fageol Truck and Tractor Co. will exhibit their line of trucks and their latest improved tractor with walking wheels.

The Arnott & Company exhibit will include Superior grain drills, Sander's disc plows, Imperial Peg, disc and spring-tooth harrows and plows, Walter A. Wood's harvesting and tillage tools, Farquhar bean and grain threshers, American bean threshers and the Iron Age line manufactured by the American Bateman Manufacturing Company. This will be the first demonstration of the McKay disc plow on the Pacific Coast.

Washburn Bros. will demonstrate the Sandusky Tractor, Model D 10-20 and the Model E 15-35.

The Community Manufacturing Company, which is composed of local business men having a plant in West Alhambra, will offer for the first time at any Tractor Demonstration, the Allen Model A 10-20 Tractor. This tractor is suitable for orchard and ranchers of small acreage.

Smith Bros. will demonstrate the 12-20 Cleveland Track type.

The Douglas Boswell Company will demonstrate the Wallis 18-30 and 30-50 tractors and a full line of J. I. Case Plow Works implements

MOUNTAIN TRUCK LINE POPULAR.

There is a good deal of rough, narrow roadway with steep grades in western Nevada and eastern California. Motor trucking with big loads would seem a perilous undertaking.

A great deal of this territory, however, is served by the Ginocchio Bros.' truck lines, hauling supplies out to the ranches and produce back to Reno and other centers of business.

Four years ago the Railroad Commission granted L. G. Ginocchio a franchise to operate a freight truck between Reno and Gardnerville. His two-ton truck soon became swamped with business, making a round trip of 104 miles each day in seven hours of running time.

The opportunity was seized by Mr. Ginocchio's brother Jack, who bought a truck and got busy. They soon added four more trucks and extended their territory through Mono county, Cal. One of the trips is into the Yosemite Park, high above the Yosemite Valley, at Tioga Pass, reaching an elevation of 10,000 feet and descending over 6,000 feet in eight miles. On this trip, salt is hauled for cattle.

When goods are received, a way bill is made out, showing articles, value, from whom received, address, destination, weight, charges, etc., and space is left for signature of the party receiving the shipment.

Eggs on Air Only.

The Ginocchio boys tried hauling eggs into Reno, but because of rough roads, solid tires, and indifferent packing, so many eggs were broken that this line of business was found unprofitable. However, they put pneumatic tires on one of the trucks at a cost around \$200 per tire. Since then they have hauled eggs without having to pay for breakage. The pneumatic tires not only softened the bumps and made possible an additional \$900 worth of business in three months, but they seem to have been responsible for an increase in gas mileage from the average of 6½ miles per gallon with solid tires to 11 miles per gallon on pneumatics. The increased business more than paid for the tires in three months, during which the tires traveled 3,000 miles and were still but little worn.

ONE ON THE RABBIT.

"You seem to have lost your faith in a rabbit's foot."

"Well," replied Mr. Erastus Pinkley, "I done thought it over. An' de more I thought, de more I couldn't figure that the rabbit wat furnished de foot had been lucky for his ownself."



**Produced Cheapest by
LAYNE & BOWLER PUMPS**

Finest bronze bearings are used throughout in the construction of these pumps. Bearings float in a bath of oil protected from sand and water. No pit needed.

Types to meet all requirements—operate to any depth—capacities from 180 to 4,500 gallons per minute.

Ask for folder No. 25.

Layne & Bowler Corp.

900 Santa Fe Ave., Los Angeles

RAILWAY-AUTOMOBILE ACCIDENTS.

Automobile-railway accidents seem to indicate that the greater number of them are due to misjudging the speed of passenger trains, according to R. J. Clancy, assistant to the General Manager of the Southern Pacific, Western Pacific, and Tidewater Southern railways.

During the first six months of 1919, eighteen people were killed, 81 were injured, and 233 automobiles were damaged in grade crossing accidents. Of the 233 automobiles 111 attempted to cross in front of trains and were hit and 59 ran into trains. Thirty stalled on the crossings. Most of the accidents occurred in daytime. Most of them involved passenger trains.

In some instances drivers of automobiles raced with trains and were either struck on a crossing or ran into the train, evidently failing to realize that the speed of their machines, which seemed greater than that of the trains, was in reality considerably less. They did not consider the fact that a passenger train running at maximum permissible speed on an unrestricted track covers half a mile in three-fifths of a minute. They do not figure on the possibility that something may go wrong with motor or brakes at a tragical moment. They seem to think that they cannot afford to lose that three-fifths of a minute.

MORE WORK DONE WITH TRACTORS.

Forty-eight users of a certain 12-20 horsepower, tractor reported various performances which make interesting averages. The largest farm from which a report was received was 1,200 acres, the smallest was 30 acres and the average was 166.17 acres. Previous to purchasing the tractors the average number of acres plowed per day with horses was 2.44, ranging from one to five acres. With the tractors the average plowed per day was 6.89 acres, ranging from 4½ to ten. Five to fifteen acres had been harrowed per day with horses; but the tractors averaged 18.19 acres per day, ranging from ten to thirty-five.

In plowing with the tractors the average fuel used per acre was 1.9 gallons. With horses the average fuel used had been two or three square feeds per day per head.

OIL FOR DUSTLESS TRACTORS.

With a battery of tractors, whose working parts are completely enclosed from dust and which are equipped with water air-cleaners, an operator whom we know changes the oil about once a week, not because it gets the least bit gritty, but because by that time it wears out and does not have enough body to lubricate properly. Another operator of similar tractors in dusty summer orchard work relates the same experience.

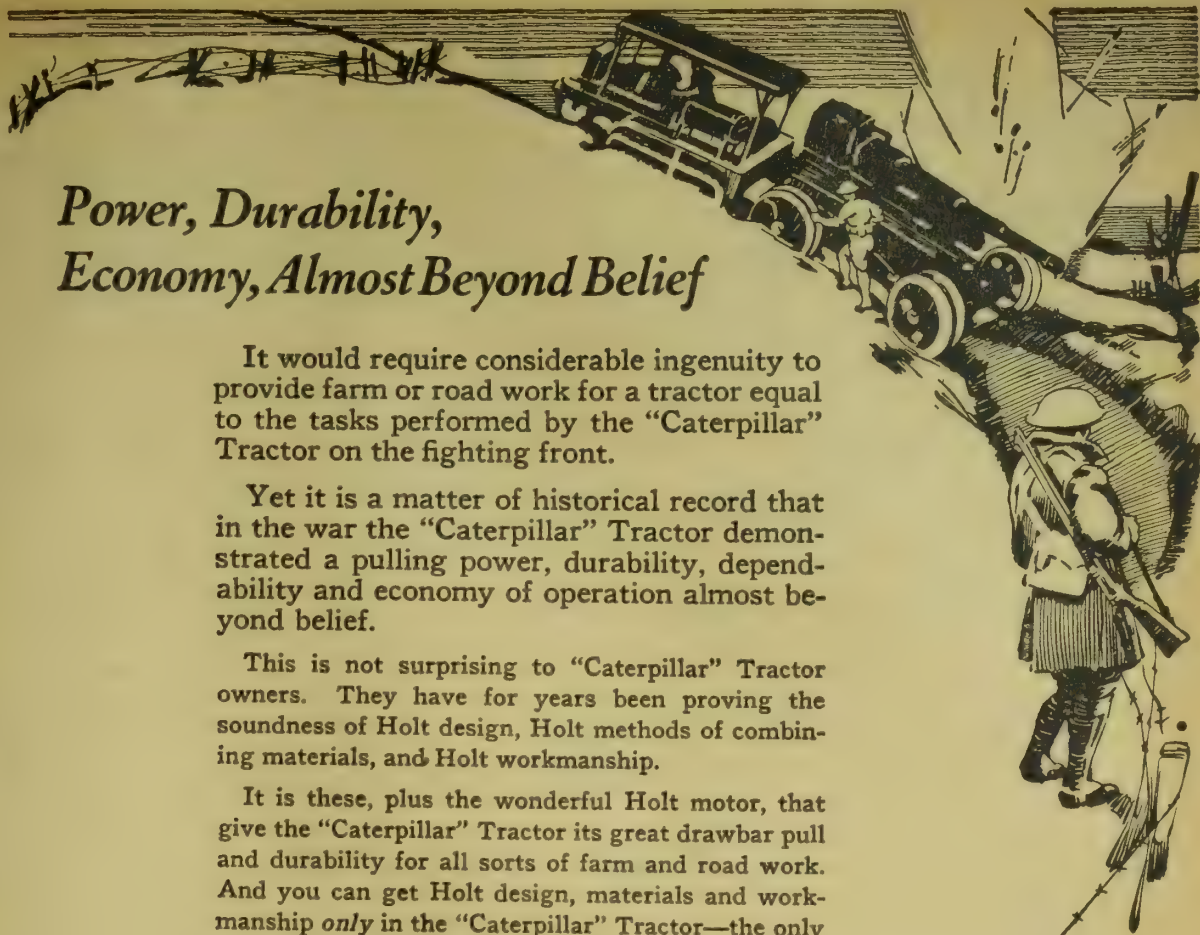
TRACTOR WORKED DAY AND NIGHT.

Purviance Bros. operated an 11-22 tractor two months practically 22 hours per day last winter. Most of the time lost was in oiling up and giving gas. They figure this was much cheaper than hiring all the men and horses that would have been required to do the same job within twice the same number of days.

COMBINED HARVESTER NOT FOR BUNDLES.

A big combined harvester tried to thresh grain put up in bundles with a binder. Its cylinders were too light and turned too slowly, so even the thresherman after a short time admitted that too much grain was going through with the straw. He pulled out and a stationary thresher finished the job.

A tractor operator, whose machine runs two miles per hour at plow speed, thinks he could do much better plowing at 2½ miles per hour, lighten the load, do as much work, and use no more fuel.



Power, Durability, Economy, Almost Beyond Belief

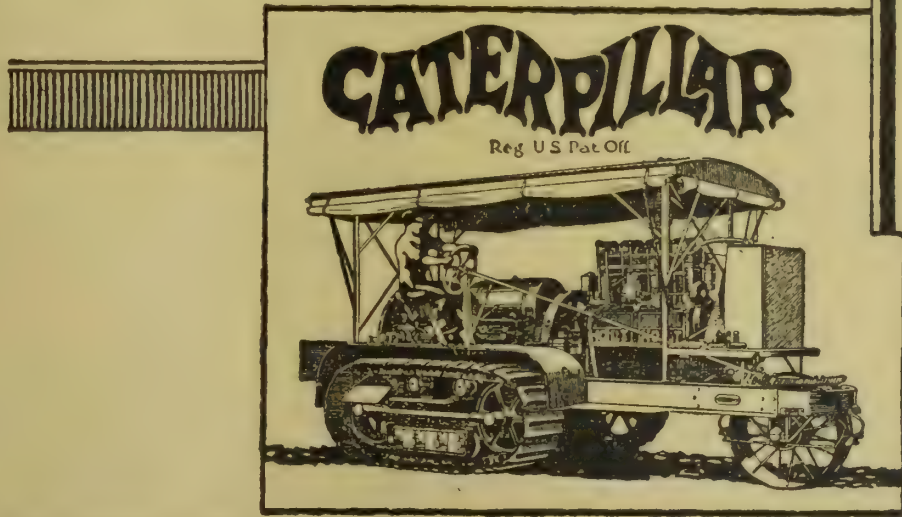
It would require considerable ingenuity to provide farm or road work for a tractor equal to the tasks performed by the "Caterpillar" Tractor on the fighting front.

Yet it is a matter of historical record that in the war the "Caterpillar" Tractor demonstrated a pulling power, durability, dependability and economy of operation almost beyond belief.

This is not surprising to "Caterpillar" Tractor owners. They have for years been proving the soundness of Holt design, Holt methods of combining materials, and Holt workmanship.

It is these, plus the wonderful Holt motor, that give the "Caterpillar" Tractor its great drawbar pull and durability for all sorts of farm and road work. And you can get Holt design, materials and workmanship *only* in the "Caterpillar" Tractor—the only tractor of the track-type used by the Allies in the great war—chosen and proved by severe and prolonged tests.

Get your "Caterpillar" Tractor now. Send for Catalog 403.



Pack Your Wheat Against Winter Killing



Not only is it necessary for you to have a perfectly prepared seed bed for your wheat for insuring the biggest yield, but you should pack it well against winter killing with this new light draft roller-bearing

Brillion King Team or Tractor Pulverizer

Just the kind of implement agricultural experiment stations have specified for mulching top soil for quicker seed sprouting and growth of young plant, and for packing the undersoil for holding the proper moisture for the most rapid future growth of plant and greatest possible crop yield. Strong durable. Price reasonable.

AT ALL JOHN DEERE DEALERS



IDLE LAND Have You 80 to 5,000 Acres That Need Development in Western States?

We design and construct gravity irrigation systems, pumping plants, grading, buildings, or whatever is necessary to make your ranch a producing property. FIRST MORTGAGES taken in payment when desired.

Act Now for a Crop Next Year

RANCH DEVELOPMENT CO.,
435 E. W. Hellman Bldg.,

ENGINEERS & CONTRACTORS.
Los Angeles, California.

SAY MISTER

Give Me a Job,
Will You?

If we can show you where you can use to advantage a good husky "hand" on your farm and supply the proper help at a cost to you far below any thing you have ever paid out for help, isn't it worth while?

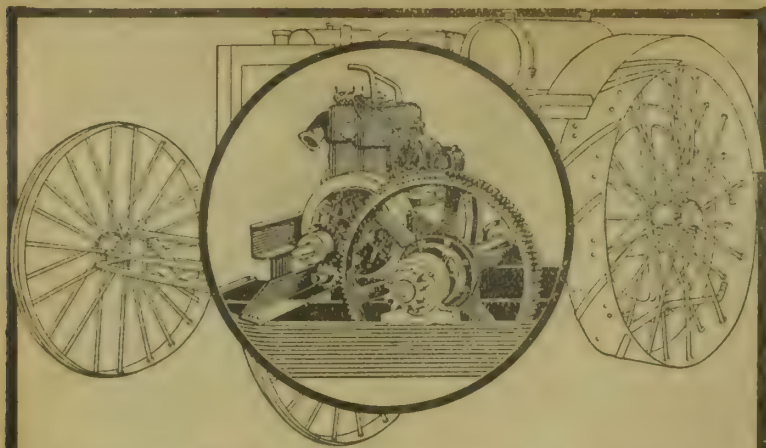


The Fuller & Johnson Farm Pump Engine

is the Iron Hired Hand for your farm. His main stunt is pumping water for your thirsty cattle, but you can also use him to run the grindstone, the separator, churn, wash machine, etc. He comes ready to go to work. He eats only when he works and at a very low cost. He has found jobs all over the world and his bosses wouldn't think of letting him go. You've got the job, give him a chance.

Write today for descriptive booklet and name of nearest dealer. Address your letter Department A, Pacific Pump & Supply Co., 851-853 Folsom St., S. F.

Grain feeds should be scattered in a deep, fresh litter, so as to induce exercise. This is very important.



Direct Drive Conserves Power in

12 H. P. on
Draw-Bar

25 H. P. on
Belt Pulley

THE
HUBER
Light Four

Draws three
bottoms

Turns an acre
an hour

TRACTOR economy and tractor power depend largely on the proportion of the power developed by the motor that is delivered to the draw-bar.

In simplicity and economy the direct spur gear drive of the Huber Light Four is unequalled. There are no bevel gears—simply a friction clutch and spur gear reduction to the driving wheels.

Other reasons why the Huber develops such large power in proportion to its weight are: the high wheels roll easier and afford a larger area of "traction grip"; center draft conserves power by avoiding "side pull"; high-grade extra strong materials reduce weight.

These features are the result of 20 years' development. They are behind the Huber reliability that has created thousands of satisfied Huber owners.

Write for "The Tractor in the Making". It tells the interesting history of tractor development.

THE HUBER MFG. CO., Marion, Ohio

THE HUBER TRACTOR SALES CO.

1012-14 So. Los Angeles St.

Los Angeles, Cal.

Some good territory is still available for live dealers.

Weight 5,000 pounds; pulls three 14" bottom plows; 12 h. p. delivered to the draw-bar; 25 h. p. at the belt; Waukesha, four-cylinder motor; Perfect Radiator; Hyatt Roller Bearings; burns gasoline, kerosene or distillate; center draft; two speeds, 2½ and 4 miles per hour.

WANTED

100,000 WIDEAWAKE FARMERS AND RANCHERS

To Attend the Free Tractor Educational Exhibit
Conducted at the Los Angeles Tractor Demonstration,
September 16 to 21.

Under the Auspices of the

NATIONAL AUTOMOBILE SCHOOL

The Following Departments Will Be Completely Represented:

Tractioning Dept.

Auto Repair Dept.

Machine Practice Dept.

Ignition Dept.

Home Lighting Dept.

Vulcanizing Dept.

Blacksmith Dept.

Oxy-Acetylene Welding Dept.

Electric Lighting and Starting Dept.

One entire circus tent devoted exclusively to this interesting educational exhibit. YOU ARE WELCOME!

NATIONAL AUTOMOBILE SCHOOL

(Established 1905)

EIGHTH AND FIGUEROA STREET,

LOS ANGELES, CALIF.

Member Southern California Traction & Implement Dealers Association.

HAVE SOME NICE YOUNG BULLS

Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. E. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.



AUCTIONS THAT PAY

Sell your livestock, farm equipment or real estate at public auction. I can get big prices for you. Have cried successful sales in all parts of the State. Customers always satisfied. Purebred sales a specialty. Write or wire for terms and dates.

COL. ORD L. LEACHMAN, 1111 7th St., Sacramento

Salt Lake City Ram Sale

(Written for Pacific Rural Press.)

Walter Priddy, shepherd for Bullard Bros., Rambouillet breeders of Woodland, does not think that the Salt Lake City ram sale of last week was quite equal to those of past years, either in number sold or prices realized. The dullness is attributed to the railroad strike, which had not been settled at that time.

Bullard topped the Rambouillet offerings in a great yearling for which Charles Kimble of Hanford paid \$1,450. It was freely predicted by many of those present that the same ram last year would have brought \$5,000. The first five stud rams sold for this figure averaged \$700. The highest price per head for a pen of range rams was paid when Whitehead of Del Rio, Texas, paid \$125 each for 26.

The highest average price paid for a pen of crossbreds was realized for a pen of Corriedale-Lincoln yearlings that brought \$80 per head. These were a very strong, firm-bodied lot with splendid fleeces.

James Merritt of Woodland paid \$350 for a Bullard ram and also bought 50 registered Rambouillet

ewes of Wood & Sons of Salim, Mich. Conaway Ranch, C. Harold Hopkins, Mgr., Woodland, bought a pen of six Hampshire imported yearling ewes that stood second at the royal show in England, for \$345 a piece. A very fine bunch. This ranch also purchased 25 Detwiler Hampshire ram lambs at \$45 a head.

Bissell & Brown of Dixon bought 85 Rambouillet yearling ewes, Miller & Lux 20 Rambouillet rams, and Kelleher a bunch of Hampshires.

Bullard Bros. are getting more and more into the registered Rambouillet game, as the tendency is setting strongly that way. They purchased a yearling Rambouillet ram from Wood & Sons of Salim, Mich., for \$850 and another of F. S. King Bros. Co., for \$400. Along with these five top-notch ewe lambs of Wood & Sons for \$102.50.

The top price of the sale was paid for a Hampshire yearling ram that brought \$1,600. Last year the top was \$3,000 paid by Bullard Bros. for a Rambouillet ram of Butterfield breeding, and was cheap at that, as he is a great ram from all view points.

Good Stock Celebration at State Fair

(Written for Pacific Rural Press.)

Just a glimpse of the livestock side of the State Fair indicates a great exhibit, although the railroad strike has prevented some from attending. The Guernsey herds of Edgemoor Farms at Santee, and the Elliott-Brant Ranch, Owensmouth, are missing, which cuts down that show to a great extent.

In the Poland-China classes John M. Bernstein and W. L. Haag & Son of Hanford are among the missing. M. Bassett & Son brought their hogs up from Hanford, 200 miles in trucks.

The Duroc-Jersey men are nearly all present, although some of them came from Southern California. The Diamond Bar Ranch, Spadra, near Pomona, are in the game with 35 head, and the Winsor Ranch of Bonita shipped to their exhibit by boat

from San Diego to San Francisco. The enterprise and determination to get to the Fair of such men as the Bassett's, Gatton and Walker, deserve commendation to say the least. Not but what many of the other breeders would do as well under the circumstances, but these fellows did it.

In the beef classes, as well as fat steers, there is a good showing. Entries are about even between Holsteins and Jerseys, while the Guernseys would have been strong but for the railway strike. Some extra good Ayrshires are also contending.

In the swine classes Durocs, Poland-Chinas, Berkshires and Hampshires are leaders in numbers, with the other breeds showing good individuals. Sheep are in the usual number, but more interest is being shown in them than in the past.

BELT SLIPS OFF VERTICAL PUMP PULLEY.

To the Editor: I am having trouble with the pulley and belt on my deep-well pump. The belt is six inches wide on a pulley seven inches in diameter with a 9½-inch face. When the belt is a little too tight it runs off at the top. When the belt is too loose, it runs off at the bottom. I have been told that if I had a crowned pulley larger in the middle than at the ends, I would not have that trouble.—H. S. A., Parlier.

With a vertical pump you ought to have a crown pulley. Even with it, a poor sort of belting will stretch during the hot day time and consequently sag to where it will drop off the under side of the pulley unless you have a flange on its lower edge.

We would suggest that if you wish to avoid loss of your own time and loss of pump time, the best belt you can buy will prove the cheapest. We believe that such belting will be able to do the work without falling off from a crown pulley.

In ordering the crown pulley be sure to state the size of shaft, or give the name and number of the pump.

Vertical pumps and their engines or motors ought to be on immovable foundations so there can be no relaxing of the belt by lessening of distance between centers of pulleys. It is quite generally accepted that there ought to be one-half inch drop per foot distance between centers of motor pulley and vertical pump pulley.

were so loose you could shake them like bones with your fingers as the operator found after removing the hand-hole plates. Still there was a chance to tighten them by removing shims.

"Work her till noon, and we will try to take up those bearings," said the boss. We did not wait to see what happened, but every hairsbreadth increase in space between the connecting rod bearings and the crankshaft gives several pounds harder blow on the crankshaft every time it turns over on every connecting rod that is loose. In a half-day's work, with such loose connecting rods, it may easily have happened that the bearings were so hammered out of shape and out of place that they could not be tightened with shims. Then the tractor would be laid up until new bearings could be secured or poured or new connecting rods put in. A shim in time saves the crop."

Forest Reserves in California carried 214,312 cattle during the last season and expect to graze even more during the next season. There are 21,156,392 acres of land in the United States Forest Reserves in California of which 118,938,909 acres are unpatented. The Forest Reserves are under control of the U. S. Government which charges from \$1 to \$1.40 per head for the season's grazing. Owners of sheep and cattle paid nearly \$1,750,000 for grazing permits on National Forests of the west during the last fiscal year.

LOOSE CONNECTING RODS.

It was distressful! The little tractor had been run 2½ months in dusty orchard cultivation, and not a working part had been adjusted. Its connecting rods were hammering and

The supreme court at Columbus, Ohio, last week upheld the recent seizure of fifteen tons of pork by the county prosecutor at Columbus in the fight against the high cost of living. This decision permits the sale of the meat to the public at cost.

UP NORTH

JERSEY COWS are adaptable to any climate. Hale in the North—hardy in the South.

Always efficient yielders of the richest quality milk—always dependable and gentle—always a pride to their owner.

JERSEYS

Jerseys consume less feed than any other breed. Every dollar you put into Jersey feed doubles its value in the milk pail. Her milk averages 5.37% butter fat. Butter and cheese made from Jersey Milk is the best obtainable. Let us mail you free some interesting data and information about the Jersey Breed.

The American Jersey Cattle Club
324-A West 23rd Street, New York

DOWN SOUTH

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit Cows. Write for information.

W. J. HACKETT,

Ceres, California

T. B. PURVINE & SONS

PETALUMA, CALIFORNIA.

Breeders of

Registered JERSEYS

Young bull calves for sale. Fine individuals with Register of Merit backing.

RANCHO SANTA MARGUERITA

D. F. Conant, Prop.,

Modesto, Cal.

Register of

MERIT JERSEYS

A limited number of bulls for sale.

FOR LARGE AND ECONOMIC PRODUCTION

Get one of my young Jersey bulls from a high producing dam. They are rich in the blood of Gertie of Glynlyn and Lady Letty Lambert. Occasionally one old enough for service.

A. A. JENKINS, Tulare, Cal.

EASTMONT FARM

Young Jersey bulls from Register of Merit dams with records up to 621.2 lbs. butter fat. Financial King breeding.

GRANT A. BROWN,

500 E. MAIN ST., EL MONTE, CALIF.

THE OTIS HERD

WILLOUGHBY, OHIO.

Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledge the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison,

Santa Rosa Stock Farm, Santa Rosa, Cal.

California Representative.

BLAKE, MOFFITT & TOWNE

Dealers in
37-45 First St., San Francisco
PAPEE Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

THE FIRST DAY AT THE STATE FAIR.

The State Fair this year, has for the first time in its history produced an exhibition worthy of this production. This report only deals with the Agricultural and Horticultural exhibits contained in the great central agricultural building. The exhibits of fruit and produce as shown here have only been equalled at the World's Fair. In this building there is not an exhibit that is unworthy, the competition among the counties being very spirited—every booth having its own individual plan. Yet the whole, viewed from any angle upstairs shows like one great conception. The crowd at the opening day of the week was as great as comfort allowed notwithstanding the fact that the fleet was entering the bay that day. Among the counties that exhibited were Sacramento, Yolo, Kern, Glenn, San Joaquin, Fresno, Calaveras, Solano, San Luis Obispo, Placer, Los Angeles, Tehama, El Dorado, Humboldt, Alameda, Kings and Siskiyou.

The Growers Associations and Packers and Cannerymen had on hand some exhibits in keeping with the rest. Among them were the following: The California Packing Corporation, Rosenberg Bros., the Almond Growers (really a wonderful exhibit illustrative of what can be done with one product—just almonds). The California Raisin Association and the California Peach Growers had both fine booths of merchandise packs as had the Prune and Apricot Growers' Association and the Dairymen's Association.

Libby, McNeill & Libby and the Sperry Flour Co. both had good educational exhibits. The Phoenix Milling Co., Sego Milk and Westroback had fine booths with rest rooms, and Petroleum Products had a school in oils from the well to the bottle. Other educational exhibits were the Iron Canyon Irrigation Project in heroic topographical relief. A gilded topographical map of the Golden State and one of the State Exposition buildings. The State Library had a splendid exhibit, also the Board of Health.

The new Board of Agriculture had the best educational exhibit they have got together yet from the entomological and quarantine point of view.

The plum exhibit of M. Sharp of Vacaville, who has been doing a lot of work in development and experiment attracted much attention. The whole exhibition was the best by far that we have ever had. The new building and excellent stands for every exhibitor has brought forth response even up to the hopes of the Board.

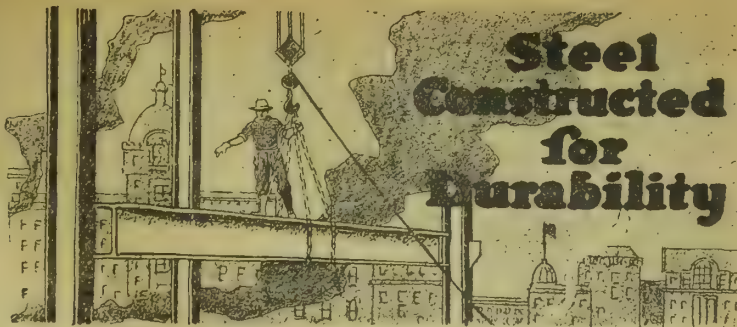
In view of the fact that outside conditions threatened to delay delivery of some exhibits, it is really remarkable that everything was on the grounds on the opening day and most of it in place. The working arrangements as evolved by the Board constitute a fine system of organization where overlapping and confusion are reduced to a minimum. At any rate the public is not distracted with the sight of any directing hand—the machinery is hidden and runs smoothly.

A BIG SHOW IN PROSPECT.

Now that the premium list is out for the California International Livestock Show, to be held at San Francisco, Nov. 1 to 8 inclusive, intending exhibitors may learn the classifications, premiums and rules.

The premiums offered aggregate about \$35,000, besides extra money offered by several of the breed associations. Increases in cash prizes over last year have been made in the beef, dairy, sheep and swine classes. Entries close Oct. 1st. Poultry and rabbits will be specialized under separate superintendents, and the outlook is for big entries.

Last week the directors spent part of a day at the California building on the P. P. I. E. grounds and finally decided upon the erection of a big arena in the eastern part of the exhibit hall—the arena will be about 62x225 feet with a tan bark track. All the rest of the vast room will be given over to stock exhibits, while the old



The ACME Cutter

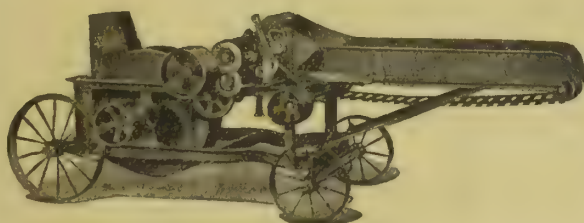
When a piece of steel is set in place, securely riveted and braced as in the frame of the Acme, it "stays put."

The frame cannot "settle" nor the boxes come out of alignment and cause hot barings.

Steel has made it possible to build the Acme lower so that it can easily be controlled while standing on the ground; to set the blower inside the frame, thereby strengthening that important part and to turn out a machine that is more generally efficient in every way and with a lower upkeep cost.

In other words, you will find the Acme to be the sturdiest, strongest built, most durable and dependable ensilage cutter you can buy.

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Combined
Silo Filler,
Hay Chopper
and Alfalfa
Meal Machine



Catalog
and sample
of meal
mailed
free upon
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61 BEALE ST., SAN FRANCISCO.

SEE THE ACME IN THE DE LAVAL EXHIBIT AT STATE FAIR.

DON'T YOU FORGET

That

FINDERNE SOLDENE PONTIAC VALDESSA

The Bull with the Backing

IS THE SON OF FINDERNE SOLDENE HENGVERELD

WORLD'S BUTTER RECORD FOR A HEIFER WITH FIRST CALF.

That she is a sister to Finderne Holingen Payne. Butter in 365 days at 3 years, 1395 lbs. World's Record 3-year-old.

That she is a sister to Finderne Mutual Payne. Butter in 365 days at 27 months, 1200 lbs. World's Record 2-year-old. Will this record ever be equalled?

That she is by a brother to Segis Fayne Johanna. Butter in 7 days, 50.68 lbs. World's Record when made.

That the average seven-day butter records of 5 daughters of her sire, all under 4 years, is 36.43 lbs.

That her sire has three daughters whose average butter record for one year is 1224.66 lbs.

That his dam and his sire's two nearest dams average butter records for seven days is 41.06 lbs. Average for 30 days is 157.53 lbs.

That his dam and his sire's two nearest dams were all World's Record cows.

That his sire is King Valdesa, whose two nearest dams were both World's Record Cows.

Their average butter record for 7 days is 43.03 lbs. Their average butter record for 30 days is 167.9 lbs.

That the names of 10 World's Record Cows and 8 Bulls that have each sired one or more World's Record Cows appear in his pedigree.

That we have his sons and daughters for sale. One to a carload. Also cows and heifers bred to him. 225 head in the herd to select from.

BUTTER IN 7 DAYS, 35.34 LBS. BUTTER IN 30 DAYS, 136.82 LBS.

CAN YOU BEAT IT?

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WATERFORD RD., MODESTO, CALIF.

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YOUNG SERVICE BULL FOR SALE

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Write for pedigree and price. Inspection invited and satisfaction guaranteed.



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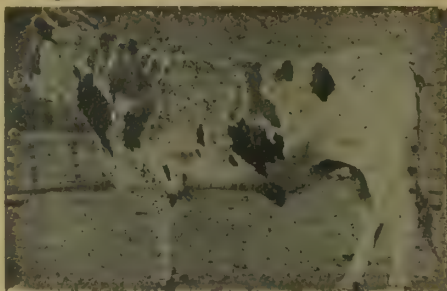
H. CLAY GLOVER CO., Inc.,

118 West 31st Street, New York

hall and reception rooms will house the dairy and allied exhibits. Poultry and rabbits will occupy the spacious galleries. A cafe is to be operated in

the west end of the building while the show is in progress. A horse show with all sorts of attractions will be held each evening.

Large Production and Fine Type



are combined in the get of Prince Riverside Walk. Aagie Acme of Riverside 2nd and Miss Valley Mead De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

**KING KORNDYKE
PONTIAC 20TH**

our young \$6,500 sire, whose great individuality, fine type, and backing of an unbroken line of great producing dams are hard to beat. Come and see the result of this breeding or write us for further particulars.

Our Entire Herd is Tuberculin Tested.

TULARE HOLSTEIN FARM

W. J. HIGDON, Owner

TULARE, CAL.

H. L. REDD, Herdsman

PURE BRED JERSEYS AT PRIVATE SALE

The Jersey has proven the most economical producer of butterfat. Recent sales have demonstrated their popularity. When the Butler sale averaged \$3,367, a record for all breeds was established.

Now is the Time to Get Into Jerseys

My diversity of interests makes it advisable to dispose of my milking herd.

16 Cows and Heifers in milk.

7 fresh in August.

Mostly bred to UNULATA PRINCE 100172.

5 Yearling Heifers, open.

6 Cows are on R.-of-M. test and making splendid records.

The daughters of Undulata Prince are making splendid records at the fall, and are outstanding in the showing. I am retaining this year's crop of calves by him for the foundation of my future herd. At Sacramento in 1917, his get won: 1st prize, get of sire; 1st prize, produce of dam; 1st prize, young herd; 1st prize, calf herd; 1st prize, junior and senior calves and junior and senior yearling in the heifer classes; also junior and reserve grand champion.

In 1918 a daughter was second in the milking contest at Sacramento. His daughters on test are making up to 43 lbs. fat with first calves on ordinary farm care.

This is an opportunity to get into the Jersey business right.

For further information, write or call,

FOR FURTHER INFORMATION, WRITE OR CALL,

E. R. EICHNER,

Selma, Cal.

Important to Dairymen and Stockmen

You will be interested in our demonstration plot of

MILLETS

Pearl Millet
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Biloxi Soy Beans
Golden Millet
*Brown-top Millet
Chinese Millet
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*Napier
Guinea
Cocksfoot
*Fog
Paspalum Dilatatum
Billion Dollar Grass
*Rhodes
Natal
Bromus Enemris
*Merker
Red Top
Perennial Rye
Italian Rye
*Smilo
Teff

SORGHUMS

*Wonder Forage
Japanese Sugar Cane
*Silver Tip Sorghum
Ribbon Cane
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Feterita
White Milo
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Dwarf Milo
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The varieties marked * indicate superiority. Be sure to see them growing on the 1500 block, West Sixteenth street. Send at once for our bulletin describing each one.

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Los Angeles, Calif.

Live Oak Stock Farm

Importers and Breeders of

RED POLLED CATTLE,

SHROPSHIRE, AMERICAN MERINO and RAMBOUILLET SHEEP
FOR SALE:

150 purebred Shropshire rams.

150 American Merino and Rambouillet rams,
yearlings and 2-year-olds.

Also 100 head ewes, ages 2 to 4 years old.

F. A. MECHAM ESTATE

PETALUMA, CAL.

Take electric cars at either Petaluma or Santa Rosa for Live Oak Station.

IS A CALF WORTH 23 CENTS?

For 23 cents per animal you can insure your calves against loss from Blackleg by having them vaccinated with PURITY BLACKLEG AGGRESSIN (Germ-Free Vaccine made by the Kansas process). ONE TREATMENT immunizes calves for LIFE, and there is no danger of introducing blackleg into healthy herds. We also have PURITY ANTI-HOG CHOLERA SERUM, PURITY MIXED VACCINE for swine, and PURITY HEMORRHAGE SEPTICEMIA VACCINES for cattle and for sheep. For service that counts and does not end with selling, write, phone, or wire.

PURITY SERUM CO., J. L. Thatcher, Manager (Successor to Thatcher Serum Co.)
Riverside, Calif. Sacramento, Calif.

Along the Livestock Trail

(Written for Pacific Rural Press by Thos. F. McConnell.)

Picked Up in Southern California.

At Frampton Bros. Artesia, I found a combination of registered Holsteins, corn and alfalfa that would be hard to beat from any angle. The silage and the alfalfa feed the Holsteins and the Holsteins keep up the fertility of the land.

W. D. Millard, mayor of Arcadia, has a winning combination in Holsteins and Berkshires. He formerly raised thoroughbred horses, but finds his new venture more profitable.

Livestock is kept at the George Junior Republic, Chino, to educate and uplift the students, but Mr. Condee, the superintendent, believes it a wise policy to have the best, and registered Holsteins and Durocs are kept.

J. E. Wherrell of Fuimus Farms, Riverside, has only a small herd of Jerseys, but it certainly makes up in quality what it lacks in quantity. The average of 525 pounds of butterfat per year for the entire herd is one to be proud of.

E. R. Stalder of Nuevo Ranch, Riverside, says that by feeding his alfalfa to his registered Holsteins he realizes double what he would if he sold it off the place. Also he keeps fertility at home. Eight good cuttings of alfalfa is the yearly average. The Holstein herd is a great one and contains many cows of excellent breeding and with high records.

The plan of A. E. Harvey, manager of Fairbanks Ranch at Redlands, is to make market hogs of all Hampshires that do not come up to his standard of perfection. A local hotel uses the meat in preference to that of any other breed. Market hogs are kept on alfalfa from weaning time to about six months of age and are fed grain at the rate of 3 pounds to each 100 pounds of live weight. At the end of six months they are put on self-feeders for about 4 weeks when they are ready to turn in weighing from 230 to 250 pounds. Barley, kaffir corn and Indian corn are used for grain.

Geo. L. Lytle of Perris is another Southern California Hampshire breeder who keeps his hogs in excellent condition and has many fine individuals. Self-feeders are used for young stock and market hogs.

Sterling Smith has started a Duroc breeding farm at La Mesa, San Diego county, his idea being to raise hogs among his lemon trees because the lemons are not any too sure a paying proposition. His foundation animals are strong in the blood lines of Orion Cherry King, Pathfinder and the Colonels. This ought to beat the lemon game.

Preston School Sale of Ayrshires.

Ayrshires are fast coming to the front in California. Only a few weeks ago several carloads of very high-class animals were shipped into the state from Canada and the east, part going to found a new herd and part to strengthen a well-established herd.

Up to this time it has been almost impossible to purchase good animals

of the breed here at home, but the announcement is made that the Preston School of Industry, at Ione will disperse its entire herd in a public sale to be held at the State Fair Grounds, Sacramento, September 16. The herd consists of 60 cows, heifers and bulls, and was established with animals selected from some of the best known herds in America. The sale offers an excellent opportunity for the purchase of foundation stock.

Hampshires at Gardena.

Tom M. Bodger of Gardena is one of the wide-awake Hampshire breeders of Southern California, and while his herd is not as large as some, he has by good business methods sold practically everything he has raised himself and all that those of his neighbors who breed registered Hampshires have raised as well. Good business methods and the best of stock account for this.

Mr. Bodger breeds many sows for neighbors who have no boars. He has a special trailer for hauling hogs with floor only a few inches from the ground, which makes it very easy to load the animals. If a patron has a sow he wishes bred he calls up Mr. Bodger, who calls for and returns the sow. By doing this the service fees average about \$35 weekly the year through.

Rough's Greenfields.

It is supposed by many that Poland-Chinas are the only blue-blooded animals raised by W. H. Rough at Arlington Station, Riverside, but he has a great registered Jersey herd in the making. A senior herd sire of Merry Maiden blood and a grand youngster of Financial King breeding from Eastmont Farm, is evidence that Mr. Rough knows what he is doing.

In the swine department the great herd sire, Superba, although 6½ years old, is almost a show boar yet. He has good feet and legs and is very strong and active. His progeny are very much in evidence in the pens and prove him to be as great as a breeder as he was as a show boar.

Falfadale Farm Fancies.

B. H. Wilkinson, manager of the swine department of Falfadale Farm at Perris, recently sold the senior herd sire to Winsor Ranch and had to build a crate 8 feet long, 4 feet high and 30 inches wide to hold him. He weighed 965 pounds and is a sample of the kind of Durocs raised at Falfadale Farm. The boar has sired many excellent gilts that have been retained in the herd. They are of the fashionable type and are busters for size.

This is one of the ranches where all of the feed used is raised and ground at home. The cost is reduced to the minimum and quality is assured. This year 55 acres of milo have been planted to alternate with barley for variety. Tankage is used as a supplement to the grain, and the way hogs grow at this ranch shows that the feeding system is about right.

Another Gentle Bull Gone Bad

Several times we have related instances of the perfectly gentle bull suddenly turning mean and injuring or killing his keeper. The latest report credits two more fractured ribs, a general shaking up, a bad scare, a \$50 doctor bill and other minor items to the "gentle bull."

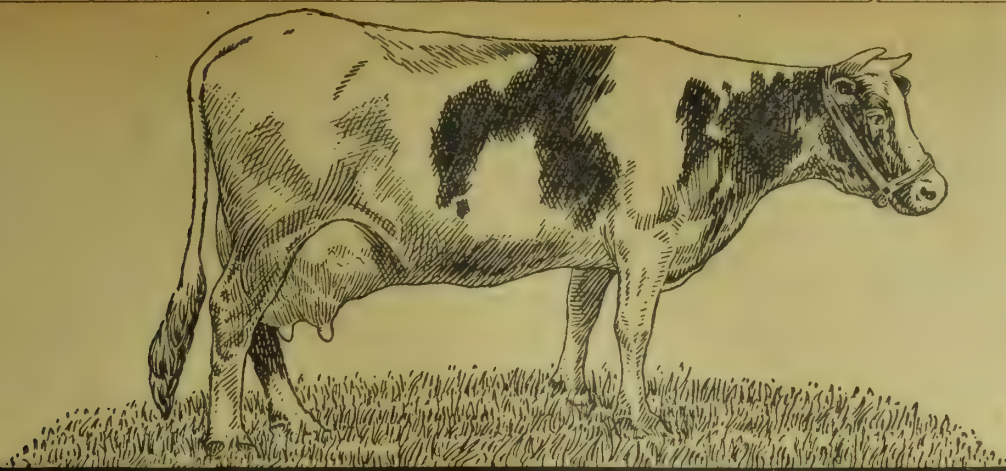
This particular bull heads the Holstein herd of W. J. Erdman. He has been a perfectly nice, gentle, well-behaved bull from the day he was born until June 28th, 1919, said date being in the third year of his life.

Like many other "gentle" bulls, he has been allowed to run at large with the herd. He has been chased around the lot by the boys; in short, he has enjoyed the fullest confidence of a trusting family.

On June 28th, while being driven home with the cows at eventide, bullshy tendencies suddenly became manifest in the gentle creature. Deft-

ly inserting a left horn among the right ribs of Mr. Erdman, he aviated him for a considerable distance. It is not hard to guess what further he would have done to Mr. Erdman, had not the two Erdman boys appeared with pitch forks and sufficient enthusiasm to persuade their trusted bovine to beat it with the cows.

All those among us who have too long trusted some "gentle" bull and lived to tell about it, can sympathize with Mr. Erdman. In his rude awakening we have for him a fellow feeling too strong to permit of even a camouflaged. "I told you so." For to trust our "gentle" bull is human; to trust him further because some impertinent nobody advised against it is also human; and not until the "gentle" bull pitches him toward Kingdom Come will the average man among us agree that bull nature is as inevitable as human nature and a darn sight more sudden.



Feed Her and She'll Feed You

Silos have been a necessity ever since farming and dairying have been regarded as profitable businesses. Yet it has taken years for the farmer to recognize this. During the last few years he has come to know that it is an indispensable asset.

Today he wouldn't be without it. It increases his dairy production, lessens his feed bill and preserves the full food value of his crops. The Simplex Silo has done more toward causing this awakening than any other make. It is more practical and efficient. It is the last word in up-to-date feeding methods and a life-time land mark.

The Simplex Silo

is built of Oregon Pine Clear 2x6 Tongue and Groove Staves running full length the height of the silo. No end joints to leak and cause spoiled silage. With the CRISELL TANGENT TOP, which keeps the silo in a true circle, in conjunction with diagonal cable bracing to the foundation, the SIMPLEX stands in its original shape under all conditions. Doors are heavy, air-tight, two-way type—hinge or lift.

SANTA FE LUMBER COMPANY,
16 California St., San Francisco, Cal.

Please send me folder describing Simplex Silos; also information about Papec Ensilage Cutters.

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The Simplex Silo is guaranteed. Money back if it doesn't meet our claims. Write for additional literature and blue prints. Increase your dairy profits by erecting a Simplex. Write today.

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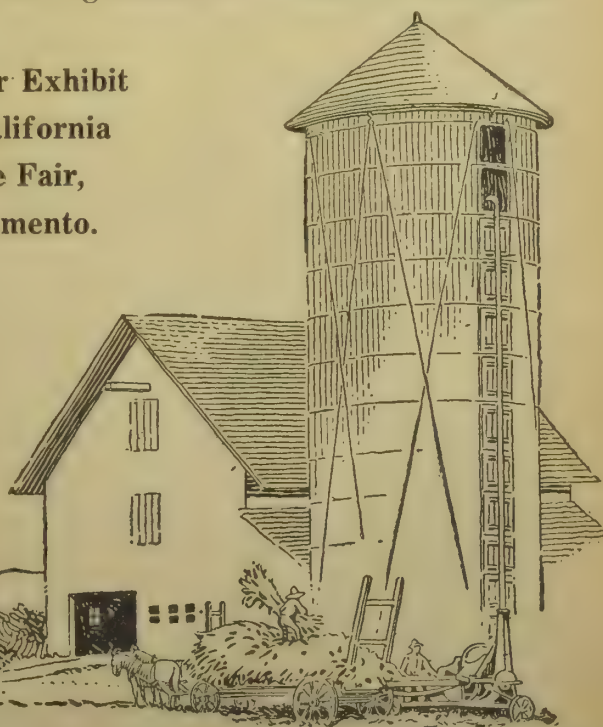
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"PAPEC" construction is simple, compact and rigid. Cutter knives and blower fans are attached to same wheel which revolves at low speed—600 to 700 revolutions per minute. It "throws and blows" evenly cut silage to the top of the highest silo.

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SANTA FE LUMBER CO. San Francisco

Livestock and Dairy Notes

LIVESTOCK SALES DATES.

September 16—Preston School of Industry. Iowa. Dispersal sale of 60 cows, heifers and bulls at State Fair Grounds, Sacramento.

September 17—John M. Bernstein and W. L. Haag & Son, Hanford. Poland-China bred sow sale.

September 18—Henderson Company, Sacramento and Bonita Stock Farm, Woodbridge. 65 Registered Holsteins at Stockton.

September 19—San Joaquin Poland-China Breeders' Association, Lodi. Consignment sale, 60 head.

September 30—Dimmick Bros. and De Raad, Hanford. Disposal sale of Poland-Chinas.

October 4—H. I. Marsh and Les McCracken, Modesto. Poland-China bred sows and gilts.

October 7—M. & A. L. Bassett, J. A. Crawshaw and F. D. Ross, Hanford. 75 head of Poland-Chinas.

October 11—Kings County Poland-China Breeders' Association, Hanford. Consignment sale.

October 16—H. M. Elberg, Roselawn Stock Farms, Woodland. 45 head of Shorthorns.

October 18—Trewitt and Vaughan, Hanford. Poland-China bred sows and gilts.

October 21—Tulare County Poland-China Breeders' Association, Tulare. First consignment sale.

November 6—California Shorthorn Breeders' Association, San Francisco. Consignment sale.

November 7—Pacific Coast Hereford Breeders' Association, San Francisco. Third sale of Herefords.

January 31—Ireland Ranch, Owensmouth. 50 bred Duroc sows and gilts.

February 12—San Joaquin County Poland-China Breeders' Association. 60 bred sows and gilts at Lodi.

February 14—Castleview Ranch, Santa Rosa. Sale of 50 Bred Berkshire sows and gilts.

April 17—Butte City Ranch. Semi-annual sale of Shorthorns, Berkshires, Shropshires and Shetlands at Butte City.

FALL FAIRS AND SHOWS.

September 16-18—Humboldt County Fair, Ferndale.

September 17-20—Antelope Valley Fair, Lancaster.

September 24-27—San Diego County Farm Bureau Fair, San Diego.

September 22-27—Glenn County Fair, Orland.

September 30-October 4—Fresno County Fair, Fresno.

October 2-5—Napa County Fair, Napa.

October 4—Contra Costa County Farm Bureau Fair, Brentwood.

October 4-19—California Industries and Land Show, San Francisco.

October 6-11—Land Show, Martinez.

October 6-11—Tulare Livestock Show, Tulare.

October 7-11—Southern California Fair, Riverside.

October 13-18—Northern California Apple Show, Second Annual, Eureka.

October 15—Kings' County Pork Producers' Contest, Hanford.

October 13-18—Tulare County Fair, Visalia.

October 18-26—Los Angeles Livestock Show.

October 25—Shasta County Farm Bureau Fair, Anderson.

November 1-8—California International Livestock Show, San Francisco.

November 3-7—Western Royal Livestock Show, Spokane.

November 9-14—Northwest Livestock Association, Lewiston.

November 17-22—Pacific International Livestock Exposition, Portland.

The Dairy.

In our issue of Aug. 23 we published the record of Bell Faskie De Kol Withop, a junior two-year-old in the Holstein herd of E. E. Freeman of Modesto, 19.1 lbs. butter, eight months after calving. This should have been 13.1 pounds. The latter record, according to Prof. Woll, is probably the state record for a junior two-year-old eight months after calving.

J. P. Phillips has returned from Minnesota, where he purchased two carloads of Holstein heifers and now has them at his place near Fresno. The stock is of the Pietertje Ormsby strain and Mr. Phillips expects to get the prize money at the Fresno Fair, where they will be shown first.

Swine and Swinememen.

Mrs. Hardy of the Anchorage Farm, Orland, offers a solid silver trophy for the best all-around exhibit from a high school at the coming Orland fair.

Recent sales reported by Harvey M. Berglund of Dixon are as follows: One yearling boar to J. D. Rowe and Son, Davis, to be used as a herd boar; one bred gilt to H. C. Biggs, Dixon.

Young & Clark of Lodi, the well-known Poland China breeders, have a pig out of Bobs Smooth Model and Golden State King that gained 22 pounds in 7 days. This is a very strong smooth gilt and promises to be a wonderful sow. Her dam will be in the Lodi Sale of September 19th.

Entries for the Fourth Annual National Swine Show and Exposition to be held at Des Moines, Iowa, September 29-October 4th, inclusive, close on September 13th. No entries accepted unless mailed on or before closing date. A fee of \$1 per head is charged for each animal exhibited and is due when entries are made.

Robert K. Walker of Winsor has been elected president of the Western Duroc-Jersey Breeders' Association. V. F. Dolcini of Davis will be the association's new vice-president, and S. E. Whiting of Sacramento will be secretary-treasurer. Members of the association are planning for a promotion sale of hogs January 14.

F. C. Dollard of San Francisco, a hustling young man with a love for "the out of door" life is staying with Les McCracken and helping out with his Waukeen Poland-China herd in getting ready for the McCracken-Marsh Poland-China sale at Modesto on October 4th. Mr. Dollard expects to start in the swine raising business for himself in the near future.

Hogs declined heavily in Chicago the past week. The price per cwt. dropping \$3.00 in three days, and on August 29th, the price was \$5.00 lower than the record of July 31. The packers say the decline is due to light buying by the public of high priced fresh meats, and a consequent disinclination on the packers' part to slaughter heavily in face of such a market.

R. J. Merrill & Son, Morgan Hill, proprietors of the Imperial Stock Farm, believe in getting the very best sires possible. A demonstration of this is their purchase at the Carruthers' Farms sale the great sire Live Oak Champion for \$425. This boar will be used on a wonderful bunch of gilts out of their Forest Grove Laurel sow and sired by Winona Champion 13th. These gilts are as good a lot as any found anywhere and pigs from them and Live Oak Champion should be world beaters. The Merrills are certainly coming to the front as Berkshire breeders.

The San Joaquin County Poland China Breeders' Association are a bunch of "live wires" and are leaving nothing undone to make their coming boar and gilt sale of September 19th a success. Individually and collectively everything is being looked after and done. When something comes up that requires the combined efforts of several, provision is made at one of their meetings for its accomplishment by several combining and doing the work rather than depending on hiring it done. Such effort, with the high class of the animals consigned, indicate excellent results at the sale.

Some people never want to do anything except they do it on a large scale, but often the small beginning leads to great success. John Bernstein of Hanford, has gotten a statewide reputation as one of the best Poland-China breeders and it has been accomplished with one great boar, the President, and two or three first class sows like Fruitful Maid. He has always given his customers their money's worth. Of course that seems to be a characteristic of the breeders about Hanford anyway, but John Bernstein is a good example to go by anywhere and means to keep up his own and Hanford's reputation in his more extended operations in the Poland-China business.

Beef Cattle.

We often hear breeders of live manager say, "If I had a whole herd I take them to the fair." They seem to realize that one or two ones in the pink of condition are

HILLCREST STOCK FARM

Shorthorn Cattle

Shropshire Sheep

Merino Sheep

RAMS AND BULLS FOR SALE

Single or in Carload Lots

T. S. GLIDE, - Davis, Calif.



Imported stock from the best blood lines in America.
KIMBLE RAMBOUILLETS

will make money on any farm. Pure bred, large and smooth, with heavy fleece of fine, long staple white wool. Yearling and older rams. Breeding ewes. Any quantity. Prices attractive.

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Breeder and Importer.

ORMONDALE SHORTHORNS

All are heavy boned, and of Scotch and Scotch-topped breeding.

Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED.

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road. We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE ORMONDALE CO. REDWOOD CITY, CAL.
DUROC-JERSEY SWINE E. D. No. 1

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay.

Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.

A few yearling heifers of same breeding.

Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY,

Perkins, Sacramento Co., Cal.

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

One mile east of town.

St. Helena, Calif.

MILKING SHORTHORNS

DISPERSAL SALE

On Account of leaving the State, will sell my entire herd—

15 HEAD COWS, HEIFERS, CALVES, including five year old herd bull
SOLANO DARLINGTON 432818
Sired by Imp. Royal Darlington 391280, whose dam made 11729.5 pounds of milk and was first at London Dairy Show 1911, and out of Glenside Bell, whose dam, Beattie Buttercup, made 11539 pounds milk and was first in Class A at 1909 International. This bull alone is worth price I am asking for the entire herd.

I. T. GROUNDS
RT. K. BOX 221, FRESNO

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.
R. D. "A," Box 437.
Two miles out North First Street.

Registered Holstein Bulls

Highland Head offers bulk of serviceable age from A. R. O. dams. Excellent individuals with world's record; Ormsby Breeding.

H. M. Warden,
San Luis Obispo, California

better than ten of which one or two are real top notchers. A small showing of winning stuff is a better advertisement than a lot that no one notices only to condemn.

The Ormondale Shorthorn Ranch near Redwood City have a great pros-

FOR SALE

29 SHROPSHIRE
68 MERINO

RAMS

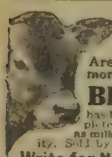
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STANFORD SHEEP

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SAN FRANCISCO, CALIF.



Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1900 as the sum-

pt. milk substitute. Costs less than half as much as milk - prevents scouring - promotes early milk.

See actual figures show how to increase your calf profits.

Write for New Data COULSON CO. - Petaluma

pect for silage, as 30 acres of as nice Indian corn as ever grew anywhere is just ready for harvest and they have been working at it this week. Much of the corn is 15 feet high and well eared. This corn was grown without a drop of water after planting, either rainfall or irrigation, but did have plenty of cultivation and the land on which it is grown is naturally fertile. Such feed fed to Ormondale Short-horns cannot help but produce the high-class stock always found at this great breeding establishment.

The Palo Alto Stock Farm reports the feed on their range as excellent, and their 1100 grade Shorthorns in excellent condition. These cattle while classed as grades are in reality pure breeds, as they are the descendants of an importation of pure Scotch Shorthorns made by Senator Stanford years ago. Nothing but registered Shorthorn bulls have ever been used in the herd. They are, therefore, pure breeds but cannot be sold as such, but the owners have the advantage of having the easy feeding qualities making for very early maturity and uniformity found in such stock.

W. M. Carruthers announces that he is about to move back to his Mayfield ranch and keep it as a permanent breeding and sales farm, retaining the Live Oak farm as a breeding establishment. Stock to be moved include ten of the top cows, 12 of the best heifers, 22 bulls and a great herd of Berkshires, better than any he has had before, which is saying all that it is possible to say in that respect. This will make the Shorthorns much stronger in the Peninsular and coast region close to San Francisco, as there are already the herds of Ormondale, Pacheco Cattle Co., T. T. Miller, and only a little further away the San Julian Rancho of the Dibble Estate, and S. J. Lowe of San Luis Obispo.

Livestock Miscellaneous.

Two Uruguay cattle men are in the U. S. buying purebred cattle to help stock their ranches in South America.

The exportation of wool from Australia to the United States will become possible after June 30, 1920, when the central wool committee, which has controlled the output of the commodity for the British Government, ceases its activities.

Dr. J. P. Iverson, chief of the Bureau of Animal Industry of the State Department of Agriculture, says that stock men need not be worried because of reports of outbreaks of anthrax in Mono county, as the disease situation is well in hand. The situation in Glenn, Colusa, Butte and Sutter counties is not serious and the disease does not appear to have made as serious inroads as it did last year.

CHANGE OF FIRM NAME.

The big irrigation concern of Kellar-Thomason Co., of Los Angeles, originators of the valve system of irrigation, announces a change of name to the Martin Iron Works. Several years ago the management of the company was taken over by Geo. C. Martin, from whom the new concern derives its name.

LIVESTOCK DIRECTORY.

Rate 3½ cents per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

GRAPEWILD FARM BERKSHIRE-Guernseys—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. E. J. Merrill, Morgan Hill, California.

REGISTERED BERKSHIRES—Write E. D. Hume, Dos Palos, California.

GRAND NATIONAL CHAMPION

Baron Duke 201st, 200001

Do you realize this is the only opportunity you have ever had on this Coast to secure the pigs of a Grand National Champion. Duke is breeding them long and thick. He is getting old and may die any time. You are started right if you get his pigs. A very good April boar pig sired by Duke and from a half-sister of Rincónes Rival 2nd, cholera immune. \$35.00. Sandercock Land Co. In charge of Natomas Sales, 23 Montgomery Street, San Francisco, California.

FOR SALE—4 Berkshire sows and 4 boar pigs, three months old, from extra fine registered sows, sired by son of Star Leader, \$25.00 each. Longe & Sons Nevada City, Cal.

LAKE MEADOW RANCH—Top Berkshire gilts Bred right, prices right. Satisfaction guaranteed. Geo. A. Single, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

RIVER GARDEN FARM BERKSHIRES—They are sure to please. E. H. Whiting, Ukiah, Calif.

REAL GOOD BERKSHIRES—Cholera immune. Frank B. Anderson, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Paradise, California. Satisfaction guaranteed.

FIVE MARCH GILTS—Good enough for anyone on earth. Sire, Big-Bone Bob. Dam, Mollie H. Blood lines, I. B. A. Wonder, Lady Wonder, A. A. Quackenbush, West View Ranch, R. F. D. 2, Acampo, Cal.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route 6, Fresno, Cal.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

BIG-TYPE POLAND CHINA BOAR PIGS, from champion boar. Write for prices and particulars. Carstens & Holloway, Madera, Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Rt. 1, Box 39, Watsonville, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Altun, Humboldt County, California.

POLAND-CHINAS—Sows, gilts, and pigs for sale. Giant Buster and President Stock. Prices right. C. G. De Raad, Lemoore, Cal.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

POLAND-CHINAS—Weanling pigs, both sexes. True big type. Blue Valley strain. W. A. Clarke, Madera, Calif.

POLAND CHINAS—A few 4 to 5 mo. boars and gilts of good type and size. J. E. Thomas, Gilroy, Cal.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

ELDERSLEY FARM—Big-type Poland-China hogs and Aberdeen Angus cattle. J. H. Ware, Live Oak, Calif.

POLAND CHINAS. See my boars at Lodi sale. J. E. Steely, Clements, Calif.

BIG-TYPE POLANDS—Spring pigs from prize-winners. J. H. Hansbrough, R. A., Box 22, Modesto, Cal.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old — "A Wonder" bred boar.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

POLAND-CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Nothing this month. Eight spring boar and 5 spring sow pigs to offer during August. All young stock is now immune. At the State Fair this year will show a full exhibit of good ones. Drop in and see them and get some real big type ones. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

ORION MODEL

sired by
ORION CHERRY KING, JR.
the \$3,500 Boar.

Is Making His Mark As a Great Breeder. He heads our herd of up-to-date Durocs. The most popular blood lines are represented in his pedigree—the kind that have laid the foundation for many prize-winning herds.

Choice Spring Boars For Sale. If you are in the market for some outstanding boars, we have them.

F. D. BURR CO. ORLAND, CALIF.

REGISTERED DUROC-JERSEYS—Choice open gilts ready for breeding; also weanling sow pigs. One fine service boar. "Square Deal Ranch," S. K. Helsley, Prop., Ceres, Calif.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

REGISTERED DUROC JERSEYS—Open and bred gilts, August and November boars. Great herd headers. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Dos Palos, Cal.

WE HAVE 100 YOUNG GILTS and boars, bred on the purple, which we are selling for about half their value. Money back if not satisfied. Derryfield Farm, Capital National Bank Bldg., Sacramento.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Ethanac, Calif.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

WE WON MORE MONEY in Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

REGISTERED DUROC JERSEYS—Gilts and weaned pigs of either sex for sale every month in the year. Correspondence invited. Geo. L. Horine, Winton, Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Unedda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

Miscellaneous.

MARCH PIGS—Gilt edge breeding from prize-winning stock. Would trade. P. O. Box 558, Sacramento, Calif.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

DAIRY CATTLE.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckles Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choicely bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal. R. 2.

Jerseys.

SERVICE JERSEY BULL, bull calves, Financial King blood. Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2½ years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEIN bull calves, sired by grandson of King of the Pontiacs Sunnybrook Ranch, Willits, Calif.

A PRICE ON EVERY ANIMAL.

Herd free from tuberculosis. All sales subject to sixty days' retest. Sons of Findern Soldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

Toyon Farms Association.
679 Mills Building San Francisco.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. B. Freeman, Route B, Modesto California.

CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, Box 437, San Jose, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spiers, Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif.—Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Calif., John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED YEARLING SHORTHORN WILLS—Heavy boned, thick-meated. Scotch and Scotch-top/d breeding. Ormondale Co., Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORT-HORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Mintrim, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

SIMON NEWMAN CO., breeders of Registered Hereford. Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch, Esparto, California.

HORSES AND MULES.

PERCHERONS—Registered Stallions, Mares and Fillies; three, four, and five years old. Cora S. Secret, Escalon, Cal.

SHEEP AND GOATS.

PURE-BRED RAMBOUILLET RAMS, large smooth frames, extremely heavy shearers, from the very best strains of this country and France. Immediate delivery from ranch at Ord Bend, Glenn county. P. O. address, Windell Orchards, Glenn, Calif.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

FOR SALE—225 unshorn merino ewes—old but in good, fair condition; price \$6.00 per head. Address Jas. G. Mee, St. Helena, Calif. Phone 60F 141.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale, Shorthorns; Shropshires; Berkshires; Ponies. Next sale April 17, 1920. All breeds.

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?
Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

SAN FRANCISCO



UNEEDA QUEEN MODEL,
Grand Champion State Fair, 1918.

UNEEDA GLENN COUNTY HERD OF Duroc-Jersey Hogs

KEY HERD OF PACIFIC COAST
Won at Sacramento:
Grand Champion Sow, Senior Champion Sow, Junior Champion Boar, seven Firsts, 23 other prizes.

CLASSY STOCK FOR SALE.
40 sows and gilts, many bred to our great eastern boar, Experimental Defender, by old Defender. Also a few choice service boars, and some toppy pigs of King's Col. and Defender breeding. Just the kind you need.

H. P. SLOCUM & SON
WILLOWS, CAL.

Lendorris Ranch Poland - Chinas



GREAT HERD BOARS
YOUNG JUMBO (see picture), the great son of Jumbo Bob; and the sensational young boar, LENDORRIS LIBERTY BOND, a son of Liberty Bond, for whom \$10,000 was refused. Keep your eye on this young epoch-maker.

BRED SOW SALE
With J. M. Bernstein we shall hold a sale September 17, and shall offer 12 head of outstanding gilts, mostly by Young Jumbo, and bred to the great Lendorris Liberty Bond. This is the blood you need to insure your success. Be sure to attend.

W. L. HAAG & SON
Hanford, Calif.

LLANO VISTA HERD Champion Hampshire Swine Pure-bred Prize Winners

You will eventually buy and make big profits. Every animal in our herd is a Champion or their Sires or Dams have been Champions at some of the leading Expositions of the United States. Boars and Sows of all ages for sale at all times.

F. V. GORDON
Owner

PERRIS (Riverside Co.) Calif.



JUDITH—No. 126448
Sire: Calif. Lad, 45021. Dam: Mabel, 113078
F. A. LANGDON
Manager

GREENWOOD DUROCS

You may find as good Durocs as ours elsewhere, but none better. If you are looking for the big-boned, smooth, rangy kind with wolds of quality, heavy flesh and great prolificacy, it will pay you to write to

GREENWOOD FARM

R. F. D. 1
LIVE OAK, SUTTER CO., CAL.

Imperial Stock Farm Berkshires

are the kind you are looking for. We have to offer at the present time some exceptionally good young boars. They have the best of breeding, lots of size for age, and long deep bodies, with high backs.

Write us for price and further particulars.

R. J. MERRILL & SON,

MORGAN HILL, CAL.

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

Is This the Way You Feed Your Hogs?

(Written for Pacific Rural Press.)

Corn is, of course, the basis of most of the pork production in the United States. It will grow in California, but barley can be grown at about one-third the labor cost per 100 pounds yield, for it is harvested in a single operation by the combined harvesters, says Prof. J. I. Thompson, of the University Farm, Davis, in the Poland-China Journal.

Quite naturally then, barley is the basis of our pork production. On irrigated ranches it is becoming quite a common habit to grow a crop of milo maize following a crop of barley. A considerable amount of this latter crop is also grown between rows of young trees, and also on newly broken alfalfa land where barley may grow too rank.

The supplementary feeds used with these two cereals may be skim-milk, tankage, fish meal, linseed meal or coconut meal.

A considerable number of market hogs are grown or fattened on various by-products of the ranches, such as barley or wheat left on the ground after harvesting—and this amount is sometimes very considerable—dried grapes and raisins, spoiled or wormy fruit and "windfalls," beans, rice, beet tops, etc. In fact, I doubt if there is any other area where hogs are used so extensively to salvage so much material which would otherwise be wasted. The first list, however, includes the basic feeds most commonly used in pure-bred herds, except mill by-products, such as wheat and rice middlings.

Each year finds an increasingly greater percentage of the pure-bred hogs running on alfalfa pasture. The long growing season of at least nine

months in most of the hog-growing sections, the enormous yield of at least 7 to 10 tons of this feed on a hay basis, and the high protein and ash content make it an almost ideal hog pasture. The majority of high-class hogs now growing are likely to be found grazing on alfalfa, and receiving a daily ration of barley or milo, with skim-milk or tankage. Such a ration is almost an ideal one for the production of either market or breeding animals.

Some breeders use oats as a part of the ration for breeding animals, but these are not so necessary with barley as with corn, for the greater bulkiness of the barley compared with corn is a reasonable safeguard against an over-supply of carbohydrate material.

Smooth hogs with ample bone to carry them readily, are easier to produce here than in the Cornbelt. In fact hogs with too light bone for their size are the exception.

It would be difficult to secure the same rate of gains here as in the Cornbelt because of a bulkier ration, were it not for the excellent climatic conditions. Fall pigs grow as rapidly as spring pigs, and even in the hottest weather the nights are cool, so that the rate of gain can be just as high here as elsewhere. The barrows shown by this institution at the last International at Chicago were just as heavy for their age as the largest of the entries in the same classes.

Average rations here are about as much too narrow as the average Cornbelt rations are too wide, but this abundance of protein tends to produce a much smoother animal than is produced with an excess of carbohydrate or fat-forming material.

More to Sheep than Wool and Mutton

(Written for Pacific Rural Press.)

The inedible by-products of the sheep are more valuable than those of either the steer or hog, considering their proportion to the carcass, according to Armour & Company.

Sheep pelts, of course, come first in value. This includes the wool, which is valued not only for its fineness, but also for the length. Sheep skin is more generally used in shoes—almost as much as calf. Chamois skins are today entirely made of sheep skin. The leather is used for bookbinding exclusively, for gloves, hatbands, suitcases, and a wide range of other articles.

In wool houses the full length of the wool is saved by taking it out, roots and all, by means of chemicals instead of shearing. This wool is hand sorted, according to length, fineness and color, into more than fifty grades. It is then scoured to remove dirt and grease, after which it is dried, baled and sold as "scoured pulled wool" direct to manufacturers.

In the process of scouring, lanolin is obtained. This is a fatty substance largely used in face creams and ointments because of its soothing effect on the skin.

Musical strings, clock cord and surgical ligature for sewing up wounds, as well as casings for little sausages, are made from the intestines of the sheep. There is no such thing as catgut violin string, that being merely an arbitrary name for the product of the sheep.

Suprarenalin, the active principle of the suprarenal gland, just above the kidney, is extensively used as medicine. More than 130,000 sheep are required to make a pound. Pancreatin, another medicine, is made from the pancreatic gland, and still another from the mammary glands. The thyroid gland (seat of goitre in humans) yields an important medicinal product.

A class of oleo oil is made from the better grade of mutton tallow, and enters into the manufacture of oleomargarine.

Inedible greases are used in soaps. An important by-product of soap-making is glycerine and other explosives and war munitions. The blood, dried and ground, makes calf feed and

fertilizer. Hide trimmings make glue. Bones and other waste make tangale and fertilizer.

RURAL PRESS HELP IS TIMELY.

"A good word for the Pacific Rural Press comes from Mrs. A. J. Beckett of Richland, who said, in substance, "When I came out here to my place and went to work with everything to learn, it seemed that each Press that came along had, just the help I most needed that week."



Do This For Your Hogs

Provide a wallow close to the feeding grounds to which add Dr. Hess Dip and Disinfectant. The DIP will kill the lice and cleanse the skin, and as the hogs pass back and forth from the wallow to the feed trough, the DRIP will destroy the disease germs and the worms that pollute the ground. That will mean a clean, healthy skin, freedom from lice, a safeguard against disease and larger, better porkers. Also sprinkle freely about poultry houses, pens and stables to destroy germs and avoid contagious diseases. An excellent disinfectant for the home.

Dr. HESS & CLARK
Ashland Ohio

DR. HESS DIP and DISINFECTANT

GOOD HOUSING INCREASES HOG PROFITS.

More hogs are grown for market on farms than any other animals, and because of their importance as money-makers one might expect to find them the best housed of all animals. Instead, the opposite is usually the case. Why the hog so often is not properly cared for is hard to say. Perhaps it is due to the old-time notion that "anything is good enough for a hog." Yet there is no animal on the farm which will respond better to good protection and care. There is no animal which requires better protection from the cold; none for which a good bed is more necessary, and none so much in need of sunshine as the little pig. The horse and the cow have good coats of hair and even a calf or a colt when left in the cold is provided with a good fur coat. The hen's feathers are the best of protection against cold, but piggy wiggle has almost nothing between his skin and the weather.

One of the first requisites for success with hogs is proper shelter, and the Jamesway Hog Barn Book, which has just come to our desk, shows that the James Manufacturing Company, so well known for its dairy equipment, has solved the problem. This book of nearly a hundred pages of valuable information contains many illustrations and shows not only ideal hog houses, but proper equipment. The De Laval Separator Company, 61 Beale Street, San Francisco, has the agency for this great line and will be glad to send a copy of the Hog Barn Book upon request.

FRESNO DISTRICT DUROC BREEDERS ORGANIZE.

Fourteen Duroc-Jersey breeders of Fresno and Madera counties, owning more than 500 registered hogs, recently formed the Fresno District Duroc-Jersey Swine Breeders' Association, with J. Walter Schmitz of Madera president; H. E. Spires of Caruthers, vice-president; H. H. Brereton of Sanger, secretary-treasurer, and C. J. McClure of Fresno and Chas. Hubbard of Riverdale, directors.

The purposes of the new organization are to hold public sales of registered stock, to prevent any illegitimate operations or misrepresentations, to combine for discussing the problems peculiar to Duroc breeders, and to encourage the production and purchase of this breed of swine.

The association was organized after a thorough discussion of the subject by prominent bankers and stockmen, including H. C. Carr of the First National Bank of Porterville, T. F. Saunders of the Bank of Italy, B. J. Sheagren of the Bank and Trust Company of Central California, T. E. Osterhaut of the Bank of Madera, J. W. Masten, Fresno county pig club leader, and Allen Thompson and R. C. Sturgeon of the Tulare County Association.

The association has almost unlimited opportunities for breed promotion work. Long may it live and flourish.

PROFITABLE POLANDS AT BERNSTEIN-HAAG SALE.

Why has John M. Bernstein always made such high averages at the Hanford Poland-China sales? Largely because he has consigned daughters of President—the wonderful breeding boar, whose offspring is in such great demand. Mr. Bernstein will offer some of his daughters at the Bernstein-Haag sale to be held at Hanford, Wednesday, September 17; also several of those classy gilts that he brought out from the Corn Belt a few months ago. Many of them will be bred to the sensational boar, The Yankee, Jr., and some to President.

The W. L. Haag & Son offering will include a large number of daughters of the great sire, Young Jumbo, a grandson of Long Jumbo, whose son recently sold for \$18,000. Many of the sows and gilts will be bred to Lendorris Liberty Bond, son of Liberty Bond, for whom \$10,000 was refused.

We are talking in big figures now, and it shows the quality of stock that will be offered at this sale.

Calco products for every farm

CALCO PRODUCTS are made of all metal construction—built of Armco Iron and Cast Iron. Every piece is rigidly made, strong, durable, sanitary—built to give long service.

The Calco Stock Water Trough is made for cattle and horses. Built ready to go on supporting frame. Capacities from 18 to 153 gallons—right prices.

Calco Hog Troughs—for healthy hogs—are made in sizes from 24 to 120 inches in length. Armco Iron and Cast Iron construction throughout. Safe, clean, durable.

Calco Sheep Troughs—are made for sheep, deep troughs in capacities from 51 to 131 gallons. Ready to go on supporting frame.

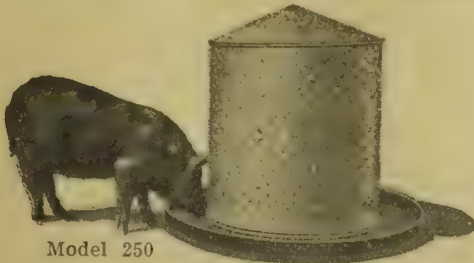
Calco Automatic Hog Watering Fountains give constant supply of fresh water. Clean, durable and give long service. Illustrated Fountain (Stock number 751), diameter 44 inches.

Calco Automatic Hog Grain Feeders are made in capacities from 2 to 14 bushels. Give automatic supply of clean, fresh grain. No waste. Long service.

These products are profit-producing, long service, all-metal farm necessities.

Write for price lists—TODAY

California Corrugated Culvert Co.
LOS ANGELES, BERKELEY
417 Leroy Street 406 Parker Street



Model 250

Calco Automatic Hog Grain Feeder

301-2



Model 200

Calco Stock Watering Trough



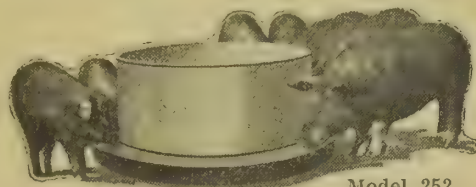
Model 214

Calco Hog Trough



Model 257

Calco Sheep Trough



Model 252

Calco Automatic Hog Watering Fountain

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corkers—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM
W. O. Pearson, Prop. Woodland, Cal.

DUROC JERSEY BOARS
Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.
DONALD H. GRAHAM.
P. O. Box 177, Lancaster, Cal.

California Breeders have sold more than **\$350,000.00** worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
C. L. HUGHES, Sales Manager, Sacramento, Cal.

RHOADES & RHOADES
EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
BEN A. RHOADES, Auctioneer
1501-3-5 So. Main St., Los Angeles, Cal.

Live Stock Queries and Replies

Cows Don't Have Glanders.

To the Editor: We have a cow with hard lumps about as big as your fist in each flank and one in one quarter of her udder. A butcher says it is glanders. Do cattle have glanders?—B. I. G., Tulare.

(Answered by Dr. E. J. Creely, San Francisco.)

Cattle are positively immune from glanders and you need not have any worry on that score. I am quite certain that your cow has tuberculosis and that a test will reveal its presence. You should have her tested at once, and if she reacts and seems to be a carrier, it will pay you to get her out of your herd.

Coconut Meal For Hogs.

To the Editor: Is coconut meal good for hogs, and if so, in what quantity?—E. S. T., Fresno.

(Answered by the Livestock Editor.)

Experiments to determine the value of coconut meal have recently been carried on at the Oregon Agricultural College. It has been tried in varying proportions and other things being equal, it will be found that 75 barley and 25 per cent coconut meal makes an excellent

feed. There are two kinds of coconut meal—home grown and oriental. The latter is low in protein and extremely high in fat, running as high as 40 per cent. Evidently, coconut meal varies considerably, as hogs relish some lots and do not eat other lots readily. If it is necessary to keep a supply of coconut meal for some time put it in a cool dry place, for heat or dampness will make it rancid.

Selling Meat To Neighbors.

To the Editor: Can I butcher my own stock and sell the meat to others without taking a license?—J. T., Modesto.

If you butcher some of your own stock for your own use and have meat left over, you are privileged to sell it to your neighbors without taking out a license. But if you kill several animals at a time, or buy animals outside of your own herd to kill and sell the meat to outsiders, you will then be considered a butcher and will have to secure a license. The laws are so framed as to permit a farmer to sell the meat that he cannot use himself whenever he kills an animal, but not

to allow him to enter into competition with butchers.

Bad Results From Cold In Horse.

To the Editor: When working my horse would get so leg wearied every afternoon that it would be almost impossible to get him to travel, but he would eat fairly well. After a time I stopped working him and in about 24 hours the skin thickened to about twice its normal thickness and the horse lost flesh rapidly, soon being nothing but a rack of bones. His legs swelled to almost double their normal size and his mouth and lips swelled up until he could hardly eat. Please diagnose the case and prescribe treatment.—W. T. Turlock.

(Answered by Dr. E. J. Creely, San Francisco.)

Your horse has purpura hemorrhagica-anasarca, probably caused from a slight cold contracted about 3 weeks previously. It may, however, be caused by any debilitating disease and it is often fatal. For treatment, apply creoline, one part; cottonseed oil, 20 parts to swellings and give one ounce chlorate potash 3 times daily in the drinking water. Subcutaneous injections of Western Laboratories leucocytic extract, once daily, have effected many cures.

Sow Overfed.

To the Editor: One of my brood sows farrowed 12 pigs, but killed 3 at farrowing time. Now the udder is caked and the pigs cannot nurse. What can I do? We have been feeding bran and mill run and dry alfalfa hay.—J. H. C., Corcoran.

(Answered by the Livestock Editor.)

You do not say in what quantities you feed your sow, but evidently she was fed too heavily at farrowing time. A sow should not have anything for from 24 to 48 hours, except a little water with not more than a handful or two of bran in it. After that time you should begin feeding her just a little and not bring her to full feed until 10 days or two weeks after the pigs are born. If a sow is fed heavily from the start she will develop more milk than the pigs can take and this will cause such udder troubles as you mention. Cut down on the sow's feed at once and see that she gets laxative feeds, such as bran. Get some camphorated oil or mel' camphor and lard and rub on the udder, massaging as much as the sow will allow. It may be necessary for you to use hot applications first. If possible give the sow some green alfalfa or other green feed instead of the dry alfalfa hay.

PREMIUM LIST FOR LOS ANGELES SHOW READY.

The premium list for the second annual Los Angeles show is convincing proof that the directors are sparing no effort to make the display one that will reflect the very best in every phase of the farm stock industry. The premiums total \$35,000 and every inducement is made to attract breeders of dairy cattle, beef cattle, hogs, sheep, draft horses, saddle horses, mules, jacks, ponies, goats, poultry, pigeons and rabbits.

Entries close September 20. Don't wait until the last minute. Send for a copy of the premium list to C. R. Thomas, manager, Chamber of Commerce, Los Angeles, and get your entries in early.

A carload of wool shipped to Boston through the Farm Bureau Farmers' Union wool pool, has been sold in Boston at 60 cents per pound for the best wool in the lot. The wool was shipped early in July at an advance payment of 30 cents per pound. The amount should net the farmers well over 50c. per pound, which is very good as compared with the 35 or 40 cents that local buyers would have paid.

Premiums aggregating \$42,225, with many silver trophies and other awards in addition are announced for the ninth annual Pacific International Live Stock Exposition, to be held at Portland, November 17 to 22, in a preliminary classification list issued by the secretary.

PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

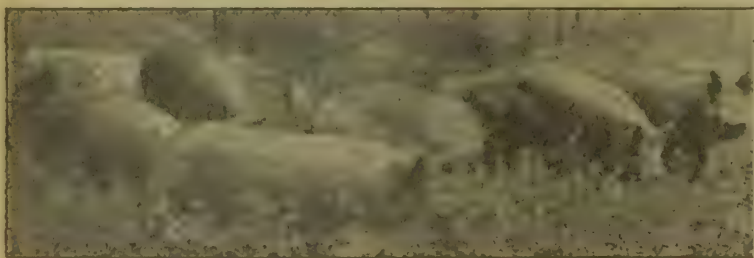
Made and Guaranteed by

Western Meat
Company
SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

BUY BERKSHIRES

Our Anchorage Farm Berkshires are money-makers. They are strong in the blood of our world's reserve champion, Star Leader, and have size, type, quality, vigor and easy-feeding qualities.



BRED GILTS WILL START YOU RIGHT

We offer a choice lot of gilts, like those shown above, bred to the great Star Leader, to his splendid son, Anchorage Leader 2nd, and to our new boar, Champion Value 10th, from the E. J. Barker herd at Thorntown, Ind.

These gilts have good bone, well-sprung ribs, strong backs and heavy hams. They are right in every way, and all ready to go ahead and make money for you. Order quickly. If you want further information, send for free illustrated booklet.

Anchorage Farm

ORLAND,

CALIFORNIA

Every Hog on the Gardiner Ranch is Cholerina Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER
GARDINER'S KING'S COL.
Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH
ROUTE 4, BOX 735. SACRAMENTO, CAL.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

Poultry and Rabbits for Profit

LOOK OUT FOR LIMBERNECK.

Of all summer diseases of poultry, limberneck is one of the most common—especially of farm flocks that are given free range and can pick up food at will. Strictly speaking, limberneck is not a disease, but a symptom of a diseased condition which is characterized by a paralysis of the muscles of the neck.

The bird practically loses all control of the neck muscles, and stands or squats with its neck limp. The crown of the head rests on the ground between the feet, and usually it is impossible for the bird to raise its head from the ground. Sometimes this can be done with great effort, but the head still hangs downward with the neck arched in a peculiar fashion like an inverted U. Occasionally a different symptom will manifest itself and the bird will have a "wry neck," which is a twisting backward of the head and neck upon the body, the head sometimes being turned almost entirely around.

Either condition is due to the absorption of poisons from the intestines, which act upon the nervous system and cause paralysis. The trouble is generally associated with indigestion or intestinal worms, or the eating of moldy grain or putrid meat with farm flocks on free range, most of the attacks are due to the birds getting access to carrion flesh of some type—probably dead animals which have not been burned or buried and have become decomposed. Beef scraps not properly cured may be responsible, and if no other cause can be discovered they should be tested out by scalding a small quantity with boiling water. If it gives off an offensive, putrid odor, the scraps are not fit to feed and should be replaced by a better grade of sweet, wholesome scraps.

When an attack occurs, search carefully for the cause and remove it to prevent further occurrences. Separate the affected birds, keep them warm and quiet, and give each a full dose of purgative medicine—a teaspoon of epsom salts, or a tablespoon of castor oil or olive oil, or medicine you have on hand, that will contract the poison and assist in throwing it off. White of egg, milk or a mucilaginous drink of flaxseed tea are good antidotes for poisoning.

Usually birds will show signs of improvement in from 10 to 24 hours and will be ready to go back to a regular food ration, but feed lightly for a few days. A little thoroughly cooked rice, lightly seasoned with salt, is good to feed at first. Limit the dry grain and beef scraps, and feed liberally of green stuffs.

A cure is impossible in some cases, and if a bird is no better after three or four days it is not advisable to keep it. Use the axe, and either burn the bird or bury it deep.

BUILDING PIGEON HOUSES.

The essentials of a pigeon house are fresh air, dryness, good drainage, sunlight and space enough for the comfort of the pigeons.

A southern or southeastern exposure is best. Care should be taken to construct a house that cannot easily become infested with rats, and it is best to leave space under the house into which cats and dogs can go for rats without being able to get the pigeons. This is usually accomplished by building the house 12 to 24 inches above the ground and boarding up the space between the ground and the floor, but leaving small doors for the cats and dogs. The house should be tightly constructed on all sides to prevent any drafts. While more open and less expensive houses may be built in warm sections the house must be comfortable in cold weather. The squabs produced in winter may be increased somewhat by heating the pigeon house, but this does not pay under average conditions. Sunlight is essential.

Windows should make up about one-tenth of the front of the house

and be so arranged that they can be taken out during the warm weather. One window in each pen may be replaced by muslin curtains for ventilation in cold weather. The windows should be placed just below the eaves to allow the sun to shine well back into the house.

A gable roof building 10 to 15 feet wide, 6 feet from the floor to the eaves, and 8 to 9 feet to the ridge, makes a good pigeon house. A pen 8 by 9 feet will accommodate 25 pairs of pigeons, while 40 pairs may be kept in a pen 8 x 13 feet. The necessary floor space to allow per pair varies from 2½ to 3 square feet, according to the size of the pen, as a pair of birds require less floor space in large than in small pens. From 20 to 75 pairs of pigeons may be kept to a advantage in each pen.

CROP-BOUND TURKEY.

To the Editor: Will you kindly tell me if there is any cure for turkeys with enlarged crop (or crop). It hangs down and greatly hinders locomotion in some cases. I have four young ones so afflicted. Would it require an operation, and would it be safe for a novice to perform it?—Subscriber, Angiola, Calif.

It is evident that these fowls have been "crop-bound," but they did not die for the reason that the crops either stretched and became permanently enlarged, or the interior was ruptured. To remedy this trouble, pluck the feathers from one side of the crop where it joins the body and cut an incision with a blunt-pointed scissors. Cut through both the skin and the inner crop. Cut away quite a piece of the membrane of the inner crop and remove all food and other contents. In sewing up the openings be sure to sew the crop and skin separately. Feed lightly for a week, and when healed remove such threads as are in sight. Cut at the side and not at the bottom of the crop and skin, otherwise the liquids may leak away as fast as the fowl drinks.

FEEDING RABBITS FOR RAPID GROWTH.

We recently heard of a case where a rabbit breeder sold two young Flemish does for \$100. They were only 4 months old but weighed 11½ pounds each. Feed had a great deal to do with this marvelous growth and the ration fed was as follows: Morning, mash consisting of 4 parts beet pulp; 4 parts bran; 1 part alfalfa meal; 1 part barley meal; 1 part water. Evening; whole oats, alfalfa hay, water. Carrots twice a week in the morning. Also occasionally dandelion and celery. To nursing mothers, same ration but extra meal of bread and milk with a little lime water added at noon, and oatmeal substituted for whole oats.

DON'T STOCK UP HEAVILY WITH GRAIN.

We have received several inquiries from poultrymen asking if it is advisable to buy heavily at present. Conditions are rather panicky in feeds and grains of all kinds and no man can tell what the next day may bring forth. Experts are gambling on lower grains and feeds in the near

future. December milo is quoted at \$3.07½ in Los Angeles as against \$3.33¾ at the present time, says the manager of the Tulare Co-operative Poultry Association.

The corn crop in that section is fairly promising. The wheat crop of the state is a record breaker. The price of wheat is fixed and other grains must line up somewhere in proportion to wheat. Long-headed poultrymen are biting light and trying to play safe. They do not think it advisable to stock heavy on feeds at this time.

MARKET FOR "WHITE KING" PIGEONS.

To the Editor: I wish to know where I can get some good mated pairs of "White King" pigeons and the price. I would like also to know if there is a good market for this breed or is some other breed more profitable.—Wayne Henry, King City.

The White King breed of pigeons is popular as squab producers with white skin. Squabs weigh fourteen to sixteen pounds to the dozen, when the parents are properly fed. They are gentle birds and are not inclined to become frightened while attendant is working in the loft. The claim that they are superior for squab breeding is due to their ability to feed the youngsters liberally and to their desirable formation; they are short, blocky, with heavy shoulders, deep across the chest, broad back and very close-fitting plumage. See sale offer of Frank Knolle in Poultry Breeders' Directory, who offers some of these pigeons at a bargain price.

POULTRY ASSOCIATION GROWING.

In the monthly report of the Poultry Producers of California, issued last week, Manager Barber says:

"The amount of eggs handled in July averaged 6325 cases per week, which was 16 per cent less than in June. It was 28 per cent more than we handled last July and 54 per cent more than in July, 1917, showing the growth of the association. The operating expense was 2 per cent less than for the same month last year, though cases and fillers cost 23 per cent more.

"Our receipts during July were 52 per cent of the total California eggs received at San Francisco. There were 2800 cases of Eastern eggs received during the month. Last July our eggs were 41 per cent of the San Francisco receipts, and in July, 1917, only 27 per cent. These comparative figures again show the growth of the association."

NATIONAL EGG DAY AT PETALUMA

The second annual egg day celebration at Petaluma last Saturday was a great success. The city's streets were thronged with residents interested in emphasizing the importance of the occasion, and with thousands of visitors from roundabout poultry ranches and from neighboring cities eager to participate in the unique festivities. There was a grand parade of floats, with chickens, roosters, and displays of poultry implements promi-

nent in the exhibits. The fiesta wound up with an egg barbecue and a dance at Dreamland Rink, where "Queen Marie" presided. Altogether the celebration was a glorious success.

Please discontinue my chicken ad and send me the bill. I have been just swamped with orders.—Mrs. L. A. Benoit, Modesto.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

BOOKING FOR WINTER, SPRING DELIVERY

Most Fall Chicks Already Booked. yet hundreds open most weeks, reduced, in each of seven popular breeds. Clearing customers, \$5 yearly. 200-290 egg strain. Large vigorous winter layers. Half chicks go to former customers. Doubling our 70,000 hatching capacity. Returned thousands of dollars for chicks we couldn't supply. FEW HUNDRED BREEDING HENS, MALES, laying younger pullets, going rapidly—50c to \$2.00 under price. Valuable circular with proof free. J. Beeson, Pasadena, Calif.

THE MISSION HATCHERY

Baby chicks for September and early October—White Leghorns in large lots, R. I. Reds and Plymouth Rocks in smaller quantities. Also booking orders, all breeds, for January-February delivery. The Mission Hatchery, Box 17, Campbell Cal.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hoganized and Trapped stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

BUTTE CITY RANCH

Shorthorns, Shropshires, Berkshires, Ponies, Bronze Turkeys W. P. Rocks. Next sale at ranch April 17, 1920. Stock for sale at all times. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn Co., Calif.

ANDERSON'S PEELESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels \$5 and up, 200 pullets, trios and pens for sale. Hatching eggs, Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

FOR SALE—About 135 pair of pigeons, mostly Carneaux, some white Kings and Homers. All fine stock and in good condition. Must sell on account of leaving. Price, \$1.50 per pair. Address Frank Knolle, Vineburg, Calif.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Improve your color and egg capacity. Wm. Larm, 3915 39th Ave., Fruitvale, Calif.

FEBRUARY BARRED ROCK PULLETS—A few dozen especially good birds from extra large, heavy laying parent stock, for sale at \$2.50 apiece, crated and delivered at station. Also March Leghorn pullets at \$2.00 each Geo. L. Horine, Winton, Calif.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties very week. Only good, strong youngsters shipped. Stubbs Poultry Ranch and Hatchery, Box 87, Palo Alto.

EASTMAN'S BRED TO LAY—Hoganized and trapped Barred Poultry Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

FOR SALE—Thoroughbred S. C. White Leghorn pullets 3 months old, \$1.00 each. Mrs. J. S. Rogers, Chowchilla.

FALL BABY CHICKS — Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. Santa Clara Valley Hatchery, San Jose, Cal.

BARRED PLYMOUTH ROCKS — Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

WRITE FOR SPECIAL PRICES on Fall chicks. Willow Glen Poultry Yards, 10 South Lincoln Ave., San Jose.

FALL BABY CHICKS from our large heavy-laying S. C. White Leghorns. Send for prices. Tupman Poultry Farm, Box 7A, Ceres, Calif.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GEES, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS — The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

WANTED—Fifty Black Minorca pullets one month to 6 weeks old. S. C. Thomson, Concord, Calif.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.



GLOBE "A" FEEDS

- Judge them on Business Principles!

FEED FOR SWINE, STOCK AND POULTRY

ASK YOUR DEALER

THE HOME CIRCLE

IN MEMORIAM.

There is strange quiet along the Marne,

The very trees are still—
(How can the skylarks sing again,
Who have beheld men kill?)—
Though flowers bloom along those banks

Where Life and Death once met,
And Peace returns to bless the fields,
The Dead cannot forget.

Bend, quiet trees above the Marne,
And whisper to the Dead,
That we, who profit by their pain,
Remember how they bled;
And go, ye little singing larks,
Proclaiming to the years
That here we plant their Memory—
And water it with tears.

—Red Cross Magazine.

SOME LITTLE BROWN BEES.

One bright, sunny morning early in spring, when the dandelions were the only flowers out in the grass except a few little white clovers, the Brown twins had a birthday. They were five years old. Now, like all twins, they had their birthdays on the same day every year, so this May morning was a happy one for them both.

What did they get for their birthday? Well, when Father Brown came home at noon he brought two funny little square houses not much bigger than a bird-house, and of course they knew that one was for Billy and one was for Betsy, and they jumped up and down and clapped their hands.

"Oh, what a fine house for my dolls!" cried Betsy.

"And my rabbits shall live right next door in the other house," added Billy.

"But look at the tiny little door," said Father Brown. "Surely it's not big enough for a doll or a rabbit." Sure enough it wasn't; they could see that as they looked closer.

"The little families have already moved in, children," said Father Brown; "these houses are not for rent." Then, of course, Billy Brown wanted to open the door at once.

"Look out, Billy," cried Father, but not quite in time, for out flew—guess what—why, a little brown bee. Billy tried to catch it and put it back, but he let go very quickly and put his finger in his mouth. Away he ran to Mother Brown, and when she looked at it she said, "Mother's boy is so sweet the bees are trying to get honey out of his little finger." Then both the twins laughed, but they stayed away from the beehives and played on the front porch till Father came home from work once more.

That evening after tea Father Brown took the two little houses away up in the back yard by the fence

and put each one up on a short pole, Billy's one on side of the garden path and Betsy's on the other. Then when it grew too dark to see any more, Father Brown took a twin on each knee and told them all about the little brown bees which had come to keep house in the back yard.

He told them that if they gave the little bees plenty of room they would never bother them again, but work busily all day long, gathering honey from the flowers for them all.

The next morning the little doors were hardly opened before the bees were flying out and in from dandelion to clover and back again to the hive, loaded down with honey.

Billy and Betsy loved to sit off a little way and watch then at their work. As the flowers began to bloom in the garden the bees were happy as they could be, and came back every time with all the honey they could carry. Every little bee was busy, for there are very few lazy bees.

One morning while Betsy and her doll were watching the bees and making dandelion chains, they saw two of the bees fly out of the hive and over the fence into Mrs. Johnson's yard. They were very sorry to see this, for Betsy had been told not to go over into Mrs. Johnson's yard and pick flowers, and she knew it must be just as bad to go and get honey there unless Mrs. Johnson said they might.

At last she thought what she would do. She went over to Mrs. Johnson's front door and knocked, then she waited. Mrs. Johnson was out in the kitchen baking cookies, so she had to knock again. When Mrs. Johnson came to the door, she said, "Hello, little neighbor, come right in." In walked Betsy, and she kept on going way through to the kitchen. I guess she smelled the cookies, don't you?

"Please, Mrs. Johnson," she said, "may our bees come over in your yard for honey? I thought perhaps you wouldn't care, for you have no little bees of your own. Our bees never step heavy on anything, and they never pick any flowers; all they want is just the honey."

Mrs. Johnson had no little girls of her own, and she was very glad to see Betsy, and she gave her cookies for herself, one for Billy, and one for the doll, then she said, "Little Betsy, of course your bees may come over in my garden and get honey, and you may tell them that way over by the fence the sweet peas will soon be in bloom, and they will be full of honey."

Betsy sat on the doorstep until she had eaten her own cookie and the doll's, too, and then she ran home with Billy's for fear she might forget and eat that.

After the bees had been working for a great many days Father Brown opened the hives, and he found so



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much honey that they couldn't use it all. So they took three of the little square boxes of it over to Mrs. Johnson's. Once more Betsy knocked at Mrs. Johnson's door, and this time Mrs. Johnson opened it right away. "Just look what our bees made for

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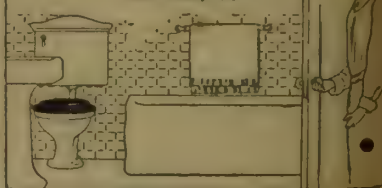
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you, Mrs. Johnson," cried both the twins at once. "They made it out of your own flowers," Mrs. Johnson said she never could have gathered her

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honey for herself, and she sent a "thank you" back to the little brown bees.—Gertrude Davenport, in the Kindergarten Review.

CANNING PIMENTOS.

Only ripe, sound peppers free from bruises should be used. Can the whole peppers. The small or broken ones may be cut into strips and canned or used in relishes, sauces and soup mixtures.

Remove the seeds with a slender paring knife by cutting around the stem and taking out the inside partitions. To peel, roast the peppers in a hot oven from 6 to 10 minutes or until the skin blisters and cracks. Do not allow them to scorch. Remove skin with a sharp paring knife, flatten the peppers and pack in layers in a jar which has been boiled 15 minutes. No water or seasoning is used in the canning. The processing in the jar brings out a thick liquor which almost covers them.

Put in place the rubber and top which have been boiled. If a screw-top cover is used, screw about half way on; if a glass top with wire bails, put top bail in position and have the lower clamp unfastened. Place jars on the false bottom in a water-bath canner. If the cover of the vessel in which the processing is done is not tight, water sufficient to cover the jars should be put in. Boil pint jars for 30 minutes, invert to test for leaks and, when cool, store in a cool, dark, dry place.

When a steam-pressure canner is used, process pints 10 minutes under an eight-pound steam pressure.

FASHION NOTES.

Hair nets made of fine invisible silky strands of human hair may be purchased in every shade to match every color hair. They are wonderfully helpful in keeping the hair from being badly blown when out in the air.

The newest styles in wedding rings are in delicately chased designs in either gold or platinum. Decorated wedding rings are supplanting in favor the plain gold band.

Small turbans are quite extensively worn. They fit the head very snugly and have very little trimming.

White ruffled muslin curtains are coming into fashion again and are especially good with draperies of chintz or flowered linen.

Skirts are certainly growing fuller, although the straight line silhouette retains its popularity.

Tailored hats of duvetyne are being shown for fall wear.

The new fall suits have a strong tendency to narrow shoulders and tight sleeves.

CANNING MIXED VEGETABLES.

Mixed vegetables are attractive and economical in salads, omelets, escalloped dishes and to use as garnishes for meat dishes. If the small quantities left from packing different vegetables whole are placed in one can, many desirable combinations can be made. A good combination is young carrots, peas, string beans and young onions. Another is peppers, celery, onions and small lima beans. Do not use beets in such combinations, because they will discolor the mixture.

All the vegetables are prepared separately as for canning and packed in layers in a well-boiled jar. Each layer should be packed as tightly as possible before the next is added. Fill jars with a brine. Put on boiled top and rubber. Process in water-bath canner either 120 minutes one day or one hour on three successive days, or 35 minutes in steam-pressure cooker under 15 pounds pressure.

If the bottle baby is to thrive and be healthy, the nursing bottles must be kept scrupulously clean and sweet. To accomplish this, they should be rinsed with cold water and allowed to stand filled with water. Before filling with milk, they should be thoroughly washed with a bottle brush and hot water and then sterilized for twenty minutes in boiling water. This treatment should be repeated each time the bottle is used.

When using egg whites to cover croquettes that are to be dipped in bread crumbs, beat the white only

until it is broken, not until it is frothy, and add one tablespoonful of water for each egg.



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225 Market Street

San Francisco, Calif.



SAN FRANCISCO.

San Francisco, Sept. 3, 1919.

WHEAT.

The supply of wheat seems ample for all demands in San Francisco, although it is stated that arrivals are slow. All grain markets are dull.

No. 1 hard	.....\$2.30
No. 2	.....2.17
No. 3	.....2.13
No. 1 soft	.....2.18
No. 2	.....2.15
No. 3	.....2.11
Club or Sonora, No. 1	.....2.16
do, No. 2	.....2.13
do, No. 3	.....2.09
California, per cbl	.....\$3.65 @ 3.70

BARLEY.

There has been practically no business in barley during the past seven days. With September 1 a holiday and the parade of the sailors from the fleet on Tuesday afternoon, there have been only two full business days, last Thursday and Friday, since last report. Barley is not being shipped to Europe in the quantities of a few weeks ago, and the market is weak although prices are nominally unchanged.

Feed	.....\$3.00 @ 3.05
Shipping	.....\$3.20 @ 3.30

OATS.

Oats are weak and unchanged. All the grains suffered this week through lack of interest.

Red feed, per cbl	.....\$3.00 @ 3.25
Red for seed	.....Nominal
Black for seed	.....Nominal
Re-cleaned Red or Black for seed	.....Nominal

CORN.

Corn is quiet, with few buyers in the market.

California	.....\$3.80 @ 3.90
Egyptian, choice	.....Nominal
Milo	.....Nominal

HAY.

Receipts of hay for the past week were 3,459 tons, compared with 2,971 the previous week. Thus, notwithstanding the railroad strike, which tied up the railroads for two days, receipts are higher. This was occasioned by the extra hay receipts by boat from bay and river districts, which have been unusually heavy and will doubtless continue if boats are available. Most of the hay arriving during the week was of the red oat variety from the reclaimed districts and alfalfa from the river districts. This hay moved off fairly well, but the demand has not been brisk as many large consumers are becoming filled up and are out of the market.

No. 1 Wheat, or Wheat & Oat	.....\$15.00 @ 18.00
No. 2 Wheat, or Wheat & Oat	.....12.00 @ 15.00
Choice Tame Oat Hay	.....15.00 @ 18.00
Wild Oat Hay	.....10.00 @ 14.00
Barley Hay	.....12.00 @ 16.00
No. 1 Alfalfa Hay	.....17.00 @ 22.00
Stock Hay	.....9.00 @ 22.00
No. 1 Barley Straw, per bale	......50 @ .80

FEEDSTUFFS.

The market for feedstuffs was inactive, due to the brief railroad strike, the holidays, and the general lack of demand. The price of rolled barley is quoted a dollar below last week's level, but otherwise prices are nominally unchanged.

Rolls Barley	.....\$64.00 @ 65.00
Rolls Oats	.....63.00 @ 64.00
Cocoanut Meal	.....48.00
Cracked Corn	.....79.00 @ 81.00
Alfalfa Products	.....\$36.00 @ 37.00

POTATOES, ONIONS, ETC.

With the railroad strike stopping shipments for full two days, a half holiday Saturday, a full holiday Monday, and a parade Tuesday, which virtually closed up business another half-day, there has been little doing in the potato and onion markets during the past week. While shipments to this market have not been beyond the capacity of the market, the supply on hand is ample to take care of the demand. Some dealers are looking for a considerable demand from the vessels of the Pacific fleet now in harbor. In the general vegetable market there were few changes in prices.

String Beans	.....2 1/2 @ 4c.
Peas	.....5 @ 7c
Carrots, per sack	.....\$1.25 @ 1.50
Rhubarb, Strawberry, box	.....\$1.25 @ 1.75
Cucumbers	.....50 @ 70c
Eggplant, box	.....50 @ 75c
Lettuce, per crate	.....75c @ 1.25
Celery, crate, Oregon	.....None
Tomatoes, River, per large box	.....50 @ 65c
do, Bay	.....50 @ 75c
Sprouts	.....Nominal
Summer Squash, lug, Alameda	.....50 @ 60c
Green Corn, Alameda, sack	.....\$1.50 @ 2.00
Potatoes—Oregon	.....\$2.00 @ 2.25
do, Garnets, new on street	.....\$2.40 @ 2.75
do, Idaho	.....None
do, local whites	.....\$2.25 @ 2.50
do, Rivers	.....\$2.00 @ 2.35
do, Sweets, new, lb.	.....5 @ 5 1/2 c
Onions, Warehouse Stock—Australian	.....Nominal
Browns	.....Nominal
do, new red	.....\$2.00 @ 2.25
do, Browns	.....\$2.00 @ 2.25
do, Yellow	.....\$2.00 @ 2.25
do, Green, Alameda	.....\$1.00 @ 1.50
Garlic	.....18 @ 20c

BEANS.

The bean market continues in the dumps and the prices of several varieties were lowered in an effort to attract buyers. This had little effect on the demand, but it is possible that sales may be made for the fleet that will have the effect of putting a little life in the market. This would be but small relief, however, and dealers declare that no real relief is at present in sight.

Bayos, per cbl	.....\$6.25 @ 6.50
Blackeyes	.....\$5.50 @ 5.75
Cranberry beans	.....\$6.20 @ 6.50
Limas (South, re-cleaned)	.....\$12.00
Pinks	.....\$6.50 @ 6.65
Mexican Reds	.....\$5.50 @ 5.75
Tepary beans	.....\$2.50 @ 2.75
Garbanzos	.....\$10.00 @ 10.50
Large whites	.....\$6.50 @ 6.80

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

Small whites\$7.50 @ 7.75

POULTRY.

The poultry market has been firm at last week's quotations. The receipts have been normal. Broilers are inclined to sell at higher prices. The same is true of fliers and young roosters.

Turkeys, dressed, young spring, lb.	.....45 @ 50c
Broilers 1 1/2 lbs. and under	.....30 @ 32c
do, 1 1/2 to 2 lbs.	.....30 @ 32c
Fliers, 2 to 3 lbs.	.....30 @ 32c
Hens, extra, per lb., colored	.....34 @ 36c
do, Leghorns	.....28 @ 32c
Smooth young roosters, per lb. (3	.....34 @ 36c
Old roosters, colored, per lb.	.....22 @ 23c
Geese, young, per lb.	.....22 @ 23c
do, old, per lb.	.....22 @ 23c
Squabs, per lb.	.....48 @ 50c
Ducks, young	.....25 @ 28c
do, old, per lb.	.....23c
Belgian hares	.....15 @ 16c
Jack rabbits	.....\$1.50 @ 3.00

BUTTER.

Local trading in butter is reported very good, and this, together with some outside demand, has reduced local holdings. The close on extras was only a half-cent above the close of last week, while firsts were a cent higher. It is generally felt that there will be a greatly increased demand for butter locally during the presence of the Pacific fleet in these waters. This demand has not yet made itself felt, but it probably will do so during the coming week. The receipts during the last calendar week were only 16,000 pounds more than the corresponding week a year ago, and this is hardly enough to take care of the normal increase in population. There is plenty of butter in storage as Government reports show a 50 per cent increase on hand in San Francisco compared with a year ago.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	57 1/2	57	55 1/2	56 1/2	55 1/2	55 1/2
Prime First	50 1/2	50 1/2	50 1/2	52	51 1/2	51 1/2
First	53 1/2	53 1/2	53 1/2	53 1/2	53 1/2	53 1/2

EGGS.

After the opening last Thursday, when Extra eggs were quoted a half-cent lower than the previous day, extras have shown a decided advance each day on the exchange. All other descriptions except the undersized show an increase, although not to the same extent. Again the presence of the fleet in this harbor is credited with increasing the demand, and it is said that this demand will continue as long as the fleet remains. The average price of extra eggs charged the retailers during the month of August was 58.63 cents. A year ago the average price for August was 54.92 cents. This year August receipts in this market were 50,152 cases. A year ago the month's receipts were 39,328 cases. The comparison is interesting.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	51 1/2	55	57	58 1/2	61 1/2	61 1/2
Firsts	48	48	48	48	49 1/2	49 1/2
Ex. pullets 50	50 1/2	51	50 1/2	51 1/2	51 1/2	51 1/2
Undersized 35 1/2	35 1/2	36	36	36	36 1/2	36 1/2

CHEESE.

The cheese market was lower this week. Offerings were more liberal than they have been for some time, and the holders appeared to be making an effort to clean up some surplus stocks. Liberal offerings of Oregon cheese had a temporary depressing effect on the market and the tendency of all prices was downward.

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., September 2, 1919

The recent tie-up due to the strike situation in California stimulated markets generally. Prices ruled very even with the week previous on Bartlett's with stock showing color and fruit arriving ripe. Ordinarily this condition would cause a depression of the market, but it was offset by lighter offerings and a strong demand, with the result that inferior fruit realized satisfactory prices.

Lighter offerings of peaches stimulated demand and there was a noticeable advance in prices over the week previous, in some cases 50c to 60c a box.

The arrivals of plums were light in all markets and there was a noticeable improvement in prices, with the possible exception of New York and Boston, preference being shown in Middlewestern markets.

Prices were satisfactory and the demand continued strong for Malagas; increased offerings, however, causing a slight fluctuation, with a downward tendency. A reaction was noticeable during the latter part of the week, brought about by a scarcity of supplies due to strike condition. What few Tokays have arrived in the East, sold to good advantage.

Practically all tree fruit shipments will clean up in Placer county and other sections of the State, with the exception of Santa Clara Valley and El Dorado county, this week.

California Flats, fancy	.....29 1/2 c
do, Firsts	.....Nominal
Y. A. Fancy	.....34c
Oregon Triplet	.....29 1/2 c
do, Y. A.	.....31 1/2 c

FRESH FRUITS.

The arrivals of a plentiful supply of apples on a market, more or less shot to pieces by a brief railroad strike and holidays, had the effect of lowering the prices of several varieties. While there were minor changes in several descriptions of fruits, prices bore up well under the general conditions prevailing. The demand for fruits on Wednesday was heavier than for several days past.

Apples	.....\$1.50 @ 2.50
do, Gravensteins	.....\$1.50 @ 2.00
do, Alexanders	.....\$1.50 @ 2.25
Skinner Seedling	.....\$1.00 @ 1.25
Crabs	.....\$1.00 @ 1.25
Apples, bulk, lb.	.....Nominal
Pears	.....\$1.00 @ 1.25
do, white	......80 @ 75c
Plums, box	.....75c @ 1.25
Grapes, Seedless	.....\$1.00 @ 1.25
do, Malaga	......81 1/2 c
do, Tokay, large box	.....\$1.75 @ 2.00
do, Muscats	.....\$2.00
Pears, No. 1	.....\$2.50 @ 3.00
do, No. 2	.....\$1.50 @ 2.00
Peaches	.....75c @ 1.25
Strawberries, chest	.....\$10.50 @ 12.00
Loganberries	.....\$15.00 @ 18.00
Raspberries	.....\$8.00 @ 9.00
Blackberries	.....75c @ 1.00
Cantaloupes, Standards	......50 @ 65c
do, Ponies	......3 @ 2 1/2 c
do, flats	.....1 @ 1 1/2 c
Watermelon, lb.	.....1 @ 1 1/2 c

CITRUS FRUITS.

Citrus fruits were quiet and unchanged this week. At the present time this market is secondary to the fresh fruit market, and it was not affected so much by irregularities in demand as the latter.

Oranges, Valencia	.....\$4.25 @ 5.50
Lemons, fancy	.....\$6.50 @ 7.50
do, choice	.....\$5.50 @ 6.50
do, standard	.....\$4.50 @ 4.50
Lemonettes	.....\$3.50 @ 4.50
Grapefruit	.....\$4.00 @ 5.00

DRIED FRUITS.

There is more confidence in the future of the dried fruit market than for the past two weeks. The market is quiet, almost inactive, but there has been some trading at current prices. While the strong "bull" market of a few weeks ago is not expected to become apparent again, it is believed that this market will show a gradual increase in trade, although it is not believed that higher prices for any descriptions will prevail this season.

Apples	.....20 @ 22c
Pears	.....18 @ 18 1/2 c
Peaches	.....17 @ 18 1/2 c
Apricots	.....24 @ 30
Prunes	.....12 @ 13 1/2 c
Figs, Adriatic	.....14 @ 20c
do, Calimyrna	.....16 @ 23c

RICE.

Rice continues quiet and slightly lower. Fancy is quoted at \$12 and Choice at \$11.75 for spot. In futures, fancy is unchanged and choice \$10.65.

HONEY.

There is no change in the honey situation. Very little is coming into this market, al-

though some could be sold at prevailing prices. The demand is so irregular, however, that dealers are not inclined to buy any stock until it is already placed, and this makes the local market dull.

Water White Orange Blossom	.....18 @ 20c
White to water-white sage (subject to production)	.....18 @ 20c
Amber Mountain (Sage-Buckwheat)	.....16 @ 18c
Light Amber Alfalfa	.....14 @ 15c

WOOL.

The wool market is firm, especially on the side of the finer grades. The amount of wool used during July—63,000,000 pounds—exceeded the consumption for June by 8,000,000 pounds, and the June figures broke the records for 1919. Locally the market is quiet, and prices are more or less nominal.

HIDES.

It is believed that the highest price level of hides has been reached and passed. The tanners throughout the country are out of the market for stock, fearing to undertake large business at the abnormally high prices that have latterly prevailed, and in the face of the widespread agitation against the high price of shoes and other leather goods.

Wet Salted Steer Hides—

No. 1 native steers, 50 lbs. and up	.....32c
No. 1 native cows, 60 lbs. and up	.....32c
No. 1 extremes, 30 to 45 lbs.	.....40c
No. 1 buff, 45 lbs. and up	.....34c
No. 1 native bulls	.....25c
No. 1 center branded hides, in all grades, 2 c less than base price and No. 2 center brand, 3c less	.....
No. 1 wet salt kip, 15 to 30 lbs.	.....45c
No. 2 wet salt kip, 15 to 30 lbs.	.....78c
No. 1 wet salt calf, trimmed	.....68c
No. 2 wet salt calf, untrimmed	.....68c
No. 2 calf, 2c less per lb.	.....
Wet Salted Horse Hides—	.....
No. 1 large, skinned to hoof	.....\$10.00 @ 13.00
No. 1 medium, skinned to hoof	.....\$7.00 @ 9.00
No. 1 small, skinned to hoof	.....1.00 @ 3.50
No. 1 colts, skinned to hoof	......50 @ 1.00

LOS ANGELES.

Los Angeles, Sept. 2nd, 1919.

BUTTER.

This market reports demand good with prices firm. Owing to unsettled conditions with regard to shipping we are unable to secure correct statement as to receipts for the past week.

California extra creamery	.....59c
do, prime first	.....57c
do, first	.....56c

EGGS.

Receipts very light on account of the strike. The market is firm, however, and the demand continues good. No receipts available for last week.

Fresh ranch extra	.....53c
do, case count	.....52c
do, pullets	.....47c

POULTRY.

Poultry coming in less freely and the market is steady. Demand is fair, both for hens and young stuff. Very little doing in turkeys and geese.

Broilers, 1 to 1 1/2 lbs.	.....26c
Broilers, 1 1/2 to 1 3/4 lbs.	.....26c
Fliers, 2 to 3 lbs.	.....24c
Roosters (soft bone), 3 lbs. and up	.....16c
Stags and old roosters, per lb.	.....34 @ 40c
Turkeys	.....24 @ 34c
Hens	.....27 @ 34c
Ducks	.....27 @ 34c
Geese	.....27c

FRUITS.

Not much that is new can be said about this market. Recent unsettled conditions have made it impossible to say, with accuracy as to prices. Only truck and wagon receipts are in, but they were sufficient to supply the local demand with what shipped in stock already on hand. The demand is fair for all choice to fancy stock. Stale stuff is hard to move.

Peaches	.....5 @ 6c
Strawberries—	.....
30 basket crates, fancy	.....\$4.50 @ 4.75
Poor to choice	.....\$4.00 @ 4.25
Blackberries, case 30 boxes	.....\$2.75 @ 3.00
Raspberries, case 30 boxes	.....\$5.00 @ 5.25
Plums, Tragedy	......6 @ 7c
do, Satsuna, lb.	......5 @ 6c
do, Burbank, lb.	......4 @ 5c
do, Sugar, lb.	......5 @ 6c
do, Nectarines, lb.	......6 @ 7c
Apples, White and Red Astrakhan, lb	.....4 @ 7c
Grapes, Thompson Seedless, lb.	......5 @ 7c
do, Malaga, lb.	......7 @ 8c
do, Muscat, lb.	......5 @ 6c
do, Tokays	.....7c
Crabapples	......5 @ 6c
Pears, Bartlett, lb.	......7 @ 8c

VEGETABLES.

Delayed receipts are now in of potatoes, which are lower. Onions also in good supply, slow sale and weak. All good fresh stuffs are in fair demand and prices firmer, but stale continue dull and weak.

Potatoes, local, per cwt.	.....2.00 @ 2.25
do, Northern Burbank	.....\$2.50 @ 2.75
Sweet Potatoes	.....\$2.75 @ 3.00
Onions, New Red, per cwt.	.....\$2.25 @ 2.35
do, Stockton yellows, per cwt.	.....\$2.25 @ 2.35
do, White Globe, cwt.	.....\$2.30 @ 2.40
Cabbage, per 100 lbs.	.....75c @ 1.00
Lettuce, crate	.....\$1.00 @ 1.25
Rhubarb, per 30-lb. box	.....75c @ 1.25
Summer squash, lug	.....20 @ 30c
Peas, per lb.	.....8 @ 10c
Kentucky Wonders	.....3 @ 4c
String Beans, wax	.....3 @ 4c
do, Green	.....2 @ 4c
Tomatoes, lug box	.....20 @ 50c
Cucumbers, local, lug box	.....15 @ 25c
Lima Beans, local, lb.	.....2 @ 4c
Cantaloupes, Stand. & Pony, crates	.....50 @ 75c
do, Pineapple, crate	.....60 @ 75c
do, Paul Rose, crate	.....75c @ 1.00
do, home-grown, pony, crate	.....50c @ 1.00
Watermelons, 100 lbs.	.....75c @ 1.00
Corn, lug box	.....40 @ 50c
Peppers, Bell, lb.	.....2 @ 3c
do, Chile, lb.	.....2 @ 3c
Casabas, lb.	.....1 @ 1 1/2 c

Special Citrus Market Report

Los Angeles, Sept. 1, 1919.

The supply of Valencias in the East was generally cleaned up, and prices rule \$1 higher throughout the country as a result of the railroad tie-up. However, some 400 cars of Valencias, packed and loaded on cars, were hurried forward via steam lines when the electric lines went out, and where too late, were stored in pre-cooling plants. Packing houses that were closed down are starting shipments to all the demand caused by lack of movements. Some apprehension is felt regarding redelivery of empty west-bound cars.

There is little demand for lemons at this time of the year, and the tie-up of lemon shipments could not have come at a more opportune time.

Packings are light and readily taken care of in the curing rooms of the packing houses. Trading is at a standstill with the exception of a few sales being shipped by boat to up-coast points. Six dollars a box for best stock is the ruling price.

Shipments of oranges for the season total 30,780 cars, as compared with 19,188 to date last year; lemon shipments to date are 8,756 cars, last year to date were 5,170 cars.

DRIED CHILE PEPPERS.
This market remains the same as quoted last week. Very little doing.
California 12@14c
do. Mexican 20@22c

HAY.
Alfalfa is in good demand and the market firm. Offerings light. On grain hay it is full. All quotations the same as a week ago.
Barley hay, per ton \$18.50@21.50
Oat hay, per ton \$22.00@25.00
Alfalfa, Northern, per ton \$21.00@23.00
Alfalfa, local, per ton \$23.00@25.00
Straw, per ton \$ 9.00@10.00

ALFALFA.
The Alfalfa Growers of California, Inc., 525 Central Bldg., Los Angeles, report the arrival of several cars on the tracks. Conditions are becoming more settled and it is felt that receipts will be near normal within a few days. All quotations remain the same as reported last week.

The grower, to arrive at his selling prices, f. o. b. his station, should deduct the carload rate of freight from below quotations

ALFALFA HAY.

Choice Alfalfa	.....\$30.00
No. 1 Dairy	.....\$28.00@29.00
Standard Dairy	.....\$26.00@27.00
No. 1 Alfalfa	.....\$25.00@27.00
Standard Alfalfa	.....\$24.00@26.00
Stock Alfalfa	.....\$20.00@22.00

BEANS.

This market continues dull, but prices are holding up firm. It is felt that this is due to light crops.

Limas, per cwt.	.....\$10.00
Large white, per cwt.	.....\$6.25
Small white per cwt.	.....\$6.50
Blackeyes, per cwt.	.....\$4.00@5.00
Tepary, per cwt. s.	.....\$3.00@3.25
Pink, per cwt.	.....\$6.25

Special Livestock Market Report

Written for Pacific Rural Press.

San Francisco, Sept. 3, 1919.

CATTLE—Cattle are arriving very freely, though most of the receipts are of the lighter kind. The Nevada shipping season has opened, and the first carload is expected to arrive about September 8. The quality of this stock is always good. Quotations stand. The Eastern cattle markets are recovering from the recent depression.

Grass Steers, No. 1, 950 to 1100 lbs. 10@10
Grass Steers, No. 1, 950-1100 lbs. 10 @10½c
do. No. 1, 1100-1300 lbs. 9½ @10c
do. 2nd quality 8 @ 8½c
do. thin 6 @ 7c
Cows and Heifers, No. 1 8 @ 8½c
do. 2nd quality 6½ @ 7½c
do. common to thin 4 @ 5½c
Bulls and Stags, good 5 @ 6c
do. fair 4 @ 5c
do. thin 3½ @ 4c
Calves, lightweight 12½ @13½c
do. medium 12 @12½c
do. heavy 10½ @11½c

SHEEP—The live mutton and lamb trade moves along very evenly, and maintains a healthy undertone. The consuming demand is slightly better.

Lambs, Yearling 10c
do. Milk 12@13c
Sheep, Wethers 8½ @ 9c
do. Ewes 6½ @ 7c

HOGS—The slump in the price market has operated to slow down the volume of re-

ceipts. The scarcity is more noticeable in the lighter grades of hogs than in the heavier. The market is still weak, 17c being the present top price.

Hard, grainfed, 100 to 250 17c
do. 250 to 300 16½c
do. 300 to 400 16c

Los Angeles, Sept. 2, 1919.

CATTLE—This market is steady and the demand for steers continues light. Cows are in good demand and steady, but not coming in. Prices unchanged.

Per cwt. f. o. b. Los Angeles:
Beef, steers, 1000@1100 lbs. \$9.00@10.50
Prime cows and heifers \$8.00@ 9.00
Good cows and heifers \$7.50@ 8.00
Canners \$5.00@ 5.50
Calves \$10.00@12.50

HOGS—Hogs are sharply lower in sympathy with Eastern markets. The demand is reported light.

Per cwt. f. o. b. Los Angeles:
Heavy average 275@350 lbs. \$13.00@14.50
Heavy average 225@275 lbs. \$15.00@16.00
Light \$16.50@17.50

Rough docked 20 lbs. piggy sows 40 lbs. and stags, 40 per cent.

SHEEP—This market reports fair demand and prices steady. Quotations unchanged.

Prime wethers \$8.50@ 9.50
Yearlings \$8.50@ 9.50
Prime ewes \$8.00@ 8.50
Lambs \$12.50@13.50

LOS ANGELES WILL HOLD A BIG SHOW.

C. R. Thomas, manager of the Los Angeles Livestock Show, who is visiting the State Fair, says that all indications are right for a great show in October. Sixteen barns are planned and started, with nine almost complete. A large force of men are pushing the work and more will be built if they are needed. Fifty-five thousand dollars are offered in premiums for the stock exhibits and \$20,000 for a race meeting at the same time. The Holstein-Friesian breeders will hold a consignment sale of 60 head, and the Duroc-Jersey swine breeders of Southern California are contemplating a sale at the same time. The Hampshire swine breeders may also hold a sale.

The Dairy Council will hold a meeting during the same week and also Zone No. 5 of the Cattlemen's Association will meet and discuss their affairs. Last, but not least, is a saddle horse show and a dog show. Manager Thomas is very enthusiastic and promises stockmen a royal good time.

SAN FRANCISCO SHOW THE BIG EVENT.

The California International Live Stock Show to be held in the California Building, San Francisco, November 1st to 8th, is organized in response to a demand of the stockmen of the state for a show that shall adequately present and promote the livestock and dairy industry of the West. It is dedicated to the proposition that the Pacific Coast offers opportunities for the development of these industries unparalleled elsewhere, and that the world should know it.

The success of the show and its value to those in whose interest it is given will depend upon the interest and support they themselves give it. While San Francisco makes the show possible, it is your show, and the Board of Directors most cordially invites you as exhibitor and attendant to a full participation in it.

W. T. SESNON,
President.

GORDON H. TRUE,
Secretary and Manager.

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WANT RESPONSIBLE AND EXPERIENCED fruit alfalfa or grain irrigation farmers to work on crop share basis. Land is river bottom tule land, plenty of water, good living conditions and good markets. Will enter into one or two years' contract with right men and might extend same into option of purchase. Party should have some implements, live stock, or money with which to buy them. Please state age, farming experience, from whom you have rented amount of livestock and implements you own, financial condition, and size and age of family. State when your services will be available and amount of land you can handle. Address: Herman Janss, San Joaquin, Fresno county, California.

EXPERIENCED SUPERINTENDENT or foreman wants to take charge of diversified ranch or group of ranches. Familiar with grain, beans, stock, alfalfa, irrigation, dairying and hogs, as well as truck farming on large scale. Agricultural school graduate, backed by several years' experience. Would consider a proposition with opportunities for a partnership. Married. Write Box X, Pacific Rural Press.

WANTED—Steady, capable man to take charge of mountain ranch, Santa Clara county; must be experienced in fruit and stock farming. Good house. Write, stating experience and wages expected. Lock Box 7, Campbell, Cal.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Sheeter Pipe Works, 304 Howard St., San Francisco.

ELECTRIC PIANO—Attaches to electric light socket. Endless rolls of music, suitable for dancing or can be used "nickel-in-slot." Good condition. Fine electric motor, \$150.00 cash. Cost a great deal more. 2433 Telegraph, Berkeley.

AGENTS WANTED—SELL AUTOMOBILE Tires and Tubes on liberal commission. Address Arnott & Co., Dept. 11, Los Angeles.

MARRIED MAN—Hog and general farming experience required. Box 1640, Pacific Rural Press.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

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WEBSTER, WEBSTER & BLEWITT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

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All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Wellsham Pipe Works, 160 Eleventh street, San Francisco.

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DAIRY AND ORCHARD RANCH for sale by owners, about 120 acres. Good location, new buildings. Will be sold on easy terms and reasonable price. \$10,000 will be accepted as first payment. Alex T. Gibson, P. O. Box 561, Chico, Cal. Residence, 216 East 1st Ave., Chico, Veclino.

ATTRACTIVE DAIRY RANCH
80 acres highly improved and equipped, located at station on main line railroad within 90 miles of Oakland; 150-ton barn, 60 stanchion milk barn, large tank house, 5-room house, family orchard, silo, cooling and separator machinery with boiler and engine, milking machine, 4 horses and all farming implements; about 70 acres in fine alfalfa, 8 acres corn; all deep, rich, sandy loam soil; checked, leveled and boxed; irrigated direct from district ditch; facing two county roads. About 60 head of very fine dairy cattle may be purchased with the place. This herd holds record for Sanislaus county on alfalfa feed alone, one producing an average of 2.83 pounds butter fat per day for 28 days. This place will pay \$1,000 per month to a good live dairyman. Write or call for further particulars and arrange to let us show you this place.

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San Francisco, Cal.

FOR SALE ON ACCOUNT OF DEATH and dissolution of partnership, our home of 67 acres; 60 acres nuts and fruit. Good income. No gravel or waste land; some alfalfa. Beautiful location on the S. P. R. R. 11 miles from Sacramento; 1 mile from Elk Grove. Fine schools; good roads; all conveniences. Place noted for its fancy products. See some of these in Sacramento County Exhibit State Fair. Buildings, pumping plants, etc., A-1. Price includes tractor, team, farm equipment, farm tools, etc. No better bargain ever offered. Tribble Bros., Elk Grove, Calif.

160-ACRE CENTRAL WEST FARM, \$5,500—Mile to depot town, on State road, 7 miles large city; 60 acres dark loam tillage, clay subsoil; 40-cow, woven-wire fenced pasture, home wood; good apple orchard, fruit; 8-room house, large modern stock barn, silo, poultry, hog corn houses all good. Owner retiring offers quick sale bargain \$5500, easy terms. Details page 85 Catalog. Bargains 19 States, copy free. Strout Farm Agency, 831 A. F., New York Life Bldg., Kansas City.

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G. E. COLBY CO., Inc., 36 N. 8th Ave., Maywood, Ill.



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For nearly five years the Bush Car has been doing heavy duty all over this country. It's sold by mail only—we do not have distributors. Our Proposition is liberal beyond your expectations. It contains a good selling profit for you. Get ALL the information quick. Write at once to J. H. Bush, Pres., Dept. K-110

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BUSH TEMPLE, CHICAGO

The Bush Car for 1919, in the Light Four is unequalled in value anywhere this year. Think of a car with all the modern refinements which includes in its equipment the Boyce Motor Meter, for instance, at prices modest in the extreme. The Bush method of marketing the Bush Motor Car not only gives the owner a better car than he usually gets, but the Bush method of sales gives the user the benefit of high quality at low price. We list below some of the big things—the high grade features—that go into the Bush Car for 1919.

Full Floating Rear Axle Willard Batteries
Two Universal Joint Drive Timken Roller Bearings
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The best material obtainable—the very highest quality construction coupled with what every one knows to be good equipment, such as Willard Batteries and Timken Bearings, insures long life to the Bush Car even under unusually hard service. There is a Money-Back Guarantee Goes with Every Bush Automobile to show you we mean just what we say about the quality of this car and to prove to you that your confidence in us will not be abused. Our Guarantee is in writing.

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THE FAMILY FAVORITE

That up-and-comin' youngster of yours—just watch how he heads for his morning bowl of Germea! For, he knows there's something about Germea that's different—something you can't expect to get in the ordinary, commonplace "morning mush."

And that something is *life-energy*! It's the life-energy in Germea that makes it power-food—that makes youngsters and grown-ups alike warm up to it morning after morning! It's the concentrated food-energy in Germea that makes it *economical*; for mother knows that a single cupful of Germea will make a breakfast for a family of six.

Germea is unlike any breakfast food because it contains the "germ"—the very *life* of the wheat. That's why it builds strength and stamina! That's why nothing can take its place as a nourishing breakfast cereal. That's why Germea is the family favorite—year in and year out!

The first cereal to be put up in package form—Germea is today, as always, the premier breakfast cereal of the Pacific Coast. Ask for Germea in the familiar Red Package—at the store where you do your trading.

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Ten mills and forty-four distributing points on the Pacific Coast

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Not only is Germea a cereal of high food value—but it lends itself to other delicious and nutritious dishes—as witness these two tested recipes:

SPERRY GERMEA PUDDING

$\frac{1}{2}$ cup uncooked Sperry Germea; 2 cups milk;
 $\frac{1}{2}$ cup sugar; 2 tablespoons butter, melted;
1 well beaten egg; 2 cups grated pineapple or
other cooked fruit; 1 teaspoon cinnamon;
1 teaspoon salt.

Mix all together, except fruit. Cook half an hour, then add the fruit, place in a double boiler and cook half an hour longer. Serve hot or cold and with any desired sauce or cream.

SPERRY GERMEA SPANISH

$1\frac{1}{2}$ cups Sperry Germea (cooked); $\frac{1}{2}$ can corn;
1 tablespoon butter; 1 teaspoon salt; 1 onion
chopped fine; 6 olives chopped fine; Cayenne
pepper to taste; 1 green pepper chopped fine.

Mix all ingredients, put in casserole, cover and bake in medium oven 30 minutes.

Note—All measurements are level. A half pint measuring cup is used.

GERMEA

"A Sperry Product"

POWER FOOD

THE PACIFIC RURAL PRESS

SAN FRANCISCO

SEPTEMBER 13, 1919.

LOS ANGELES

Livestock Looms Large at State Fair

Written for Pacific Rural Press by Thos. F. McConnell.

THE EXHIBITS in the livestock department of the State Fair for 1919 bore the searching inspection of the eyes of the Eastern judges without finching, and in the end called for only the most favorable comment from them. It is safe to say that never before in the history of the State have the numbers and quality of the animals shown been equaled as a whole. The beef cattle exhibit has been larger, perhaps, but never better. The draft horses also have been more numerous, but again the quality was supreme.

Exasperating Delays.

Judging the different classes in the livestock department was supposed to have started Monday morning, but long before that time it was known that the railroad strike of Southern California would delay matters for the day and perhaps longer. Word from breeders on the road kept coming in by "wire" asking that the judging be deferred until they could arrive. Some of these breeders overcame almost insurmountable obstacles in order to compete at the State Fair. Trucks, boats and express shipments were all used to "beat the strike" and its delays. One large exhibitor of swine sent his hogs 200 miles by truck and several trucked them shorter distances. Another exhibitor showing beef cattle trucked them 15 miles and loaded in freight cars only to unload and truck them home. Then he received word that the judging would be deferred until he could arrive by express, so he hauled the cattle to the railroad the second time and arrived Monday night. Certainly great credit is due the men who spared no effort to be present and also to those who waited so patiently for the belated ones to arrive.

Beef Cattle Exhibit Should Have Been Larger.

As said before the beef cattle exhibit should have been larger, as there are plenty of beef cattle in California, not only purebred range stock but "sure enough" top-notch exhibition stuff. Why was it not in evidence? There is some good reason for its absence and that reason should be sought out in such an essential department and the difficulty eliminated. A state like California with such wonderful stock raising resources should have a beef exhibit that would astonish the world and make our Eastern brothers open their eyes. The University Farm at Davis has shown these same Eastern feeders and fitters what we can do in the fat classes and it can be done in the breeding classes as well.



BASHAM AUGUSTA, 705819,
Grand Champion Shorthorn Bull California State Fair, 1919.
Owned by Thos. B. Dibblee Estate, Lompoc.



LITTLE SWEETHEART, 578263,
Grand Champion Shorthorn Female California State Fair, 1919.
Owned by T. S. Glide, Davis.



MISSION CHIEF, 791011,
Grand Champion Hereford Bull California State Fair, 1919.
Owned by J. A. Bunting, Mission, San Jose.

Dual-Purpose Shorthorns.

When we speak of Shorthorns many of us think only of beef cattle, but, to begin with, the Shorthorn was as good a dairy animal as any, and while they have achieved a reputation second to none as beef cattle, there is a strain of them that is noted for both beef and milk, or in short the Dual-Purpose Shorthorn that will produce a large quantity of milk and also steers that grow into beef economically. There were fully as many of these Milking Shorthorns on exhibition as of the beef type. The writer has often admired them and thought of how they were the true cow for the pioneer, as well as for the inhabitants of the older regions. Wherever the Anglo-Saxon race has gone we find cattle of this breed right along with them. The pioneer wanted an animal that would furnish the milk and beef both, therefore the Shorthorn was a companion of a large proportion of the early settlers in this country and other parts of the world as well. All credit should be given for what they have done in the past and what they are doing now.

Milk Breeds Well Represented.

You see we are going along and gradually changing in this article from the pure beef type, the dual-purpose breed, to what are termed the real milk factories, the dairy cattle. The exhibit of the four principal breeds was large and well worth going a long distance to see. These four great breeds were exceptionally well represented in all classes. Hugh G. Van Pelt, who judged the dairy animals, said, "You have wonderful dairy cattle and you have a wonderful climate, particularly favored for long distance records to raise them in. Never have I seen any better cattle, particularly in the younger classes. The Guernsey exhibit would have been larger if the strike had not prevented the Edgemoor Farm cattle from coming.

Hogs—Reds, Whites, and Blacks.

"Pigs is Pigs" is the title of a very popular short story published some years ago, but if the writer of that short story had been at the State Fair this year he would have made the title "Hogs is Hogs," for that certainly was the case at the Fair this year. Not "reds, whites and blues," although that may be possible in the future when the "Blue Hog" comes into his own, but surely "reds, whites and blacks" in all sizes and ages, but all good. Some had some little thing that the judge did not seem to like, but really the differences were slight in all cases.

The three Eastern judges of the
(Continued on page 262.)

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R. E. HODGES - - - - Assistant Editor
JNO. J. FOX - - - - Horticulture
THOS. F. MCCONNELL - - - - Livestock

EDITORIAL.

RIGHT SIDE OF THE PLANET.

IT IS possible that the old world will wobble around less if Americans get back to their own side of it. During their absence they surely have upset a lot of European plans and calculations, and they have steered the resultant of opposing European forces to the right social, political and humanistic objectives—so far as any objective has been reached at all up to this time. It really does appear to many now that Americans have mixed-in abroad quite as much as Europeans desire and possibly quite as much also as is good for themselves. On the other hand it appears to many others that Americans ought to keep on mixing until they turn out something which will pass for the millennium. This is, of course, our chief political contention, and to mix or not to mix—that is the question which now bids fair to determine our next presidential succession in this country. President Wilson is now a week out from Washington with his exhortation that the American spirit must be kept visibly burning in all the dark spots of the world, and our Senator Johnson has hitched up to follow him—proclaiming that the proper way to serve the American spirit upon the world is to can it at home and export the surplus in the regular way, which was patented by Washington, et al., and prevailed until Woodrow carried it over in his grip-sack—the which, if George had essayed to do, he would have been hanged in the Tower!

However, politics are not our funeral, but we have a right to say that the obsequies are becoming very lively and that California farmers are taking much interest in them—waiting only to get their prunes, raisins, grapes, beans, etc., out from under the shadow of the September rains, which seem threatening this week, to spend many of the delightful autumn days in wrapt contemplation of the oratorical antics of Woodrow and Hiram, which will have so much to do with shaping the political future of this country!

HOOVER RUNS FOR THE HOME BASE!

As we are writing on Monday morning General Pershing is landing in New York among the deafening well-done plaudits of his grateful countrymen. Congress has voted him permanent exalted rank, and all the people are saying amen in words or in louder actions. It is said that only thirty-eight thousand American soldiers remain abroad of the millions who rushed toward the front and did their duty so gallantly and successfully. These facts emphasize our contention that the place for Americans is on this side of the planet. But of all those who are coming, the utterance of no one bespeaks so frankly and feelingly the inmost longing of his heart for life and action in his home land than does our honored California Herbert C. Hoover. A cable-writer who caught him just as he was taking ship for home on September 6 makes him say these things:

"I am not coming back to Europe again under any circumstances. Possibly I may never see

Europe again. I am through with food. My offices have been dissolved and the work turned over to a commission. When I reach New York I am going to California at the earliest possible moment. There is no truth in the report that I am coming back to Europe. I have been asked to retain my official position here. Several nations asked me to remain, but I am through. I don't know if I shall ever come back for private reasons or not. I have never thought about it, and I don't want to think about it now. All I want to do is to forget about food and famine and Europe's affairs for a while."

Come back, Mr. Hoover and get what belongs to you in this admiring State of yours! How we would love to lay out your first California breakfast for you! Take a honey-melon, big as a camp-kettle; a slice of ham wide as an elephant's ear, gemmed with eggs dropped upon its well-browned surface as thickly as medals on the breast of Marshal Foch; tiers on tiers of pure, white rolls, broad and deep as the piles of shells on the greatest ammunition dump of the allied and associated nations; coffee chucked with sugar until the spoon stands resolute in the center thereof, and hot-cakes rising to the apex of the Eiffel tower! Forget about Europe for a while at least. You have helped nobly to save Europe to live her life, and it is your right to live yours! You are a representative American to refuse the blandishments of the European population-managers and get back to the right side of the earth!

THE FLEET IS ON THE RIGHT SIDE.

Out of all the joyful, patriotic hubbub which has gone aloft from the two great harbors of California and from half a dozen near-harbors, of which we are also proud, there are three declarations which are of sharp and enduring significance to this side of the nation. One defines the greatness of the fleet; another that it is ours to keep; third, the influence it will have in the development of California and her northern sister states along the coast. There were many admirable things said by landlubbers resident and visiting, and the daily papers have properly recorded them for the inspiration of their readers. We, however, have no space for such passing phases of the serial event, and being forced to the most admirable utterance, and desirous of having it keep well, we take it salt—to wit straight from the tongue of the admiral who will have the doing of the things he talks about:

This is your fleet: it is yours for protection, to promote and encourage the development of your merchant-marine and your trade through the Panama canal and everywhere around the Pacific. It will stay on the job; it will require ample bases of supply and facilities for keeping in first-class condition. It will live and for you on this coast. As your fleet is now in its home ports, perhaps you would like to know what it is and what it can do.

The Pacific fleet is more formidable, ship for ship and gun for gun, than the entire fleet of any other nation save Great Britain. In other words, half of the great American fleet is stronger than the armada of any nation with the single exception mentioned. The Atlantic and Pacific units could be brought together in seven days in case of sudden emergency.

If our fleet were at sea and we should sight an enemy at a distance, say, of ten or eleven miles, inside of two minutes our instruments would have allowed us to plot her speed and her course. We would have drawn lines on charts to show her direction and her rate of advance. In the same time we should have plotted our own speed and our own course. At the end of that two minutes we should fire and expect to hit. Within the next two minutes the guns of one of these great ships, such as the New Mexico, would have sent after that enemy some forty tons of steel shells. The battleship New Mexico alone could wipe out the entire fleet that visited the Pacific over a decade ago on its famous voyage around the world.

Of course we do not desire such things for war. It is very trite and very true that we need them to keep out of war and to keep other people out of it also. The facts declared by Admiral Rodman are very comfortable to think about. The cities will think and talk about them in the midst of distraction. We doubt if any such depth of thought will come in the bustle of landmen as will warm the heart of the lonely tractor-man as he plows the boundless plains of the great California valley amid the voices of the night, under the guidance of the solitary moon! To him will come most impressively the realization that this great fleet is on the right side of the planet!

THE MOTHER OF THE FLEET.

Never since Vergil pictured the seaside activities of Queen Dido of Carthage has there been a naval engagement on land in which a woman led in the doing of it as did Mrs. Secretary of the Navy Daniels in the San Francisco bay event. Secretary Daniels was all right, of course, and he made a good personal and patriotic impression, and the fact that he threaded his way among the local politicians without getting a scratch shows that Josephus surely inherits some of the powers of his great ancestor, who had the art of strolling through royal menageries and keeping a whole skin. And this is the way Mrs. Daniels led the popular rejoicings toward the apex of womanly devotion and patriotism:

"No greater honor can come to womankind than to be the wife of an American and the mother of Americans—exercising the high privilege of giving American ideals to future generations!

"I want you to take me as one of yourselves. I have not official position. I am simply accompanying my husband. It is true that I am called 'The Mother of the Fleet,' and I claim that honor, for I had two sons in the service, one in the olive drab of the marines and one in the blue of the navy."

And the assembly of women, to whom these lofty sentiments were spoken was no angelic host of movie queens, nor was it a bunch of ordinary bean-boilers. They were spoken at a reception on one of our municipal mountain-tops given to Mrs. Daniels by the Daughters and Sons of the American Revolution, the Daughters of the Confederacy and the Colonial Dames, in all of which organizations Mrs. Daniels holds memberships. Yes, indeed, oh shade of Publius Vergilius Maro: "Dux femina facti!"

CALIFORNIA WOMEN, STAY AT HOME!

And now that we have started in to write about the girls we find it hard to stop! We dared to say long ago, when California women first had their God-given right to vote restored to them, that it would be a tremendous force for the upbuilding of the State, because it would set all the other women in the world to talking about it—beside which motive power the anticipated force of the league of nations would be as a zephyr to a tornado. And it is surely working out that way. California is not only gaining fast in the citizenship of women, who bring capital for investment in grand home-places, but women from a distance are each year multiplying not only in the lists of our large scale industrial investors, but are also multiplying as personal workers and developers of individual producing enterprises in agriculture and other activities. And when women of prominence elsewhere come merely for recreation and the wisdom drawn from travel and observation, they seldom fail to say something to indicate that they rejoice with California women in the advantages and opportunities which attend their lives in this State. Among those who have most recently rendered California such acceptable service is Mrs. Frank A. Vanderlip, wife of the leading New York banker, whose patriotic services to this country and to the world are well known. A reporter who has seen Mrs. Vanderlip describes her as "the mother of six children, who is particularly interested in public movements of the welfare of women and children, and who says that the industrial schools and playgrounds of California are far in advance of any other State, and she desires her children to see California." But Mrs. Vanderlip is a leader in Eastern undertakings for the equal rights of women, and though she is not here on any campaign, she does not hesitate to tell our women how well they are situated under the laws and institutions of California. These sentences are surely significant:

"A California woman," said Mrs. Vanderlip, "going to New York State, would lose equal guardianship of her children. If she went to Pennsylvania she would lose the right to vote, and if she went to North Carolina she would lose a third of her husband's estate and get only a dower right. It is a ridiculous and confusing condition to exist within the boundaries of a great country."

Therefore, remember this, Daughters of California! If profiteers from other states or potentates from other countries entice you, the social exchange rates are heavily against them and you should require a great excess of love or some other

valuable consideration, as compensation for your losses in renunciation of California citizenship.

THE STATE FAIR ON THE HIGH.

As we write, this year's State Fair is running smoothly on the high speed toward a most satisfactory completion on Wednesday evening. We give our space quite freely this week to phases of the exposition, which naturally appeal most directly to our constituency—including the awards in classes of exhibits for which the countryside is most anxiously waiting. So far as our observation has gone our metropolitan dailies, which never weary of stroking their bump of devotion to the great industries of the State, have screwed down the boycott lid pretty tightly on this year's State Fair, and have allowed hardly a line of publicity to enter their columns since the opening day. City people have looked in vain to see whose ox was girdled by a prize ribbon, or whose ass brayed in the governor's presence! Even such momentous matters as these, which usually manifest their devotion to our greatest industry, have been expunged from their pages. Perhaps, if the prize cow had air-planed over the moon the lid would have been lifted a little—but no such stirring industrial event occurred, and so all the reports of the things which Californians have been doing to secure the best and most significantly valuable animals and farm products generally, have gone into the waste basket. Of course there is the excuse that the great affairs of the fleet required so much space, but a few square yards less of cloudy pictures and of alleged humorous drawings, which fall below the old standard of "comic valentines," would have served the public better, and some show of justice could have been done to the State Fair. However, it may not be for us to complain. The public is coming more clearly to understand that if it desires to get the news about California farming, it must depend upon our hard-working and conscientious agricultural journals.

But metropolitan neglect has depressed the State Fair neither in the breadth and quality of its exposition of what California is doing, nor in the popular appreciation of it. Our judgment is that we have never had a State Fair so well planned and outfitted, nor so rich in materials and methods of showing them forth, and our special writers, who treat different phases of it in our columns this week certainly convey to the reader some idea of the high educational and industrial value of the effort which the management has put forth and the exhibitors have justified.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Cutting Sweet Sorghum for Fodder.

To the Editor: I have some amber sorghum, sown broadcast. When is the proper time to cut it for fodder to feed to mills stock.—J. H. A., Ripon.

It can be cut and fed to advantage as needed after the heads have formed. To get the greatest nutritive content, cut when the seed is in the milk, but it is desirable later than that of course.

Keeping Fall Apples.

To the Editor: Can you tell me how to keep Gravenstein and Bellflower apples? We grow them and wish to keep them as long as possible for eating.—E. P., San Lorenzo.

They are fall apples and are not put up by Nature for long keeping. They are successfully held until midwinter in cold storage. Without carrying your boxes to a cold storage plant in Oakland, you will have to do the best you can with a cellar or ground pit, where there will be a cool and somewhat moist air until the rains come on, and then storage in any shady room will do if you can sprinkle the floor occasionally to keep the air moist enough to prevent shriveling.

Rooting Berry Tips.

To the Editor: I have a bush growing here which is very much like a loganberry only of a much finer flavor. I wish to take off some cuttings, so as to be able to plant some more of the same bush. Can you advise me how to do this,

and the proper time of year?—L. C., Brockway.

You probably have a Phenomenal berry, which has a blander flavor as you describe. Cover the tips of the new growth with a few inches of earth, or dig a shallow trench and cover the whole length of it, and it will make a new plant at each node or joint. Do this right away and it will make plants this fall for planting out next winter or spring. It is not easy to make cuttings grow.

Corn Ear-Worm.

To the Editor: I am raising Early Crosby sweet corn that is infested with worms to a greater extent than usual. Can you suggest any preventive or cure. The soil is deep, sandy loam.—R. L. G., Lodi.

Dusting the silk lightly as soon as it appears, successively, with lead arsenate powder has apparently saved more corn than any other method. There is much difference in the amount of infestation between different plantings—sometimes the early sown is cleanest, sometimes the late sown, etc. The moth flies in several broods and when the silk happens to come out in the main flight of a brood, it is apt to catch a big charge of eggs.

Moving Strawberries.

To the Editor: In March of 1918 I set out some new Oregon strawberry plants. The first season they bore nothing but made fine growth. This year they have done fairly well. We must move, and though I intend to set runners for new plants, will it pay me to also take some of the old ones, or would the transplanting set them back too much?—R. G. J., Paso Robles.

Your plants are not old and if you fail to get enough new sets from runners you can move the old plants, if you can let them slow down pretty well towards dormancy before you have to move. We should not consider it a good way to start a commercial plantation; we would rather buy good young plants—but if you wish to take the dear old things along all right. Some of them will require your affection, no doubt.

Tip-Failure of Young Trees.

To the Editor: I am sending tips of apple and plum trees. They are three years old. The trees were sprayed with lime sulphur solution in the spring, but have been affected with some disease all summer. Will you kindly tell me what is the matter with them and some remedy to cure it.—J. A. K., Tipton.

There is no specific disease in or on the tissue to which remedial applications could be made. The tips are prematurely dying—apparently from inadequate root action. This might be due to lack of soil moisture, which would destroy the root-hairs or, in the presence of ample moisture, it could be caused by alkali in the soil or irrigation water, which would destroy these root-hairs, and thus render the roots impotent to support the top growth.

Crude Oil Whitewash.

To the Editor: What is the proper mixture of lime and crude oil to use as a repellent for borers on fruit trees? I once used it years ago with the most complete results, but I have forgotten the formula. I mixed it thin and applied with a spray pump after the borers had been dug out in the winter. Have other growers made a success of it?—C. J. R., Morgan Hill.

Oil was used at the rate of one pint to five pounds of lime—the oil to be stirred in when the lime was boiling well by the addition of hot water. Best results were usually secured by slaking the lime in an iron kettle over a fire and continuing the boiling by the fire heat after the oil was added. This boiling makes an emulsion which can afterwards be thinned down by water to proper spraying consistency. This dope has recently been largely displaced by the brushing on hot of Asphaltum Grade D. after digging out—from a little below ground to a foot above the surface.

Sowing Alfalfa.

To the Editor: We are going to put in alfalfa. When is the best time to plant it in adobe soil? Would you advise to plant it now, or wait until spring, say March or April? Does not alfalfa need more irrigating in adobe soil, where the ground cracks than in other soil?—R. C. E., St. Helena.

If your soil is sufficiently moist from showers or irrigation, and your place is not down in a frosty bottom, put in the seed as soon as you can get the ground ready and you will get growth enough to make the plant hardy against winter frosts. If you are in a place frequently hit by fall

frosts, put it in in the spring. Alfalfa on an adobe requires much less water than on a loose soil; in fact, if you try to put on as much water as they use on light soils you will drown out the plant. More frequent irrigation and small amounts of water each time will give you best growth and the shade and the water will take the crack out of the adobe.

Killing Morning Glory.

To the Editor: Please tell me how to kill the small white morning-glory. I have a patch where I had barley and have plowed the ground four times this summer and they are still growing thrifty. I want to sow alfalfa in the spring but would like to kill the vines first.—P. J. G., Dos Palos.

Stop plowing; you are merely planting more morning-glory. Get a "weed knife" or a flat-toothed cultivator, keep the edges sharp, and run it through the patch every Monday morning at eight o'clock, so that it will cut about three inches under ground, and see that the swaths lap so that every particle of the surface is undercut. Never wait to see a green shoot above ground; if you do you have lost the game. You ought to have begun two months ago, but you may still depress it a good deal during the next two months, because it will be trying to make roots to winter-over with. Start the alfalfa as early as it is safe from frost in your place and the alfalfa will take care of the glory better than any other plant we know of.

Glory Collars for Fruit Trees.

To the Editor.—In a new orchard infested with morning glory, would it be feasible to surround the trees with a sheet of black building paper, say two feet square, throwing a light covering of dirt over it to keep it in place, in order to save hoeing every few days? The paper would be put on after the orchard was well worked up in the spring and removed after the fall frosts prevent the growth of morning-glory. Would any harm result to the trees from this practice?—Subscriber, Danville.

It is a very interesting suggestion: how it will work and how much it will cost to install the collars and keep them in place will have to be worked out by experiment. If the collars are buried, as suggested, and there is covering enough to prevent leaks of light, it is presumable that the cover would also prevent loss of moisture, and therefore would both keep the glory from growing and the ground from baking at the same time. It is a reasonable suggestion and needs only demonstration by actual test. It would not injure the tree.

Pomegranates and Alkali.

To the Editor: I have five acres of strong alkali ground that will not grow such fruits as peaches and prunes. I have been advised by reliable nurserymen to plant pomegranates, but before ordering trees I would like to have your advice on the matter.—W. M., Porterville.

It is true that pomegranates will thrive in wet spots where other fruit trees are apt to get waterlogged, and it is also true that in your valley such spots are apt to be more or less alkaline, and up to a certain amount the pomegranate will stand that also. There are, however, two points for you to consider. It is very easy to get too much alkali for pomegranates and, if that is avoided, it will be very easy to get too many pomegranates for the current demand. As the fruit cannot be canned or dried, or even profitably fed to hogs, there is a chance of losing more money turning alkali into pomegranates than in letting the alkali give you whatever field or forage crops it will. If you are the only one to whom your nurseryman gives the advice, you may make a lot of money; if not, you may lose a lot. The pomegranate is like the league of nations—it is only safe with reservations.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending September 9, 1919.

Stations—	Past Week	Seasonal To Date	Rainfall		Temperature	
			To Date	Normal To Date	Highest	Lowest
Eureka .....	.43	.45	.37	.64	50	
Red Bluff .....	.48	.48	.11	82	54	
Sacramento .....	.40	.40	.08	84	54	
San Francisco .....	.11	.12	.01	71	54	
San Jose .....	.00	.01	.08	76	46	
Fresno .....	.00	.00	.00	94	56	
San Luis Obispo .....	.00	.00	.05	82	52	
Los Angeles .....	.00	.00	.00	82	56	
San Diego .....	.00	.00	.00	72	58	
Winnemucca .....	.00	.00	.34	86	38	
Reno .....	.00	.08	.45	86	40	
Tonopah .....	.00	.35	.86	80	48	

Tractor Improvements Seen at State Fair

Written for Pacific Rural Press by R. E. Hodges.

The facts quoted in our panel are from the "Foreword" written for the California Tractor and Implement Exhibit catalog distributed free to State Fair exhibitors. This catalog contains 163 pages. Besides articles by best authorities on many subjects of interest to users of tractors, tractor implements, and accessories, it contains pictures and detailed specifications of 33 makes of tractors, including 57 models, ten different makes of moldboard plows, and nine of disk plows, and various other tractor-driven or tractor-drawn machines.

State Fair Tractors and Implements.

Not quite so many tractors were on exhibit at the State Fair as are available to California farmers, but the farmer who wanted to see a representative exhibit of tractors could see thirty different makes in the two huge tents at the State Fair, with other machinery and implements too numerous to mention outside of a catalog.

Chairs were a-plenty to rest tired feet, but feet didn't get much tired on the soft clean carpet of rice hulls. Ice water was plenty to quench hot thirst, but heat was notably mild during this State Fair. Decorations were most tasty in that they harmonized well, but did not detract from the real exhibits. Uniform neat signs were placed several feet above the green railings surrounding each separate exhibit so any visitor could easily locate the tractor he wanted to see. They were not in the way of a comprehensive look over the whole tent. Practically every exhibit was installed on time.

Notes about individual exhibits appear in other columns. One of the writer's main objects in studying this show was to see what features the tractor of the future will embody. With that in view, we spent many hours talking with exhibitors about the changes made in their tractors during the past year and those contemplated in the immediate future.

Magnetos Almost Universal.

Fewer changes in design were made during the past year than during the year previous, although on one exceptional instance 51 refinements and minor improvements had been made in a tractor. Almost universally magnetos are used for ignition and impulse starters give a hot spark with only a fraction of a turn of the crank. The exceptions to the magneto rule use a well-known system of battery ignition. Some of the starters were equipped specially to prevent kick-back of the engines.

Water Air-Cleaners Coming.

Air cleaners are found on practically every model. The periscope system of reaching up into the air with a pipe to avoid dust has caused the loss of too much time fixing cylinders and bearings ground out by the dust. Most of the tractors now use the centrifugal type of dry air cleaner and the maker of one of these claims that he removes over 99 per cent of the dust before air enters the carburetor. Be this as it may, there is noted a substantial increase in the makes of tractors which use some form of a water cleaner. This develops the highest efficiency except where the tractor driver neglects to empty the mud and keep the cleaner properly supplied with water.

Force-Feed Oil Systems.

It seems inevitable that the tractor of the future shall have a force-feed oil system; and it may be that the oil once used and squeezed out of the bearings into the crankcase will be disposed of without further use.

"In 1850, three hours of hard work with crude plows, hand sowing, cradles, and flails were spent in producing one bushel of wheat. Today, less than four minutes [of work with machinery] produce one bushel of wheat.

"With the hand rake, scythe, flail, and hoe, nine farmers worked hard to produce enough for themselves and one extra family—the city man.

"Today, with our plows, drills, mowers, binders, harvesters, threshing machines, and tractors, the nine farmers produce enough for themselves and twenty extra families—the city people."—Prof. L. J. Fletcher.

Some models now do this, and it seems that such disposal will be especially necessary with kerosene-burning engines. There seems to be great difficulty in avoiding more or less condensation of kerosene in the combustion chamber whence it gets mixed with lubricating oil and destroys its

a combination of force and splash. Some companies seem to be in a transition period, some of their models using one system and some another.

Pumps for Water Circulation.

The thermo-siphon system of letting the heated water rise into the

and fewer are run by belts. A notable fan design is in the one with double blades.

Roller and Ball Bearings.

More of the State Fair Tractor exhibitors emphasized with pride that their machines are fitted with roller bearings or ball and roller bearings throughout, than we found last year. The California dust, which makes efficient air cleaners necessary also makes it desirable to have the most efficient bearings. The demand for a greater proportion of motor power delivered to the drawbar is a greater factor in the popularity of roller and ball bearings. These balls and rollers may be in part responsible for the increase in number of tractors rated on their drawbars at more than half of their motor horsepower.

Working Parts Protected from Dust.

The same dust which insists on other improvements in tractors is also responsible for more enclosed governors, and other working parts. "Absolutely dust proof" is now claimed as an exclusive feature by an increased number of tractor men. Some of them cover their machines to keep the dust off if they can. Others leave their machines undressed and hope the wind will blow the dust off. Very few have any working parts exposed freely to the dust except final drive gears.

Final Drives Mostly Gears.

Final drives have not changed much in the design of tractors now available in California. It seemed a while back that the wormdrive was becoming the ambition of tractor men, but we noted only a few of these at the State Fair. Nearly as many still use the chain drive. A great majority use a gear final drive, and most of these are internal gears.

Tracks or Wheels?

We were asked whether the ultimate tractor would have tracks or wheels. From our present knowledge and observations, there will be two types of the ultimate tractor, one with wheels and the other with tracks. Of the different makes exhibited at the State Fair all but one of the several which are new to California are of the wheel type. That one is a motor truck equipped with tracks instead of rear wheels. But there were new models of present tracktype machines, and more are promised in the near future.

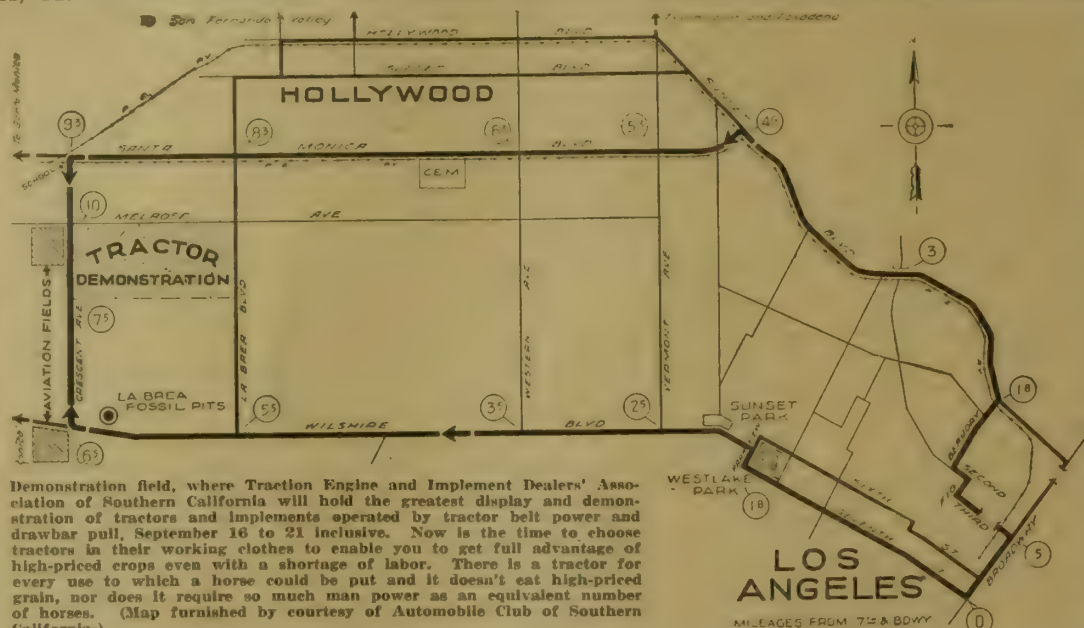
Medium Sizes Predominate.

Three of the largest tractors are holding their ground grimly, but several large tractors of other makes which have been known in California were not shown at the Fair, and generally their makers are not going on with quantity production. At least one of the more powerful machines shown there will soon be off the market. Probably the average-sized tractor now bidding for farmers' favor would have about 12 to 15 horsepower on the drawbar.

Shorter Turning Developed.

Regardless of horsepower, there seems to be a general tendency to avoid width in tractors and to permit greater length. This, however, has not worked against short turning, for the latter feature has been improved by various designs. The automobile system of steering front wheels has become most common and many tractors aid their front wheels by braking one drive wheel or track. Three-wheeled tractors are certainly losing favor, one firm having abandoned this

(Continued on page 360.)



lubricating qualities. The more perfect kerosene carbureters save their engines most of this difficulty, and greater perfection may be expected along this line, for kerosene is the most popular fuel, as judged by the number of tractors claiming to be adapted for it. Only a few tractors now depend on the splash system alone for their cylinders; and fewer were noted this year than last, which have

radiator and flow downward back into the engine as it cools has lost several models, and a great majority of tractors now circulate their cooling water by the positive action of a centrifugal pump usually geared to the engine. Larger radiators or more efficient designs of radiators are being used, the test of efficiency being to avoid boiling the water on hot days. More fans are geared to the engine

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REMEMBER THE DATES AND BE SURE TO BE THERE

Field and Orchard Show at the State Fair

Written for Pacific Rural Press by John J. Fox.

What a contrast was noticeable in the Horticultural Hall between this year and last when the world was busy on war work! Then the show was more or less overshadowed. Furthermore, the hall was less than half its present size. This year the great building was completely filled, and never has such lively interest centered in the exhibits. Not a single county but carried away ribbons on some product and one or two walked away with over 100. It is impossible to give them more than bare mention as a whole, for an enumeration would fill all the space allotted to the writer, and then some—and then no one would read it.

The County Exhibits.

Many of the county exhibits would have excited comment at a world's fair and as for fruit, there was enough on exhibition for a world's fair. The value and demands of Standardization have been thoroughly driven home by the awards of the judges, for some very fine fruit dropped a class through improper marking or poor packs. As a whole, though, the packs may be called excellent in every variety of fruit. The prizes for county booths as a whole were awarded as follows: Yolo, first; Fresno, second; San Joaquin, third; Solano, fourth; then Kings, Placer, Alameda and Humboldt.

Yolo County Still First.

Yolo had the most complete exhibition of the products pertaining to her county grown on a commercial scale. Although each department was kept separate, it formed a well-balanced and unbroken appearance, attractively set forth and well finished. There was no break and there were no ragged edges. The outside of the booth was nicely finished. The fruit, nuts, grapes, dried products, cereals, beans, vegetables and seeds were very complete, carefully chosen and arranged, while a nice inviting alcove looked hospitable to visitors. Bales of home-grown tobacco buttressed the stalls from without and a very complete exhibit of rice from the green heads to the baked bread formed a highly educational demonstration of one of Yolo's important industries.

Fresno's Artistic Exhibit.

This artistic exhibit also displayed a very full and excellent collection, comprising admirable specimens from the county's various products from figs to citrus fruits, from table grapes to nuts. Over 30 varieties of beans were shown and a huge bale of cotton was an added feature. The grapes and peaches were arranged in attractive order well supported and looking fresh and clean throughout the whole fair. This exhibit was of set design and well carried out.

San Joaquin Grows the Stuff.

This county had a real old-fashioned exhibit that appealed to the writer and attracted the eye each time he passed. Its exhibits covered the whole range of this prolific county's

varied products of excellent quality. It was well balanced, yet the products were distinct and separate.

The grapes on one corner were balanced by fruit on the other, the raw edges of the boxes being hidden by green-ribboned paper, setting off the fruit and concealing any crudeness of package. The vegetables caught the eyes at once. They looked natural and appetizing while the cereals and grains covered a large selection. The fibre, wool and forage crops were special features.

Solano Puts Up Attractive Exhibit.

Solano county showed a very handsome range, viewed either from the ground floor or the gallery. A wide frieze running around the cornice of this booth presented pictures of the various productive industries of the county done in grass and seeds. Seventy-five varieties of deciduous fruit were on display, M. Sharp's exhibit of new and imported plums proving a specially interesting feature. Another attraction was the Ramie fibre—raw and manufactured; also a tannery exhibit, showing half a hide big enough to have come from an elephant (almost).

The cereals and grains included a number of new varieties grown in the county.

Kings County Conception.

Kings County's conception represented a ranch with the "Home of Plenty" in the center. The house was very symmetrical and homey and bowery inside. It was covered with milo and gyp corn in the head with shingle-like smoothness of detail. Special features were fine packs of peaches and grapes; also canned fruits and home manufacturing industries—flour and sugar. The strike set this county back in preparation.

Los Angeles Showing a Gem.

Los Angeles county, as usual, had a very finished exhibit of her chief industries—semi-tropical fruits, nuts and vegetables. The whole background, which was supported by beautiful "transparency" scenes was framed to form a large picture. This county was not in competition. She had to bring much of her exhibit by truck from Los Angeles. As a whole this was a little gem.

Tehama county's effort was centered on a very elaborate and well executed scale model of the Iron Canyon Irrigation project, as proposed by the U. S. Reclamation Service. This was a most valuable educational piece that deserves a wide audience. A replica would be useful at some central location where all might see it.

Sacramento County—the Host.

Sacramento county had a large fruit exhibit entirely under glass. The central feature here showed a remarkable collection of packed grape fruit we have never seen surpassed. Another section of this exhibit contained one of the finest exhibits of corn, pump-

kins, watermelons and other field crops with a glowing center of rich red pie pumpkins and squashes. This section had a crowd around it every time we passed. Sacramento county did not enter for competition.

Prolific Placer.

Placer county had an exhibit of fresh fruits well worthy of her productive orchards. Two circular revolving tables built as inclined pyramids, displayed fruits and grapes, while corn, grains, minerals, olive oil and pottery in a well built booth, helped to win her the award she carried away. Her walls were well hung with ribbons on separate entries.

A Mine in Calaveras County.

Calaveras county was very largely a mineral exhibit, though she showed wonderful mountain apples and peaches and other farm products as well. Her exhibit was artistically set out and the booth was built to represent the interior of a mine. This conception was about as well carried out in detail as any at the fair.

Siskiyou County's Minerals.

Siskiyou County had also an exhibition of minerals and mineral waters. There was so much gold here that almost the whole thing had to be stowed away in a safe at night and brought out again in the morning. Not entered as an agricultural exhibit.

Kern County's Natural Riches.

Kern County had a very finished display of processed fruits and vegetables and nuts in glass jars. Her stock industry was shown by illuminated transparent pictures in natural colors, while her vast oil industry was demonstrated by large photographs and an exact model of an oil field equipment banked by samples.

Glenn County's Rice and Fruit.

Glenn County had a fine booth surrounded by Grecian maids at intervals standing in a field of rice. A fountain stood in the center and fruits of excellent quality and pack were on display. The chief features were rice (a crop this year worth \$9,000,000) and almonds, of which there are 1000 acres coming into bearing. This booth seemed attractive, for there was always a little party of visitors seated there chatting to the attendants.

Alameda County's Spacious Booth.

Alameda County had a very wide range of exhibits and given more time could have made much more of them. There were 81 types and varieties of nuts, besides a splendid plate exhibit of pears and peaches. Grains, textiles and manufactured goods, vegetables, jams and canned stuff made up a wonderfully varied exhibit.

Humboldt's Attractions Unique.

Humboldt County, at once the richest and the wildest, the most fruitful and the most mysterious, the simplest yet the most magnificent portion of our great State, was represented by a modest booth in keeping with her nature and traditions. The two cen-

tral features were the splendid plate displays and packs of smooth crisp northern apples without a blemish and the products of the dairy. For her dairies are unsurpassed (except in number) by any county. These two features were flanked with potatoes, and pot plants with a redwood building as a central feature.

The Associations.

The Growers' Associations were well represented, though the Almond Growers' booth outclassed them all in design and attractiveness—it was in fact the outstanding feature of the hall. In justice to the others it must be mentioned that they were asked rather late to exhibit, while the Almond Growers' had a large part of theirs a year ago. We mentioned the other corporation and individual exhibits last week.

The Judges.

The Judges were Dr. J. C. Whitten, Professor of Pomology, University of California, George P. Clements, M. D., agriculturist, Los Angeles Chamber of Commerce, and John J. Fox of the Pacific Rural Press. At the end of the week the Judges were asked to meet with the exhibitors at a conference which proved of great educational value by the questions asked by the latter and answered by Dr. Whitten, Chairman of the Board of Judges. It will serve to give a better idea of preparing for next year's show to many.

It is certain that many counties are sorry they did not bespeak a booth and equally certain that in a year or two the county that does not exhibit may as well take down its shingle. For this State Fair is not alone the greatest advertising medium a county can secure. It also proves of such educational value to exhibitors and such a stimulus to perfection in production that none can afford to stay out.

Now is the time to begin getting ready for next year.

POLLINIZING EVERBEARING STRAWBERRIES.

To the Editor: In the Pacific Rural Press last month M. E. M. complains of his "Ever-bearing Strawberries" being imperfect and not producing as they should. The "Productive and 'Productive and Prolific' ever-bearing strawberries have been grown here successfully for more than five years, and are prolific and perfect as to shape. They are grown at 4,100 feet elevation and at 7,000 foot elevation. The growers here followed instructions, and planted "Kellogg's Prize" as a pollinizer, which seems necessary for ever-bearers. The parties plant a sexual plant beside the ever-bearers and prevent the runners from mixing to prevent crossing of the plants. The Kellogg, as above stated, is what they use.—F. R. S., Bishop.

Fruit Trees



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costs \$7.00 to \$8.50 per 2,000 lbs. in bulk, f. o. b. cars points north of Rialto, south of Red Bluff. It is most readily available form of lime, being burnt, hydrated and composited in perfectly precipitated form, quick acting, immediately effective. Further, contains percentage of moist organic matter, analyzing a little nitrogen, potash, phosphoric acid, also trace of sulphur.

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largely from cottonseed, alfalfa meal and other rich feeding.

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largely from tankage, dried blood, fish and meat scrap feeding. The plant food values of manures depend upon the feed. At present cost of labor, teaming, trucking and freight, above highly concentrated manures from such rich feeding are most economical, unsurpassed plant food values.

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For information as to application, write

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Agricultural Department

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BERKELEY, CAL.

Trebla--A New Gooseberry

(Written for Pacific Rural Press by Albert F. Etter, Ettersburg, Humboldt Co.)

When I lived at Ferndale, 60 miles from Ettersburg, I discovered a wild gooseberry of the *divaricatum* species growing in an old pasture. This was in 1893. It was unusually productive, and being interested in such things, I brought cuttings of it with me when I came to Ettersburg in '94.

The climate in Ferndale and Ettersburg differ as widely as does the climate of San Francisco and Fresno. Therefore it is not strange that this "hope" from the wilds of nature was a disappointment. The berries were few and far between and the largest scarcely larger than gooseshot.

Nature an Ally When Man Wishes.

Look for a little moral here and try to follow it in your work, and nature may reward you as in this instance. Not to be discouraged at once, I took the seeds of these tiny offerings in fruit and planted them. In every case they proved hybrids with the Champion gooseberry growing a few yards away. This seedling therefore originated as a natural hybrid about the year 1900.

It began to bear at three years of age and has never failed a crop since. It is extremely robust and will stand more drying conditions than any cultivated gooseberry. Each year it seems able to blossom profusely and regardless of frosts that often destroy the fruit on other varieties. It manages to make a berry for nearly every bloom. These are about the size of red currants and when ripe are a dark purple color. Every twig from the ground up to the top of the bush which is now

about 5 or 6 feet high is full of berries. The bush, though still vigorous, is almost free of spines. It has never suckered from the base like most gooseberry bushes, seedlings as well as cuttings, and from appearance may still live another 20 years.

Long Time Getting Recognition.

The ripe fruit is very decidedly tart. A Trebla gooseberry pie would strike envy in a red currant pie, being just about 100 per cent more powerful in flavor. It is not the common gooseberry flavor at all, and is somewhat between gooseberry and currant. Of all the powerful flavored good pies I ever ate, this berry leads them all. The fact that I could not tolerate such brisk acidity in my gastronomical department is the very reason the public did not hear of this berry sooner. They grew and ripened and the robins ate them just as they did the fruit of their progenitors. The original bush yielded from one to two gallons of berries each season and is the only bush in existence of this variety.

An Al Jelly Berry.

Its points of interest are that it will probably thrive in parts, as it does here, where it is too dry and warm for the red currant; extreme robustness in neglect and making a jelly equal to the best currant jelly. In this line, all we have up to date is the recent test made by Prof. W. V. Cruess of the University of California. He writes under date of June 12th, as follows:

"Have just tested your gooseberries for jelly making. From each pound of fruit we obtained 1 1/4 pints of jelly—a very good yield. It is a beautiful purplish pink in color and of very excellent tart flavor. If this fruit can be grown in quantities, it most certainly has a bright future. I prefer the jelly to loganberry or blackberry jelly, and like it as well as pure currant jelly which it closely resembles."

It is hardly necessary at this time to say that no cuttings are available for distribution, but they will be propagated as rapidly as possible.

THE NORTHERN CALIFORNIA APPLE SHOW.

(Written for Pacific Rural Press.)

This year the only apple show in the State will be held in Humboldt county, October 13-20. Sebastopol and Watsonville are not holding shows this year, but will contribute to this one in competitive as will the Hood River and Rogue River districts. Albert Etter of Ettersburg will exhibit nearly 2,000 boxes of commercial apples (600 varieties) besides his seedlings, seedless apples and pears, Red Cross Strawberry (no hull) and others. Also a Jumbo pear, weighing five pounds, to the fruit, which is grown to be processed and cut up in pieces to be eaten like dates. He has red-fleshed apples and other novelties.

Besides outside contributions, 7,000 boxes of home-grown apples will be shown. Prizes will be awarded for carload lots, 100-box lots, 10-box lots and single boxes. There are five carload displays from five different commercial orchards. All the State is invited to compete.

Humboldt apples will be put on the market as such. They are good keepers and many varieties keep in excellent condition in ordinary (not cold) storage, into February.

Dr. J. C. Whitten, Professor of Pomology at the University of California, will judge the apples. Other products to be shown here include forage and root crops, grass, grains, clovers, nuts, pears, late peaches, etc. Even if there were no show here, the trip to Humboldt county repays the time and cost expended. The man who has never been there doesn't know California.

NON-FRUITING MULBERRY.

To the Editor: I notice that W. M. S. of Biggs wishes to learn of a non-fruit-bearing mulberry. We have one about 45 to 50 feet high with eight branches from the trunk that range from 22 inches in circumference to 44 and 50 inches at four or five feet from the ground. It was planted in 1885. It bears blossoms that drop, though the bees visit the blossoms. We have also about 2 dozen trees that bear berries very heavily of all varieties. We are north of the highway between Vacaville and Dixon, about 5 miles from Vacaville.—Mrs. H. Faugh, Mulberry Farm, R. 2, Box 38, Vacaville.

An apple tree at Findlay (Fresno Co.) more than 75 years old is bearing 32 varieties of apples and six of pears.

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MADEWELL

HORTICULTURAL JOTTINGS.

San Francisco was showered with Sun-Maid Raisins from an aeroplane while the gobs were here. Good ad.

Wine grape growers in the different sections are still kept guessing. There is a fine crop everywhere, and quite a few driers have been erected.

Tokays and Black Prince grapes are being shipped from Escalon and Lodi (San Joaquin County). The season has commenced in earnest.

An acreage of 2500 of walnut trees has come into bearing this year, making a total for the State of 77,000 acres, according to W. T. Webber, Sec. of the California Walnut Growers' Association.

Hop prices are climbing. Yakima (Wash.) reports several sales at 54 cents a pound. However, most of the crop had already been contracted—out of a 25,000 bale crop for the State less than 4,000 bales remain on the market.

Large quantities of dried peaches and seedless raisins are now pouring in to their respective association warehouses, which will be taxed to their capacity this season. The fruit is of fine quality.

Every room in the dormitories of the University Farm of Davis has been taken, according to Dean Van Norman, who has advised all new students coming to the University Farm to provide themselves with blankets and bedding.

The Retail Grocers' Association has entered a formal protest against the opening price on raisins in which they signify their intention of discouraging the sale of this product while the price remains so high. A charge of extortion is also made against associated producers of other fruit.

Wine grape growers are making a demand on the U. S. Treasury Department for a rebate on income and surplus profits tax paid during the last three years, because of a substantial decrease in the value of their properties due to the enactment of the Federal Prohibition Act.

The fruit commissioner of Australia has issued a general order prohibiting the importation of oranges from practically all countries except the United States, and then only from California and Arizona. They are known to be clean and safeguarded. This will help gain good prices for early Washington Navels.

The estimated yield of oranges for the 1919 crop is as follows: Los Angeles County, 5,000,000 boxes; Orange Co., 2,000,000 boxes; Riverside, 1,500,000 boxes; San Bernardino, 3,500,000 boxes; Tulare, 2,000,000 boxes; San Diego and Ventura, 250,000 boxes, and Northern California, 150,000 boxes.

Professor C. A. Read, almond specialist of the U. S. Dept. of Agriculture, has arrived and will commence investigational work here under appropriations recently made by Congress for the purpose. He will co-operate with the Almond Growers' Association and the University of California.

The Public Employment Bureaus have been rendering good service in keeping growers supplied with help, and the State Employment Office at 933 Mission St., San Francisco, is continually besieged for aids from the locals. The girls have been more necessary than ever and have done a lot to relieve shortage of men in the orchards.

The Spanish exporters of Almeria grapes are dissatisfied with the outcome of their shipments to the United States because a large number of barrels have been condemned by the inspectors. They contend the inspection is overstrict here and say they have no such trouble in England. But in Great Britain they have no competition, while in American markets they have to stack up against the California grapes and find them hard to beat.

The State of Washington will produce more apples this year than any other State in the Union, according to Professor Brown of the U. S. Dept. of Agriculture. Ten thousand cars of boxed apples are estimated in the Wenatchee district and 8,000 in the Yakima district.

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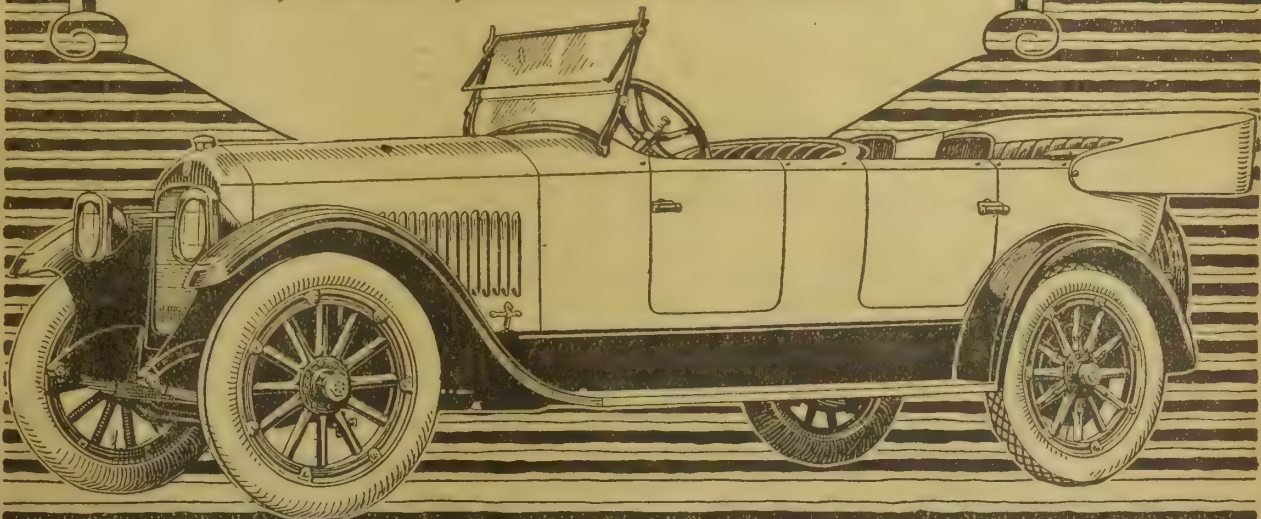
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PLANT NOW IMPROVED
Growers making \$1000 and over per acre annually. Splendid results in six months. Special prices for immediate planting. Also berries and small fruit, etc. Write to the originator, J. B. WAGNER, Rhubarb and Berry Specialist, Pasadena, Calif.

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No hot boxes
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Here and There in the Fruit Business

Early Harvesting of Almonds.

The almond crop will be taken off early, according to the California Almond Growers' Exchange. "The quality so far is running good from all centers and the crop holding out to expectations. It is however too early to predict the total of final deliveries." The Exchange had a magnificent exhibit at the State Fair this week.

A Help to Grape Men.

The Napa growers are feeling a little better this week, said Frank T. Swett, leader of the California Grape Protective League. "We have managed to get the price of grapes raised for them from \$25 to \$27.50 a ton. Ukiah district will get perhaps \$30 for wine grapes for Eastern shipment. It is not much these days of high prices for labor, but it is something and will pay to take the crop off."

The Citrus Growers' Big Business.

After 12 years of advertising (national), the California Fruit Growers' Association has still more extended the sum appropriated annually for this purpose. This year they will spend half a million, in addition to the allotment of \$75,000 for advertising Sunkist Marmalade and a further \$10,000 to push grape fruit. The regular assessment to growers of 2½ cents a box for orange advertising is continued with a fund of \$300,000 set aside. The lemon assessment was increased from 4 cents to 6 cents a box, with a fund of \$200,000 set aside.

The State Land Settlement Board.

At a meeting of the California State Land Settlement Board on the 14th inst, announcement was made that \$1,000,000 was available for buying land, especially for discharged service men. Twelve thousand acres was named as an approximate area for this sum to cover. Applications for allotments now number 1500, two-thirds of whom are civilians. The Board invited offers of tracts of from 4,000 to 7,000 acres. Bids will close October 1. The meeting was called to arrange for the proposed bonding of the State for \$10,000,000 for soldiers Peach Cutting and Canning.

Is now proceeding and the fruit is arriving in good quality. A few early pear consignments were disappointing, according to the canners, because apparently everything had been dumped into the boxes—even windfalls. Prune picking will probably be general the third week in August. The first drop, now on the ground in some places (of Sugars), should be picked up and kept separate for the quality will be inferior and the shrinkage great. The grand campaign on raisins, beginning with seedless, is now near at hand—and we are ready to go right to it.

Selected Prune Trees Make Good.

Robert Britton of Paradise Valley has ten acres of selected No. 1 prune trees seven years old that will run 200 pounds to the tree, all large sizes. He has 30 acres of older trees adjoining and the difference in the size of the fruit is very marked. His brother has a twelve-year-old orchard adjacent which does not come up to this young seven-year-old in quality although he

fertilizes regularly. This young seven-year-old orchard is exceptionally well pruned right from the start—no broken limbs, carries a good load inside and out and has made as much new wood as it ought to. It practically won't need a shears in it this year. Mr. Britton is a strong believer in bud-selection.

Pruning Experiments in Merced.

"For the coming season a definite set of pruning demonstrations are to be carried out in Merced County," says J. F. Grass, County Agent, U. S. D. A. Three or four selected young vineyards will be taken four successive prunings under the guidance of Professors Bioletti and Way of the University of California, with suggestions from local growers. These field experiments and demonstrations will be extended to figs and olives. Also permanent examples of long and short pruning on peaches will be kept and followed. 40 trees will be set apart, the demonstrators pruning two and the growers will prune the rest. Fall irrigation and the establishment of cover crops are other projects in view.

Apricot Yield at Salinas.

P. P. Parker, the enterprising and energetic editor of the "Salinas Journal," breezed into the office this week and reported a 14-ton crop on an acre of apricots on his ranch (which coincided with our estimate). The fruit was of good size and went to the canner. Mr. Parker has some good 'cot land on his ranch and will set out an acreage of apricots on a commercial scale. He has a 20-acre apple orchard on his new purchase that good care will whip into shape as a producer, and he is going right to the bat. He says hundreds of acres are to be set out to almonds, pears and apricots this season in the east side of the Salinas Valley. William Zarala has already planted out some 300 acres of fruit. He is also going to try alligator pears, and will plant more commercial orchards of deciduous fruit.

Nursery Conditions.

From a preliminary survey of conditions it appears that nursery stock is less than last year's supply, partly on account of weather conditions during the spring of last year, which reduced the "plant" on seedlings, and partly due to the big colony and corporation plantings contracted for last year and this. One single corporation is reported to be setting out two entire sections this year (1280 acres).

This year's seedling stand is said not to be so good as usual by two or three men, though we cannot think this was general from weather conditions. The complete shutting off of importation is bound to make a difference in the seedling plants though. For a very large proportion of our myrobalan, cherry, apple and pear seedlings formerly came from Western Europe. Another new departure is the fact that Oregon is now buying from us instead of selling to us as heretofore. Their prices are higher than ours, being now quoted at from \$50 to \$60 per hundred on nursery trees for eastern shipment. There are less walnuts than usual and prunes and apricots are shy.

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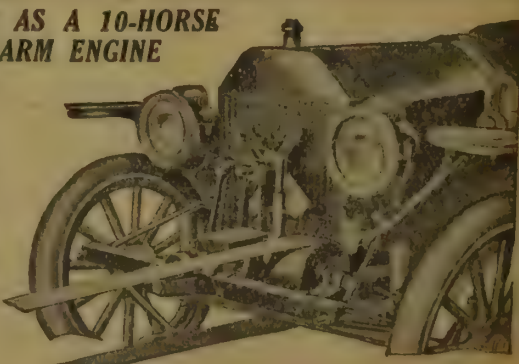
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They are of even heavier construction than usually used in racing tires.

Because of their longer life and their unfailing retention of air, they undeniably do give much protection to casings.

This being true, isn't it essential that *your* tires have the benefit of the finest tubes you can buy?

More Goodyear Tubes are used than any other kind.

GOODYEAR  **AKRON**

Fool-Proof Milking Machine Introduced

(Written for Pacific Rural Press.)

New principles in milking machines which make them practically fool-proof, are revealed by the machine which has at last been put on the market by the De Laval Dairy Supply Co. It has seemed passing strange that this company, so well known all over the United States for other lines of dairy supplies, should have taken so long to perfect and test their milkers. But the principles they claim to have proved, without doubt, were so different from ideas already generally accepted that they had to be sure of their facts before backing the machine with their reputation and service facilities.

Excessive Vacuum Impossible.

With the new machine, milk is extracted solely by vacuum and the pressure pulsations are solely for massage purposes and to give time for elaboration of milk in the cow's bag. The strange feature is that it is claimed that the same vacuum pull will milk any cow however hard or easy she may milk by hand. The writer remembers milking one cow in particular where it took all the strength of two hands to squeeze the milk out of one teat. It is positively asserted that no more vacuum is needed to milk such a cow than to milk the easiest ones. This vacuum is 14 to 16 inches. Less than 14 inches makes sluggish milking; more than 16 inches of vacuum is dangerous. The machine is therefore automatically governed to prevent less or more than 14 to 16 inches of vacuum.

Number of Pulsations Fixed.

Only a part of the milk a cow gives is already in the bag when milking is started. The rest is elaborated from the blood while it is being milked. The De Laval system is to pull the milk every time the blood-pump (the heart) pulsates. This is 45 to 48 pulsations per minute and the machine is regulated to that number regardless of what the operator may think is right.

But if the pulsations originate at a great distance from the cow, air is so elastic and compressible that each

pulsation is merged more or less indistinctly into the next one. To avoid this, the De Laval machine has not only a "master pulsator" at the air pump, but also a "relay pulsator" at the stanchion above the cow being milked. This gives distinctness to each pulsation like a telegraph relay gives distinctness to a long distance message. But even this is not considered close enough to the cow, because rubber tubes compress under vacuum and fill out when air is admitted so the distinctness of the pulsation would be reduced. The final pulsator is located at the junction of the teat cups, within six inches of the teats.

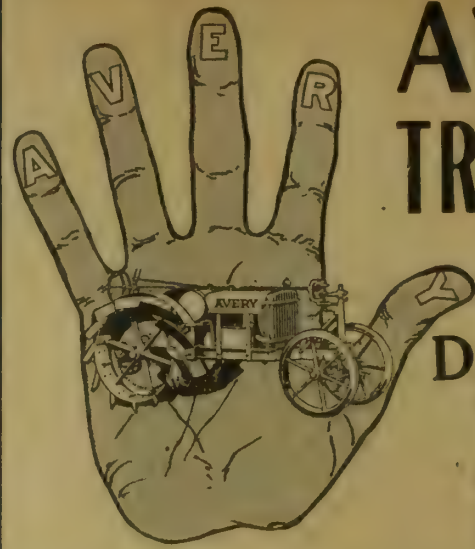
Single Units Only.

The third radical departure of this new machine is that it is manufactured in single units only. This is because it is recognized that many operators leave the double units working on both cows until the last one is dry, thus pulling the one that milks out first after she is dry and causing congestion of blood in the teat and worse results.

One man operates two of these single units at first, and three when he has gained some experience. Often a man wants to milk more cows with two men. To make this economical, the "Pulso-pump," as it is called, is adjustable for two to five units. It is an oil-sealed rotary pump, whose shaft is geared to the pulsator. No change from two-unit capacity to three units is necessary; but for four or five units, the pump is speeded up by reducing the size of its pulley and the pulsator is kept going at the same speed by changing its gear.

Tested a Long Time.

About 250 of these machines in practically the same form as at present have been in use by dairymen for 2½ years or more on farms near enough to the De Laval factory to permit the same factory representatives to keep close watch of their mechanical efficiency and their effects on the cows. Dairymen testify that the cows take kindly to its use.



AVERY TRACTORS

**Do in Hours
Work that
takes Days with
Horses**

Avery Tractors

represent the greatest dollar for dollar value on the American market.

Avery Tractors

are built complete in the AVERY Company's own big plant.

Avery Tractors

are made in eight sizes—a size to meet the requirements of any size ranch, orchard or field.

Avery Tractors

are simple in design and construction and cost less to operate and keep up.

Avery Tractors

are built by a company that backs its products with a reputation and experience of over forty years' standing.

AVERY COMPANY

of the Pacific Coast.

67-69 Beale Street,
SAN FRANCISCO.

237 So. Los Angeles St.,
LOS ANGELES

AVERY Tractors satisfy and stay sold.



**The
J. I. Case
Threshing
Machine
Company, Inc.,**

**Will Keep Open House, the week, September 15-21
at their Factory Branch, 164-8 North Los Angeles Street**

LOS ANGELES, CALIF.

You Are Invited to Inspect

Case Tractors

Case Steel Threshers

Grand Detour Plows

Two-Cylinder Bean Threshers

Tractor and Plow Demonstrations by Arrangement

CASE

Phone 66437

**Case Tractors and Grand Detour
Plows Not Entered in Los Angeles
Demonstration.**



STATE FAIR AGRICULTURAL NOTES.

Green and growing rice was the feature of Glenn county's exhibit.

Vegetables and sheaf grains were prominent features of San Joaquin's exhibit.

One of the best tomato and vegetable collections was that of Yolo county.

A specially good bean variety exhibit with labels was found in the Fresno booth.

Humboldt county surprised visitors with the tall growth and heavy heads of her oats, wheat, and rye.

A ramie plant and fiber exhibit in the Solano county surpriser visitors with the possibilities of this plant.

Early Baart wheat from sandy loam soil without fertilization was shown containing 24 per cent gluten. Baart from sandy loam fertilized by alfalfa which preceded the wheat contained 33 per cent gluten.

The U. S. Forestry Bureau gave away cones and seed of the Sequoia gigantea at their booth, where were shown many of the devices used by forest rangers to protect our watersheds from fire.

The Fish and Game Commission staged a wonderful mountain scene with many colored lights shining like stars in the brook which flowed peacefully below the waterfalls and displayed game fish of many kinds at the feet of visitors.

The Kings county grain-covered bungalow at the State Fair was and included one of the best exhibits shown. Many varieties of grains were labeled in separate containers, while the bungalow was covered with various grains in the head.

Why some seed potatoes are bad and others good was graphically shown in the exhibit of the State Department of Agriculture. Potatoes with various diseases were cut open and an eelworm was magnified about 500 times under a microscope for visitors to see.

Solano county with almost unlimited variety of field crops allowed her small but very important fruit districts almost to monopolize her show. However, amid the popcorn apple orchards, almond-covered dry-yards, and other orchard scenes which decorated the walls, an alfalfa field full of hay cocks made from alfalfa meal suggested her field productiveness.

A feature of the wheat varieties exhibit of the Sperry Flour Company was some Baart from "John Doe's ranch," which looked pretty clean. Mr. "Doe" had been unable to get enough Baart last spring, so he finished planting with seed from his own previous crop. Say, that was a smeller! Smut was most prominent; poor grain and weed seeds made up the rest of that lot.

Along with the Western Soil Bacteria exhibit of legumes grown with and without inoculation was the finest exhibit of new forage plants we have seen. It was furnished by Aggeler & Musser Seed Co. and contained sheaves of Italian rye grass, Australian rye grass, Red-top grass, Russian Brome grass, Merker grass (otherwise known as Elephant grass or Napier Fodder), Rhodes grass, Vioja peas, Australian salt bush, Teft grass, and Natal grass.

SAN JOAQUIN CO. POLAND-CHINA BREEDERS' SALE.

Last call! Forty topnotch boars and twenty bred sows and gilts, nearly all of them either prize-winners at the State Fair this year, or are very closely related to them. The well-known herds of Geo. V. Beckman & Sons, J. F. Lehman, Eugene Miner, Young & Clark, and others that have combined to pull off the first boar sale of the Pacific Coast.

The consignments are of the very highest order and any breeder, either of registered or market hogs that needs either a herd header of foundation stock will make no mistake in attending this sale.

Col. Ord L. Leachman will cry the sale.

No damage to speak of is reported from the rain at this date (Sept. 9). The prune men and others are taking good care of their fruit, which is in most places largely on the trays or housed or else stacked. Some resulphuring of peaches in late districts will be necessary.

The Tuolumne apple crop is above normal, according to Horticultural Commissioner Sherrard. The quality is excellent and several growers received \$75 a bulk ton. Others are grading and packing and netting from \$2.40 to \$2.50 a box. The season is about a week early.

FALL PLANTING OF

ALFALFA

Fall
Planting
of
Alfalfa

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MODESTO, CAL.

Under certain conditions fall sowing of alfalfa pays BIG. The next season's growth is nearly as heavy as two-year-old alfalfa.

Send for Booklet.

—which tells when fall sowing should be done, method of seeding, etc.

Sent free, together with our price list, and booklet describing Bomberger's Seven Kinds of Alfalfa (a kind for every soil and moisture condition).

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HAUSER'S ORGANIC FERTILIZERS

BUILT FOR CALIFORNIA CONDITIONS
Send for Booklet, "Fertilizer Efficiency"
—Tells You Why
HAUSER PACKING CO.
Los Angeles, California

THE SELF-OILING WINDMILL

has become so popular in its first four years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil, preventing wear, and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws. Write AERMOTOR CO., 2500 Twelfth St., Chicago



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Blake, Moffitt & Towne
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Blake, McFall Co., Portland, Ore.

CORN HARVESTER One man, one horse, one row. self gathering, equal to a corn binder, sold direct to farmers for 23 years. Only \$25, with fodder binder, shipped by express to every state. Free Catalogue showing pictures of Harvester. CORN HARVESTER CO., Salina, Kas.

THE WONDERFUL PERFORMANCE RECORD of

BRAENDER TIRES

Prove them to be without a peer for Speed, Endurance and Economy.

Read These Sensational Victories!

At Indianapolis Speedway, May 30, 1913, established World Record for Tire Endurance. Four Braender Tires carried Ralph Mulford's Mercedes the entire 500 miles without a change. No other tire has ever equaled this performance.

At Sheepshead Speedway, June 14, 1919, smashes record for 10 and 30 mile events, Mulford's Frontenac Braender equipped winning two FIRSTS and one SECOND (1-5 second behind winner).

At Tacoma Speedway, July 4, 1919, Mulford with Braender Tires won FIRST in first race, SECOND in second race. Lowest track record.

At Elgin 300-Mile Road Race, Aug. 23, 1919, Mulford in Duesenberg, carried on Braenders, was leading at 178 miles when compelled to withdraw with motor trouble, breaking the track for 150 miles.

NO TIRE CHANGES

You Can Get the Same High Quality in BRAENDER TIRES for Regular and Touring Use

Manufactured by
BRAENDER RUBBER & TIRE CO. Factory—RUTHERFORD, N. J.

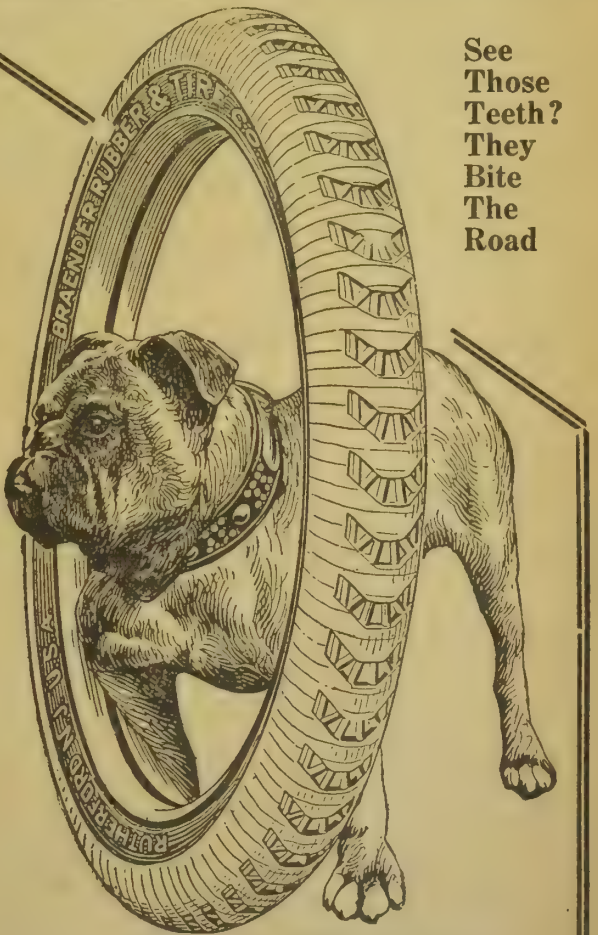
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Distributors in practically all sections



See Those Teeth? They Bite The Road

Registered Trademarks

WADE'S New Pea and Bean Thresher

A thresher with a more powerful blower; the air currents properly directed and concentrated; draft controlled by improved damper; larger than ordinary cleaning space with output greatly increased; and perfected sacking attachment, briefly describes the new WADE Pea and Bean Thresher upon which patents are now pending.

Western Made for Western Trade.

This improved WADE Thresher was developed here in the West, where the extreme growth and toughness of the pea and bean vine made slow, and at best, unsatisfactory work, of threshing with the old-style machine.

WADE built throughout.

"Better than seems necessary" construction is carried out in every detail. The price is no higher than on ordinary machines. Post yourself fully on the WADE'S many exclusive features by writing for your copy of the late booklet. Write at once.

R. M. WADE & CO.
SINCE 1865

349 Hawthorne Avenue, Portland, Oregon.

H. C. SHAW CO.,
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Distributors for Northern California.

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A Schmeiser Leveler

WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Frenos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners' time, labor and money.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

A GREAT ROAD MACHINE

Every road district should own one of these machines for constructing roads. They will cut down the high places and make fills quicker and cheaper than by any other known method.

YOU SHOULD

send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

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12 Mechanic Street,

DAVIS, CAL.

State Fair Farm Machinery

(Written for Pacific Rural Press.)

A separate tent at the State Fair was allotted to irrigation pumps, motors, gas engines, and miscellaneous farm machinery, besides the two big tents for tractors, tractor implements and accessories. But the tent did not begin to accommodate all of the exhibits, which overflowed in every direction.

Pumps of Many Kinds.

The biggest exhibit in the tent was that of Fairbanks-Morse & Co., whose 20-horsepower Y engine was running quietly and smoothly on low grade oil. It was hitched to a line shaft on which a Sterling pump was connected. This was discharging into a weir-box up high, making a great attraction. In front of this was a Z engine hanging from a tripod on wires and running steadily. Fairbanks-Morse showed electric motors and other pumps, many models of Hayes fruit sprayers, scales, and a portable elevator for sacked grain. This was run by a gas engine.

The central feature in the tent was a big water tank set in the ground and surrounded by pumps drawing from it and spouting back into it. The biggest pump was a Byron Jackson operated by a Victory Oil motor. This lifted the water way above visitors' heads through ten-inch pipe which ended in an elbow that threw the water straight down into the center of the tank.

Pelton centrifugal pumps of four or five sizes, direct or belt-connected to motors, were ready for business; and one or two were spouting horizontally into the big central stream. One of these pumps was laid out in pieces for visitors to see how they are made. The Taylor-Mayhew Oscillating Pump attempted to run with a five-horsepower Empire engine, but while there is good prospect that the new principle on which this pump is built will be made workable by certain improvements which were indicated at the Fair, the pump tested there will have to be improved.

The Kewanee farm water supply system stood beside the irrigation pumps, being operated by a triple plunger pump driven by electric motors. Outside the tent was a new system of plunger pumping called the "Planetary" system, which was also connected on a windmill or could have been run by gas or electricity. This is described elsewhere.

Hardie and Hayes power and hand sprayers of many models were on exhibit in and around this tent, and Bean sprayers were nearby in the tractor tent.

Farm Electric Plants.

A feature of this State Fair was the large number of small farm electric plants, built to operate all farm lights and such household machines as electric flatirons, fans, washing machines, sewing machines, toasters, etc., etc. One of the best known of these is the Lalley-Light, whose exhibit was in the general machinery tent. A little 1½-horsepower, two-cycle engine direct-connected engine runs the generator which develops about a kilowatt of electric energy and operates a Westco compressed air water system as well as electric lights, etc.

The Delco light exhibit was at its usual stand not far from the entrance to the grounds. Its direct-connected engine and electric system are well known to Fair goers. The Delco washing machine which washes and dries clothes by centrifugal motion attracted a great deal of attention.

The Alamo farm-lighting machine was exhibited with a Duro house-water system in the dairy machinery exhibit. This is a new outfit in California, of 100 and 120-light sizes. Its 1½-horsepower engine is direct-connected to a generator which is claimed to deliver 1¼ kilowatts. The cylinder of this engine revolves within a shell. Port holes are so placed in the cylinder and the shell that they act as valves for intake and exhaust. The ports for firing come opposite each other at the height of compression. The radiator has a float which would short the magneto

and stop the engine if water became too low, and a similar arrangement prevents the engine from running when oil gets low. The outfit stops automatically when the batteries are fully charged.

The Western Electric Co. had a farm lighting outfit of their own, exhibited near the race track, and including washing machine, sewing machine, fan, movie pictures, etc.

The Fairbanks-Morse farm-lighting system is operated by belt from a small low-speed Z engine. It is made in sizes for 40, 65, 100 and 200 lights. A Fairday electric washer accompanied this exhibit.

Pulls 48 Tons by Hand.

In the general machinery tent one of the leading features was the K Handpower, Stump Puller, with which one man exerts a pull of 96,000 pounds. The outfit was stretched between 12x12 timbers set deep in the ground and braced above and below ground. Nine hundred of these machines were sold in July.

Engine Saws Logs.

Outside the tent was a three-foot log from which a Wade gas-engine cross-cut saw was taking thin slices much of the time.

Self-Sustaining Fruit Ladder.

Near the stump puller was a new portable independent fruit ladder invented by Larkin Briles of Modoc County. It stands where it is put without leaning against the tree, and can be put anywhere easily. Its steps swing under a man's pressure just enough to level them at whatever angle the ladder is set. The outfit can be set on a wagon and leaned first toward one row and then toward another. The fruit is, of course, dumped in boxes on the wagon and never has to be set on the ground.

Pipes, Tanks, Culverts, Etc.

Madewell pipe, culverts, tanks, well-casing, etc., occupied one part of the tent. Calco iron tanks, pipes, culverts, troughs, flood drainage gates, Lyman pressure meters for irrigation water, and self-feeders for hogs were found in the Agricultural hall.

The Ashland Products Co. had their governed attachment for the front of a Ford car pumping water with a small centrifugal pump.

The Oil-gas Burner had a fine demonstration of a blue oil flame, steady, silent, and hot. This was in a common cook stove, but other burners for a gas range were connected to the same compressed-air-and-kerosene tank.

Harvesters and Hay Presses.

A Caterpillar combined harvester was displayed in the tractor tent along with the new bean pickup attachment. A few changes in cylinders, screens, etc., convert a regular grain harvester into a bean pickup thresher by means of the new attachment which replaces the reel and draper.

Several Harris combined harvesters for grain and beans were operated by their own engines a great deal of the time at the rear of the machinery tents.

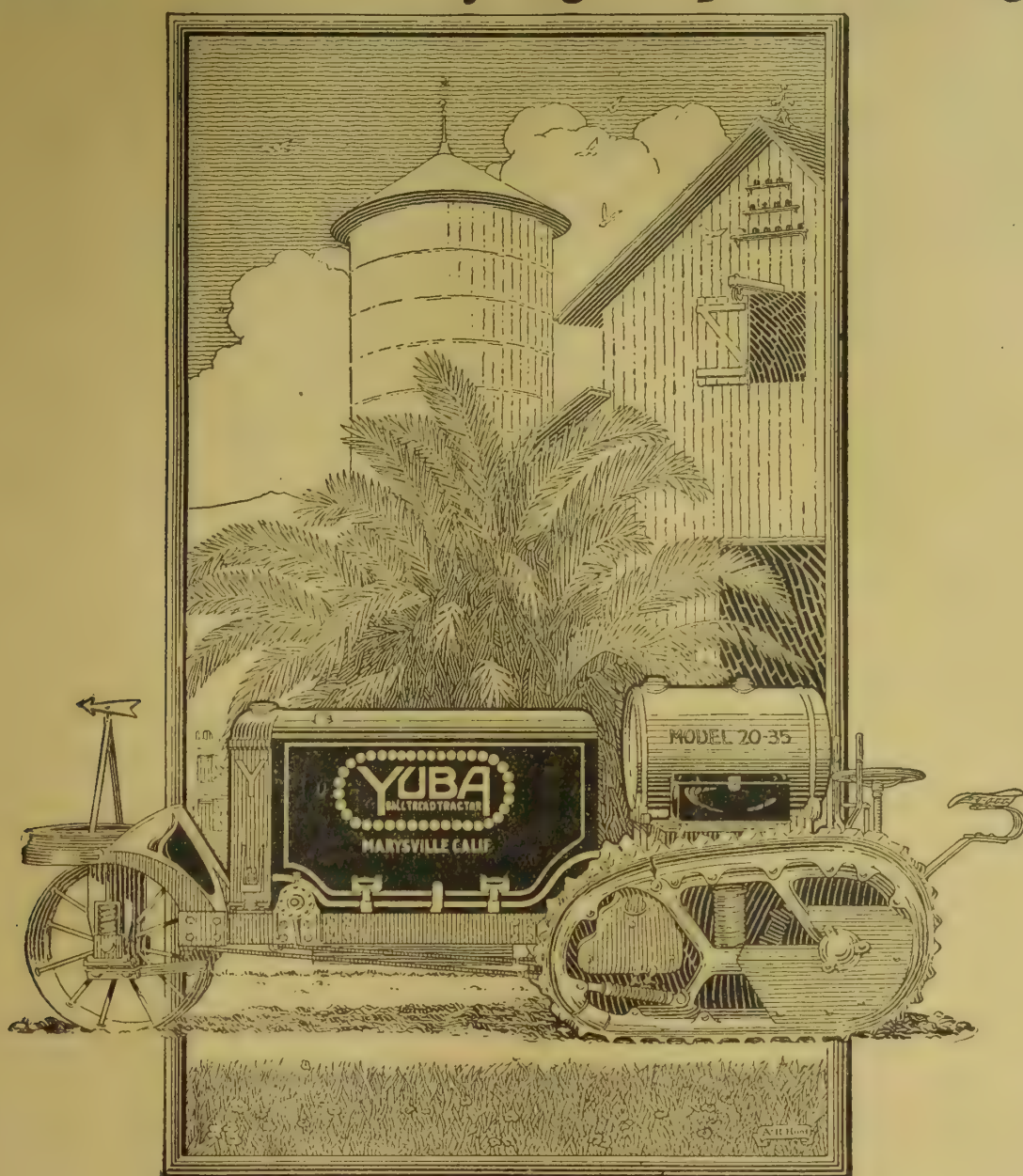
J. I. Case grain and rice threshers were a part of that company's tractor exhibit.

Two great Junior Monarch hay presses attracted much attention in front of the motor truck tent.

Grain Graders.

One of several Rotary Grain Graders in one of the tractor tents continually separated weed and watergrass seed from paddy rice at the rate of 30 sacks per hour with one horsepower and mixed it up again. With suction, it was explained, most of the watergrass seed can be taken out in about five attempts, but still some of the largest seeds remain and reduce the value of the rice. The Rotary has an angular cylinder around which wires are strung like piano wires, just far enough apart to allow the sluggish-moving watergrass seeds to roll and slide along until they fall through, while rice paddy simply hits the wires and bounces along.

THE YUBA—the tractor of highest price and highest quality



The reasons for the price are in the tractor

—In the materials used — alloy steels wherever the life of a part may be prolonged; wherever strength may be increased; wherever the bulk may be reduced.

—In the workmanship — the degree of skill in machining the vital parts; the precision by which smooth-working is assured; the infinite care given minute details.

—In the *ball tread* principle, proved by five years' experience to be unequalled in delivering to the draw-bar the maximum percentage of motor power.

The high price is your guaranty against breakdown, loss of valuable time, big repair bills, annoyance; it insures getting your work done as you want it — and when you want it!

"The YUBA price is the right price for YUBA value!"

There are three sizes of YUBA Ball Tread Tractors: 12-20, 20-35, 40-70

Write us for the catalogue of the size you need; tell us how many acres you farm and the kind of soil

Ready for Immediate Delivery

Yuba Manufacturing Company

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Now is the Time to Buy Your Spreader

A GOOD manure spreader, properly used, will undoubtedly earn its full cost and more on any average farm this year. Besides doing that, it gets you into the habit of fertilizing your land regularly and so building up a soil condition that makes your farm more valuable with each succeeding year.

Everybody expects prices of farm products to be high this year. The market will absorb everything you can raise and pay you well for it. Occasional top dressings of growing crops will increase yields this year, probably more than enough to pay for your spreader, and will also give you even greater assurance of bigger yields next year. Buy your manure spreader now and get busy.

For best results, get one of the light-draft

Corn King — Cloverleaf — 20th Century

spreaders, whichever of the three the dealer sells. All these machines spread beyond the wheel tracks, yet are so narrow they can be driven right into the barn for easy loading. There are three handy sizes, small, medium, and large. Each can be adjusted to do the heaviest spreading ever required, or for the lightest kind of top dressing. The spread is wide enough to dress three rows of corn at once.

You cannot expect land to grow bumper crops on an empty stomach. This year it will pay you well to feed your crops. Buy a Low Corn King, Cloverleaf, or 20th Century spreader now. At harvest time you can charge the full cost off your books and have a spreader that has cost you nothing and that will do good work for years to come. See the local dealer or write us for catalogues.

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Trailers Equipped with Air-Brakes

(Written for Pacific Rural Press.)

"In one respect at least the development of trailers has eclipsed that of automobiles, for whereas automobiles are controlled by manual foot-brakes, the latest model trailers are now equipped with air brakes, which operate on identically the same principle as those on railroad cars," declares C. H. Mason of the Los Angeles Trailer Company.

"Not all trailers are equipped with air brakes, but any can now be so equipped if desired. The air is conducted from the truck through a pipe line paralleling the drawbar and the pipe lines are clipped to the trailer frame, extending the full length. The trailer control unit consists of a compact little storage tank and valve mechanism and is pneumatically connected with the control level operated by the truck driver. The air, when applied to the trailer brakes, is drawn from the trailer storage tank and does not pass through the distributing valve and line from the truck. The air admitted to the trailer brake cylinder is exhausted through the trailer valve.

"The connection situated between the trailer and truck operates the same as the air hose connection be-

tween railroad cars, although, of course, of much lighter construction. If for any reason the trailer is disconnected from the truck, the trailer brakes are automatically applied just like a railroad train. The broken air connection automatically releases the air from the trailer tank to the trailer brake cylinder whenever the trailer is disconnected. This permits absolutely safe operation of trailers over the most hazardous roads and gives positive control at all times. Also in going down steep hills a little air applied to the trailer brakes will keep the trailer under absolute control, even to the point of controlling the movement of the truck.

"Efficient hand brakes can be applied to trailers when the trailer owner does not care to go to the cost of equipping with air brakes. These brakes are equalized through the frame so that an even amount of pressure is applied on both drums. Control of the brakes is applied through pull rods and levers and the control is arranged in such a manner that inequality of the road surface will have no tendency to shut the brakes. The brakes can be controlled from the driver's seat on the truck."

DAIRY MACHINERY AT STATE FAIR.

(Written for Pacific Rural Press.)

Dairy machinery never had so big an exhibit at the State Fair as this year, nor so many exhibitors. The great labor shortage was reflected in exhibitors' notions as to what would appeal to the public. Aside from the Simplex and Remco silos, which were erected for inspection close to the dairy cattle sheds, every exhibit contained a milking machine. These included the Universal, De Laval, Calfway, Empire, Hinman, and Perfection, all working and all attracting interested crowds. The De Laval exhibit was most extensive, featuring their new milking machine and Alpha gas engines. One engine with half of its cylinder cut away was being run by another. One engine operated a Viking rotary pump, throwing a big stream of water. An Acme silage cutter was ready for business, and James' barn equipment added to the labor-saving motif of the exhibit.

The California Hydraulic Supply Co. exhibited the Universal milking machine, which also is new on the market since last State Fair. Loudon barn equipment was emphasized; but the newest line being handled by this well-known farm machine supply house was the Alamo farm lighting system and the Duro air-pressure water system. The feature of this, aside from the undoubted advantage

of having electricity for a score of household jobs and electric lights in the rotary cylinder of its engine, which will be described separately.

UNIVERSITY TRACTOR COURSE— SEPTEMBER 16 TO 25.

As registration in the University Farm Tractor Short Course, September 16 to 25, is limited to 180, and as 120 had already registered on September 4, anyone who wants to enroll will have to send their dollar at once to Dean H. E. Van Norman at Davis. The course is held early this time in order to avoid conflict with regular school work. Dormitories at the Farm are all occupied, so your own blankets may be needed. Prof. L. J. Fletcher, who has assisted Prof. J. B. Davidson in all preceding short courses is in charge this year with an enlarged number of assistants. It is the best course, considering the time spent on it by the student, that we have ever experienced.

The All-Work 15-30 wheel tractor is being distributed in California by Grant & Co. of Sacramento since a month ago. This is made by the Electric Wheel Co. of Quincy, Ill.

The Waterloo Boy tractor has been improved by 51 minor refinements since the John Deere Co. purchased the factory.

THE STANDARD OIL ZEROLENE For Motor Cars

MORE POWER

Zerolene gives better compression—therefore, more power to your car. It burns clean and goes out with exhaust. Deposits least carbon. Get a Correct Lubrication Chart for your car.

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BOOK ON DOG DISEASES And How to Feed

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H. CLAY GLOVER CO., Inc.,
118 West 31st Street, New York

America's Pioneer Dog Medicines

A handpower machine to pull Government trucks out of the mud was ordered from the K Handpower Stump-puller people whose regular machine is heavier than was needed. So one was designed weighing 28 pounds. In the test, it pulled six tons, and gave entire satisfaction.

12-20 H.P.

16-30 H.P.

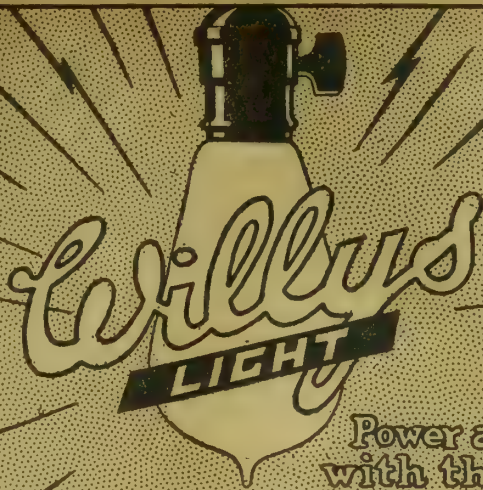
20-40 H.P.

30-60 H.P.

The LIFE of a Tractor — not PRICE Determines its VALUE

There's a size OilPull for every need—all standard in design, all guaranteed oil burners.

ADVANCE-RUMELY THRESHER CO., Inc.
17-19 Main Street, San Francisco, Cal.



Power and Light
with the Quiet Knight ★

THE ANNOUNCEMENT of Willys Light has special significance for every American farmer.

Due to limitations of central station service, one of the important blessings long withheld from the farmer's reach was electric light and power. With the perfecting of the individual light and power plant this handicap to farm life progress has been removed.

The Electric Auto Lite Corporation saw the great possibilities of service to the farmer in this invention and concentrated its resources, experience and ability upon a thoroughly dependable electric light and power plant that would completely meet the farmer's peculiar need.

The result is Willys Light!

It gives city comforts for country homes.

The world's largest producers of starting and lighting systems for motor cars,

the Electric Auto-Lite Corporation, in building Willys Light rigidly adheres to five basic principles that must be embodied in a plant worthy of the farmer's full confidence.

It must be simple. It must be durable. It must be efficient. It must be easy of operation and require little care. It must be economical.

Willys-Light has the simplicity of few parts, well made of good material. Significant of its efficiency is its quietly powerful Willys-Knight engine, famed for its improvement with use. It cranks, runs and stops itself. It secures economy by burning kerosene—the cheapest fuel.

With its possibilities for easing the burden of farm life and making it more pleasant and profitable, we take distinct pride in offering the perfected Willys Light as an important contribution to the welfare and efficiency of the American Farmer.

ELECTRIC AUTO-LITE CORPORATION, WILLYS LIGHT DIVISION
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★ The Willys-Knight Sleeve-Valve Engine

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Fill out and return this coupon and we will send you, free, an interesting book on Willys Light, for the farm, describing its many advantages that bring City Comforts to Country Homes.

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The end of your Search in Tractors

The BATES STEEL MULE is the most efficient tractor in America—barring none. From its radiator to its crawler—it is a high grade, dependable product, thoroughly worked out on every conceivable condition of ground on which it is possible for a tractor to work.

At Los Angeles

September 16 to 21, we want you to closely observe the work it is possible for you to do with the BATES STEEL MULE—

Performance tells.

Bearings—large Timken and Hyatt Roller.

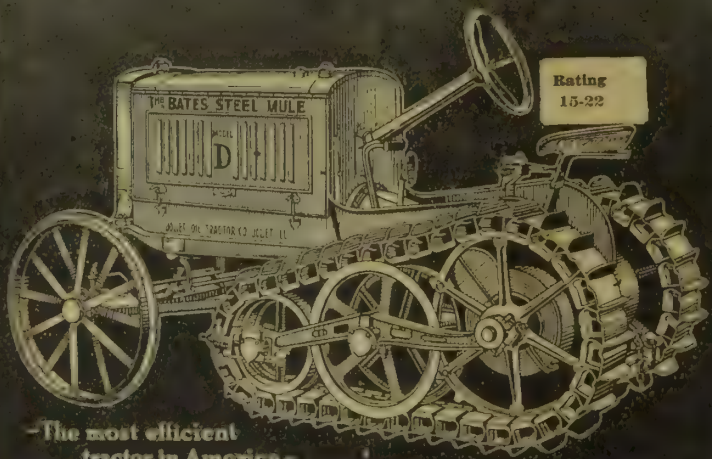
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Excellent Agency
Proposition

**Bates
Steel Mule**



**The most efficient
tractor in America—**

The New 16 valve Twin City Tractor

PAYS BIG DIVIDENDS

For the first time in the history of the tractor industry, the 4-cylinder, 16-valve engine (valve in head type) is now applied to a tractor. The TWIN CITY 12-20 with its 16-valve motor actually develops 25 per cent more than its rated horsepower.

This new 12-20 is a light weight tractor that will out-pull, out-last, and out-dividend other tractors of equal rating.

Not built down to a price, but built up to a fixed ideal—to do the work assigned to it better than it has ever been done before.

The highest grade tractor will unfailingly prove the least expensive and pay the biggest dividends.

Frank Penstrom & Co.
DISTRIBUTORS

Van Ness at Golden Gate,
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UTILITY TRAILERS



Two Loads
for
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AVOID RAILROAD CONGESTION

Do all your hauling by
Truck and Trailer.

2 and 4-wheel models ready
for delivery. 800.

Los Angeles Trailer Co.

1328 Palmetto St.,
Los Angeles.

Tractor Improvements Seen at State Fair

(Continued from page 348.)

type within the year and another being about to abandon it in favor of four wheels. In some of the longer wheel types, the front wheels are set back under to give shorter turning radius and greater weight on the front wheels to insure their gripping the earth in turning or in pulling side drafts.

Design and Placement of Cylinders.

Setting motors crosswise of tractors must be done with care to avoid over-width; and but few tractors are built this way. Setting the motor crosswise has its advantages, however, which carry considerable weight with the tractor user. The makers of horizontal cylinders maintain them, and singly, and seems to give greater although they present certain problems which are avoided in the majority of engines having vertical cylinders. Casting cylinders en bloc is less expensive than casting them singly, and seems to give greater steadiness; but repairing or replacement is more expensive if one cylinder becomes cracked from freezing or scored from lack of lubrication or otherwise injured. Most four-cylinder engines are cast en bloc, a few in two pairs, and a few more are cast singly. The latter include big and small machines. Removable cylinder sleeves have been adopted by several tractor manufacturers to avoid expense and loss of time when a cylinder becomes damaged. These sleeves have not all proved perfectly satisfactory, but they seem on the road to commercial perfection and we may look for a greater number of tractors to use them.

Greatest Improvement Is in Materials.

Probably the most notable and universal change in tractors during the past year consists of the use of better materials. This in many cases reduces weight, and in probably all cases it reduces upkeep costs. During the war it was next to impossible to get materials desired or to get uniformity in any materials. That bad feature is clearing away now and manufacturers are quick to improve in this direction. Manganese steel in tracks and track links has made a few good strides in the past year. Tungsten steel in valves to reduce pitting has found additional devotees. Special steel treatments for track links and many other parts of tractors which have developed weakness under abuse are greatly reducing the likelihood of breakage.

Improvements Unavoidable.

In any industry of such vital importance to mankind and as new to the vast majority of mankind as the tractor industry, the first machines are rapidly improved after trial. Where so many minds are working on the problems of an industry as in the tractor business, there will continue for many years to be a multitude of new features tried out and either cast aside or embodied in the ultimate types. It is no discredit to the tractor industry that many machines that have heretofore claimed attention have disappeared. It is no discredit to any tractor to say that some of its features have failed in the short period of tractor development to secure general approval. It may be that some of the models heretofore discredited will be revived with certain changes and become most popular.

Some of the unusual efforts to obtain better traction were absent from this State Fair, though the idea of driving on all four wheels is just as strong as ever with indications that other tractors with four drive wheels, or even six drive wheels, will be shown at the next State Fair. This feature has been so well demonstrated with motor trucks that it surely has practical probabilities with tractors.

Let Manufacturers Do Testing.

With most of the striking variations from common design in tractors, it is well for farmers to keep thoroughly posted, but let the manufacturers pay the cost of trying them out. A farmer has no money to use assisting manufacturers to prove out new fea-

tures when the present features are so well standardized in such a large number of tractors as are available.

There have been improvements and there will be improvements in tractors, but we repeat that the farmer who waits for them will lose more by waiting than he will by paying extra for them when they have been proved.

TRUCKS AND TRAILERS AT STATE FAIR.

(Written for Pacific Rural Press.)

There was a large special tent practically full of motor trucks and trailers despite the assertion of one of our contemporaries that there was no such exhibit at the State Fair. It is to be regretted that the truck and trailer men are not organized to work up as big and representative exhibits as the tractor and implement men had, but the visitor who wanted truck and trailer information could not get through the one tent in half a day.

"A Load Behind Is a Trip Ahead."

Eleven different makes of trucks were shown besides an attachment designed to convert automobiles into trucks. One of the four-wheel-drive trucks was there. About thirty-five different models of trucks were there for inspection and comparison. Four different makes including at least ten different models of trailers and trailer beds were shown.

While these are not a large proportion of all the trucks and trailers on the market, it was interesting to note that six of the different makes used worm gears for final drives, four used internal gears, one uses a chain drive, and one a gear drive. Nine used solid tires, but only one used dual tires. Three were equipped with pneumatics. These facts do not necessarily represent the entire industry.

The most notable change was in the trailers. Practically all of these were four-wheelers, and all except the two-wheelers have automatic steering apparatus of the automobile type. This marks the passing of trailers which wobble all over the road endangering their contents and other occupants of the road. One trailer was equipped with such steering apparatus at both ends, so it could be backed up straight ahead, locking the steering device on whichever end was to be the rear. One trailer has interchangeable tongues, for auto, truck, two horses, or one horse, so it may become a one-horse wagon on occasion.

Trucks exhibited were Chevrolet, Atterbury, Golden West Four-wheel Drive, Sterling, Paige, Oldsmobile, Patriot, Federal, Doane, Diamond T, Traffic, and Browntruck (the automobile attachment). Trailers on exhibit were the Utility, Troy, Reliance, and Trailmobile.

POWER MACHINERY NOTES.

The Bock Tapered Roller-bearing is invading this field as evidenced by the exhibit of the F. Somers Peterson Co. at the State Fair.

The Jessen Gooseneck Cultivator for horses or tractors was introduced at the State Fair. It has no levers and will cultivate close to trees. It is equipped with sled runners in front.

A Moline grain drill 12 feet wide and built for either single or double disks was shown at the State Fair. It was guaranteed not to sag. In the Central West the Moline people have offered \$100 for each kernel found on top of the ground after planting in a well-prepared seed bed with the double-disk drill.

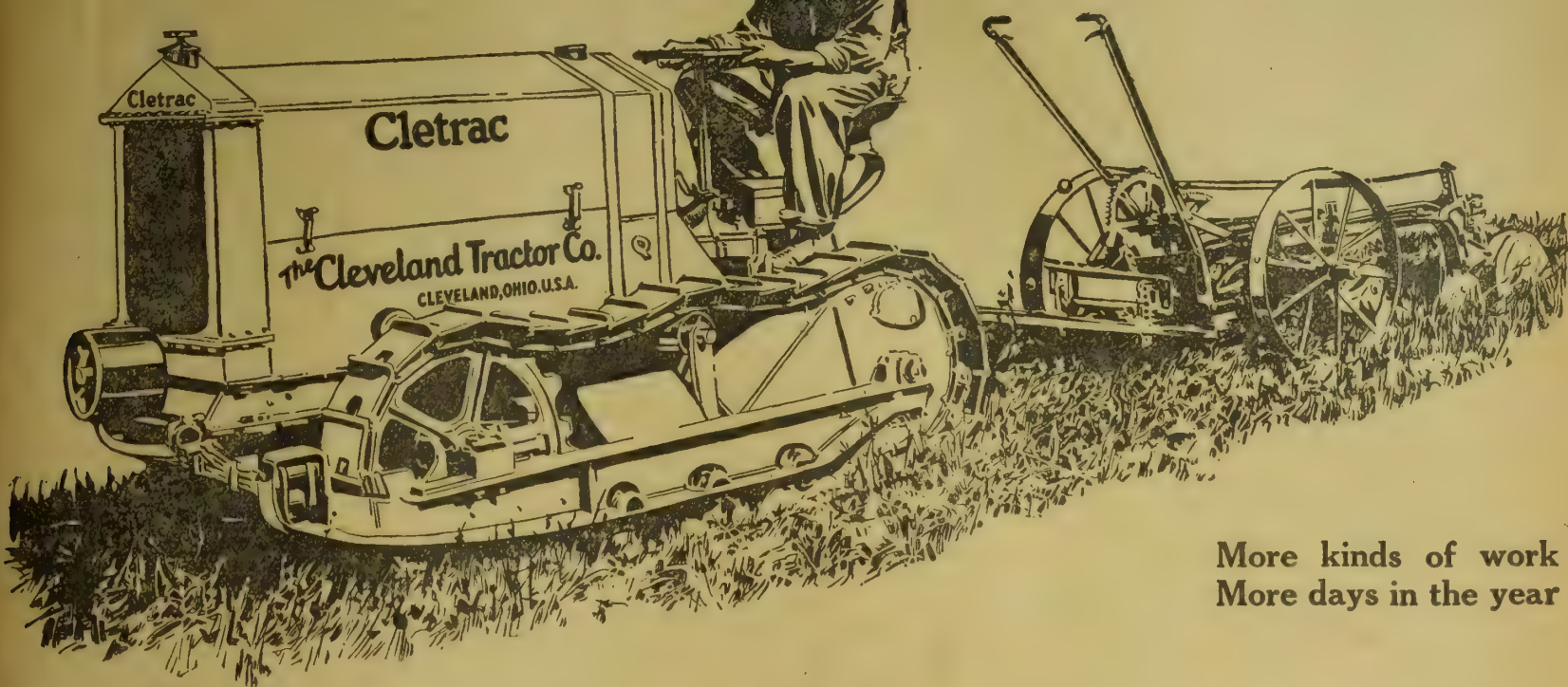
The Bean Spray Pump Co. showed at the State Fair their deep-well multistage turbine pump. They equip a pump with one extra impeller at the bottom for each 15 feet of depth. The water discharges through three pipes between which is the shaft which turns the impellers, operating in the dry. This is oiled at all bearings by a succession of oil cups, each of which overflows into the next lower one.

Cletrac

The Embodiment of Compact Power—

TANK-TYPE TRACTOR

(Formerly known as the "Cleveland" Tractor)



More kinds of work
More days in the year

THE Cletrac Tank-Type Tractor is only 96 inches long, 52 inches high and 50 inches wide. *But in spite of its small size it will do the work of six horses or mules—and has a speed of from forty to fifty per cent greater than the average tractor.*

It is the embodiment of compact power. It produces food but consumes none of it. It never gets tired. Unaffected by heat. It works all day—and all night too if necessary.

More kinds of work, more days

It does better, quicker, cheaper work—and does it *twelve months in the year.*

Plowing is *only the beginning* of its work. It harrows, plants and reaps, binds, threshes and hauls, grades, saws, and fills silos, spreads manure, digs potatoes and does practically all the other jobs formerly done by animal and stationary power.

Can be used on the seed bed

Because of its distinctive tracklaying construction the Cletrac is specially adapted to seed bed work. Eight hundred square inches of traction surface enable it to go over soft plowed ground or moist or sandy surfaces *without sinking in and without packing down the soil*—two invaluable assets not found in the ordinary tractor—two assets essential in the proper preparation of the seed bed.

Ideal for orchard and hill work

The tank-type construction of the Cletrac gives it a tremendous advantage in doing side hill work, or in climbing steep grades.

Its small size and short turning radius enable it to go under and among small trees and are largely responsible for its pronounced preference among orchard owners. A million farmers and orchardists can profitably use the Cletrac twelve months in the year.

An economical tractor—burns kerosene

The Cletrac operates on a surprisingly small amount of gasoline, distillate or kerosene, but is specially designed to use kerosene. It takes less space in your barn than a horse. It eats only when it works.

Sales and Service go together

Our sales and service organizations go hand in hand. Wherever you can get the Cletrac you can get genuine Cletrac service backed up by the strength and reputation of The Cleveland Tractor Company.

Early ordering is essential, as we cannot promise prompt delivery very far ahead. See your Cletrac dealer *now*, or write us for information. We have a very interesting booklet "*Selecting Your Tractor*" that will give you much valuable information on tractor farming. Write for your copy *today.*

The Cleveland Tractor Co.

19079 Euclid Avenue

Cleveland, Ohio

Largest producers of tank-type tractors in the world

Livestock Looms Large at State Fair

(Continued from 1st page.)

various breeds were unanimous in expressing their gratification over the high quality of the exhibit. Mr. Lovejoy, who judged the Berkshires, said that "outside of one ring the showing of this breed in California this year surpassed the one made a week ago at the Illinois State Fair."

Sheep Exhibit Small but Creditable.

The sheep exhibit was really the weakest of any of the old established departments, but had much to its credit for all of that. The Rambouillet exhibit was especially strong, although there was but one exhibitor. There was more competition in the Hampshire classes, but no larger exhibit. Some time California will have a great exhibit of sheep, as some of the early breeders left some wonderful sheep behind them. In fact, they practically established a new breed of which more will be said in the future.

Drafters Draw Attention.

The draft horse, according to the ideas of a great many, is really not of much significance since the advent of the tractors, motor trucks, and good roads. Perhaps the zenith of their glory has come and gone. Perhaps we can get along without them now that we have the good roads, but it still is no uncommon thing to see a truck pulled out of the sand or mud-hole by a sturdy team of drafters, or the hillsides, corners and strips along rows of orchard trees being plowed by the same means. Also in the regions of snow and ice in the winter we still have a friend in the horse who has so long and faithfully served us in the past.

They are not all gone, as could easily be seen by visiting the horse barns south of the main building at the State Fair. Stall after stall filled with the princely Percherons, the massive Belgians and gigantic Shires. Groomed and fitted "to the minute" they were a credit to the judgment and enterprise of the breeders who

still know we have need for the horse in the economics of the farm.

University Farm Exhibit.

It would not be doing justice to our great agricultural college if no mention were made of the wonderful educational and publicity exhibit on the Fair grounds this year showing what they have and what they are doing for the animal industry of our fair State. Beautiful specimens of many of the breeds raised in our commonwealth were shown not for competition, but as educational exhibits. Stabled in a building set aside for the purpose were sleek Shorthorns and Herefords, the handsome and massive four-horse team of Percherons, 4 Percheron spring colts, and 2 yearling Shire colts; 5 breeds of swine, 5 breeds of sheep and 4 breeds of dairy cattle. All were represented by animals excellent in individuality and condition.

Specimens of livestock were not all that were shown in this same line; but also feed racks for sheep; self-feeders for hogs, and in actual use. These devices showed construction that prevented waste of feed and still were very easy to make.

Other devices shown were hen houses adapted to either the city lot or the farm, both of stationary and knock-down type that could be used for housing laying hens or brooder houses.

These exhibits are intended to call the attention of the people of California to what their agricultural college is doing for them. People generally do not recognize the value of the work done by their college and how much can be learned there in a very short time. Neither do all of them realize that the college and farm are their institutions and for their use. The exhibits are publicity exhibits to show and teach how practical and efficient the institution has gotten to be and how much it can help us all if we will only meet them half way.

STATE FAIR LIVESTOCK AWARDS.

DAIRY CATTLE.

Ayrshires.—Exhibitors: E. B. McFarland, San Francisco; J. Henry Meyer, San Francisco; Preston School of Industry, Waterman.

Senior champion bull.—Champion: Holehouse Secretary Imp, Meyer.

Junior champion bull.—Champion: Ayrmont, McFarland.

Senior champion cow.—Highland Itham, Meyer.

Junior champion cow.—Champion: Elkhorn Heatherflower.

Grand Champion Bull.—Grand champion: Holehouse Secretary Imp, Meyer.

Grand champion cow.—Grand champion: Highland Itham, Meyer.

Bull, two years and under three.—First:

Holehouse Secretary Imp, Meyer. Second: Steybrae Improver, McFarland. Third: Steybrae Commander, McFarland. Fourth: Steybrae Masterpiece, Preston School. Fifth: Premier, Preston School.

Senior yearling bull.—First: Preston Prince Banglos, Preston School.

Junior yearling bull.—First: Preston Ravendale, Preston School.

Senior bull calf.—First: Elkhorn Public Opinion, Meyer. Second: Steybrae Monarch, McFarland. Third: Steybrae Master Douglas, McFarland. Fourth: Elkhorn Mariner, Meyer.

Fifth: Preston Masterpiece, Preston School.

Junior bull calf.—First: Ayrmont, McFarland. Second: Ayrmont, McFarland. Third: Elkhorn Royal Review, Meyer. Fourth: Steybrae Robbie Burns, McFarland.

Cow, four years old or over.—First: Highland Itham, Meyer. Second: Maple Leaf Lily, McFarland. Third: Sunnyside Governess, McFarland. Fourth: Curfew Bell 3rd, Meyer.

Fifth: Hancock Favorite, Meyer.

Cow, three years and under four.—First: Torr of Elkhorn, Meyer. Second: Auchinbay Jean 8th, McFarland. Third: Cedar Hill Princess, Preston School.

Cow, two years and under three.—First: Robin's Lucy of Elkhorn, Meyer. Second: Steybrae Jennie Deans, McFarland. Third: Baron's Blue Bell, Meyer. Fourth: Steybrae Ellen, Preston School. Fifth: Steybrae Grace Darling, McFarland.

Senior yearling heifer.—First: Baron's Snow Maid of Elkhorn, Meyer. Second: Steybrae Kirsty, McFarland. Fourth: Preston Dewdrop 2nd, Preston School.

Junior yearling heifer.—First: Steybrae Nona, McFarland. Second: Burnside Miss Courtney, McFarland. Third: Preston Nellie Osborn, Preston School. Fourth: Elkhorn Kirsty, Meyer. Fifth: Preston Princess, Preston School.

Senior heifer calf.—First: Elkhorn Heatherflower, Meyer. Second: Ayrmont, McFarland. Third: Ayrmont, McFarland. Fourth: Steybrae Edna, McFarland. Fifth: Elkhorn Snowflake, Meyer.

Junior heifer calf.—First: Elkhorn Thistle-down, Meyer. Second: Steybrae Gem, McFarland. Third: Steybrae Alta, McFarland. Fourth: Preston Soney Maid, Preston School.

Cow having official yearly record.—First: Willowmoor Vista 4th, McFarland.

THE OTIS HERD

WILLOUGHBY, OHIO.

Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledge the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison.

Santa Rosa Stock Farm, Santa Rosa, Cal. California Representative.

Live Oak Stock Farm

Importers and Breeders of

RED POLLED CATTLE,

SHROPSHIRE, AMERICAN MERINO and RAMBOUILLET SHEEP

FOR SALE:

150 purebred Shropshire rams.

150 American Merino and Rambouillet rams, yearlings and 2-year-olds.

Also 100 head ewes, ages 2 to 4 years old.

F. A. MECHAM ESTATE

PETALUMA, CAL.

Take electric cars at either Petaluma or Santa Rosa for Live Oak Station.

HILLCREST STOCK FARM

Shorthorn Cattle

Shropshire Sheep

Merino Sheep

RAMS AND BULLS FOR SALE

Single or in Carload Lots

T. S. GLIDE, - Davis, Calif.

WINSOR RANCH DUROCS

HOME OF

Winsor's Giant Orion

The largest Duroc-Jersey Boar on the Pacific Coast.

82 inches long from between eyes to root of tail, 40 inches high, weight 965 lbs.

Great Model

THE LARGEST DUROC-JERSEY ON THE PACIFIC COAST.

40 BIG-TYPE FALL GILTS BY THE WORLD'S GREATEST SIRE

will be offered for private sale, bred to these two boars. 28 of them have just arrived from Iowa. See our herd at the big California Fairs.

Address R. K. WALKER,

Bonita, San Diego Co.

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay.

Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.

A few yearling heifers of same breeding.

Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY, Perkins, Sacramento Co., Cal.

ORMONDALE SHORTHORNS

All are heavy boned, and of Scotch and Scotch-topped breeding.

Suited for either the range grower or breeder.

EVERY ANIMAL POSITIVELY GUARANTEED.

Whether you buy or not, visit our ranch, 7 miles from Palo Alto on Woodside Road.

We welcome inspection. Prices and pedigrees on application.

SHORTHORN CATTLE ORMONDALE CO. BEDWOOD CITY, CAL. E. D. No. 1

DUROC-JERSEY SWINE

Every Hog on the Gardiner Ranch is Cholera Immune.

Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER

GARDINER'S KING'S COL.

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH

ROUTE 4, BOX 735. SACRAMENTO, CAL.

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

One mile east of town.

St. Helena, Calif.

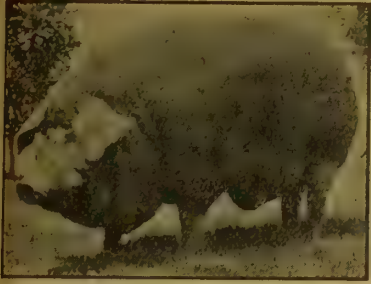
HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

Lakeside Stock Farm Big-Type Poland-Chinas



MATCHLESS BIG BOB
284659

First Prize, Sacramento, 1919

This herd headed by Matchless Big Bob and Lakeside Defender. These sires are of the type and breeding that are so popular today. Young stock from these boars and sows of A Wonder, Chief Defender's Choice and Major Hadley Wonder breeding, on exhibition at the State Fair and other fall shows. Also a great consignment at the San Joaquin County Poland-China Breeders' Sale on September 19th at Lodi.

Inquiries cheerfully answered and visitors always welcome.

Geo. V. Beckman & Sons
LODI, CALIF.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM
W. O. Pearson, Prop. Woodland, Cal.

DUROC JERSEY BOARS
Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.
DONALD H. GRAHAM,
P. O. Box 177. Lancaster, Cal.

HOLMES STOCK FARM
WATERFORD RD., MODESTO, CALIF.
Registered Holstein Friesians.
YOUNG SERVICE BULL FOR SALE
Prince Abbecker Aralia Walker, No. 204267—Three-quarters white. Write for pedigree and price. Inspection invited and satisfaction guaranteed.

Calf Profits
Are you getting them? Calf profits mean more to you now than ever before.
Blatchford's Calf Meal
has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.
Write for New Data See actual figures showing how to increase your calf profits.
COULSON CO. - Petaluma, Cal.

RHOADES & RHOADES
EXPERT LIVESTOCK AUCTIONEERS
Purebred Stock Sales a Specialty
Sales Conducted in All Parts of California.
BEN A. RHOADES, Auctioneer
1501-S.E. 8th St. Main 41 Los Angeles, Cal.



Aged herd.—First: Meyer. Second: McFarland. Third: McFarland.

Breeders' young herd.—First: McFarland. Calf herd.—First: McFarland. Get of sire.—First: Willowmoor Robinhood 32nd, McFarland. Second: Auchenbrain Timekeeper, McFarland. Third: Baron's Best of Bargenochl, Meyer.

Produce of dam.—First: Willowmoor Jean Douglas 1st, McFarland. Second: Substantial's Snowflake, Meyer. Third: Springbrook Mossy, McFarland.

Dairy herd.—First: McFarland. Second: Preston School.

Guernseys.—Exhibitors: Elliott-Brant Rancho, Owensmouth; B. K. Fish, Santa Barbara; L. D. Smith, Berkeley; William H. Saylor, San Francisco; James Marwick, Santa Barbara; A. B. Humphrey, Escalon.

Senior champion bull, two years old or over.—May King of Fern Ridge, Elliott-Brant.

Junior champion bull, under two years.—Escalon Truetime, Humphrey.

Senior champion cow, two years old or over.—Princess of Meadowbrook, Elliott-Brant.

Junior champion cow or heifer, under two years.—Redwing of the Rancho, Elliott-Brant.

Grand champion bull.—May King of Fern Ridge, Elliott-Brant.

Grand champion cow or heifer.—Princess of Meadowbrook, Elliott-Brant.

Bull, three years old or over.—First: May King of Fern Ridge, Elliott-Brant. Second: Bullion of Edgemoor, Humphrey. Third: Mysie's Duke of Claremont, Smith. Fourth: Bull, two years old and under.—First: Escalon Challenger, Humphrey. Second: May King of the Rancho, Fish. Third: Palo Boy, Smith. Fourth: Mysie's Prince of Claremont, Smith.

Bull, senior yearling.—First: Mysie's Laddie of Claremont, Smith. Second: Mysie's Linden Hoy, Marwick.

Bull, yearling junior.—First: Nobleman of Maple Hill, Humphrey. Second: Lady Reed's White Face of the Rancho, Elliott-Brant.

Senior bull calf.—First: Admiral of the Rancho, Elliott-Brant. Second: Escalon Beauty Boy, Humphrey. Third: Prince Mysie of Claremont, Smith.

Junior bull calf.—First: Escalon Truetime, Humphrey. Second: Sylvester of the Rancho, Elliott-Brant. Third: Warrior of the Rancho, Elliott-Brant. Fourth: Glen's Fawn of Claremont, Smith.

Cow, four years old or over.—First: Princess of Meadowbrook, Elliott-Brant. Second: Pet's Pansy of Pine Grove, Elliott-Brant. Third: Fairy of Alfalfa Farms, Saylor. Fourth: Maysie's May of Claremont, Smith.

Cow, three years and under four.—First: Elsie of the Rancho, Elliott-Brant. Second: Corfu of Hillside, Elliott-Brant. Third: Maysie's Hope of Claremont, Smith. Fourth: Maysie's Star of Claremont, Smith.

Cow, two years and under three.—First: Dorethea of Green Lodge, Elliott-Brant. Second: Jennie of Green Lodge, Elliott-Brant. Third: Calla Grove Merry Princess, Humphrey. Fourth: Maysie's Moon of Claremont, Smith. Fifth: Lady's Bettie of Claremont, Smith.

Senior yearling heifers.—First: Redwing of the Rancho, Elliott-Brant. Second: Escalon Evangeline, Humphrey. Third: Maysie's May of Claremont 2nd, Smith. Fourth: Escalon Boopie, Humphrey. Fifth: Maysie's White of Claremont, Smith.

Junior yearling heifer.—First: Butternut Queen of the Rancho, Elliott-Brant. Second: Little Queen of the Rancho, Elliott-Brant. Third: Calla Grove Merry Princess, Humphrey.

Senior heifer calf.—First: Rosemary of the Rancho, Elliott-Brant. Second: Escalon Lassie, Humphrey. Third: Escalon Maggie, Humphrey. Fourth: Jilda of the Rancho, Elliott-Brant.

Junior heifer calf.—First: Escalon Rose Humphrey. Second: Escalon Flossie, Humphrey. Third: Corfu of the Rancho, Elliott-Brant. Fourth: Butternut of the Rancho, Elliott-Brant. Fifth: No name, Smith.

Aged herd.—First: Elliott-Brant Rancho. Second: Humphrey. Third: Unnamed Calf Smith.

Young herd.—First: Elliott-Brant. Second: Humphrey. Third: Smith.

Calf herd.—First: Humphrey. Second: Elliott-Brant Rancho. Third: Smith.

Get of Sire.—First: Get of Bullion of Edgemoor, Humphrey. Second: Get of Brookmead's White Face, Elliott-Brant Rancho. Third: Get of President's Mysie, Smith.

Produce of Dam.—First: Produce of Teddy's Pet, Elliott-Brant Rancho. Second: Produce of Grape Wild Farm Lassie, Humphrey. Third: Produce of Butternut Queen, Elliott-Brant. Fourth: Produce of Linden's Daisy of the Island 2nd, Smith.

Dairy herd.—First: Elliott-Brant. Second: Smith.

Holstein-Friesians.—Exhibitors: Frank B. Anderson, Sacramento; Bridgford Company, Patterson; V. F. Dolcini, Davis; H. E. Cornwell, Modesto; Jane Garden Farm, Sacramento; J. S. Gibson Co., Williams; Henderson & Company, Sacramento; W. J. Higdon, Tulare; R. E. Holmes, Modesto; J. Self, Williams.

Grand champion bull.—King Segis Alcartra Prilly, Bridgford.

Senior champion bull, 2 years old or over.—First: King Segis Alcartra Prilly, Bridgford.

Junior champion bull, under two years.—Champion: Bonita Sir Cornucopia Glista, Higdon.

Senior champion cow, two years old or over.—

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?

Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

SAN FRANCISCO

ONCE AGAIN!!

Champion Berkshire Barrow

Won by CASTLEVIEW RANCH on pig sired by MAYFIELD ROOKWOOD 2ND

the sire of all Champion Berkshire Barrows shown this year—himself a Grand Champion. 220 lbs. of Real Pork at 5 months of age.

ALSO

First and Junior Champion Sow

Ten other high awards.

CASTLEVIEW RANCH, SANTA ROSA, CALIFORNIA

Home of the Grand Champion Herd of Berkshires
RIVERBY PRINCESS, **ROOKWOOD LADY 100TH,**
Grand Champion Sow of the World. Grand Champion Sow of America.
MAYFIELD LAUREL 15th
Grand Champion Sow of California.

Attend the California International Livestock Show and see our exhibit—San Francisco, November 1-8, 1919.

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

Fresno Boy, 340,749

Sired by Orange Boy and brother of Liberty Boy, Grand Champion at Illinois State Fair, 1919.

Fresno Boy was First Prize Senior Boar Pig; First Prize Futurity Pig, and Reserve Junior Champion at the California State Fair, 1919.

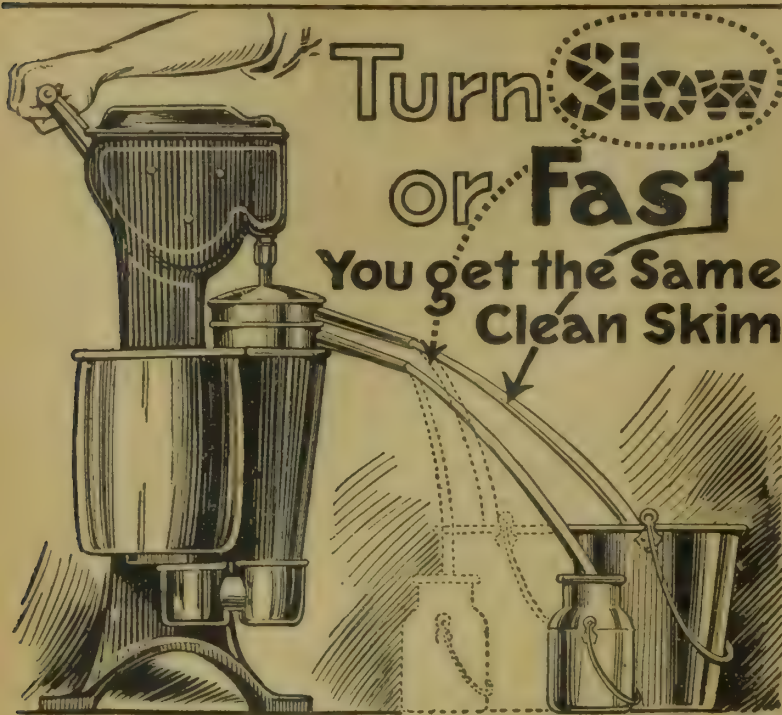
A very choice lot of fall gilts at public sale later.

FRED GATEWOOD

FRESNO, CALIF.
Ranch 10 miles west on Belmont Ave.

over.—Champion: Spring Farm Pontiac Maid 2nd, Henderson.
Junior champion cow or heifer, under two

years.—Champion: Empress Pontiac Prilly, Bridgford.
Grand champion cow or heifer.—Empress



SHARPLES SUCTION-FEED CREAM SEPARATOR

IT SKIMS CLEAN AT ANY SPEED

You can "rest up" as you work, turning slowly and easy-like.

Or you can turn faster and finish quickly.

But no matter how fast or how slow you turn the Sharples, you'll find that the cream hasn't varied a bit in thickness, nor have you lost a particle of butterfat through turning under speed.

This is due to the Sharples Suction-feed principle. No other separator can use this principle as it is patented. All other separators are fixed-feed and when you turn fast your cream thickens, and when you turn below speed you lose butterfat.

Official tests made by nearly all agricultural colleges have proved that the Sharples skimmed clean at widely, varying speeds—without affecting thickness of cream at the varying speeds. Write for full report.

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THE SHARPLES SEPARATOR CO., West Chester, Pa.

BRANCHES: CHICAGO SAN FRANCISCO TORONTO

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DC 95



HOLSTEIN COW EARN'S MOST

for \$100 worth feed. Do your cows earn 50 per cent on your feed investment? Any purebred Holstein or good grade will do that easily, as figures compiled by Hoad's Dairyman show. Taking the average from 19 herds of purebred and grade Holsteins, owned by patrons of a creamery in Jefferson County, Wisconsin, it was estimated that for every dollar (\$1.00) spent in feed, \$1.54 was received from the creamery. Unless your cows do as well, they are wasting their feed.

The Holstein-Friesian Assn. of America
BOX 141, BRATTLEBORO, VT.

Registered Holstein Bulls

Highland Herd offers bulls of serviceable age from A. R. O. dams. Excellent individuals with world's record; Ormsby Breeding.

H. M. Warden,

San Luis Obispo, California

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Creamcup Herd offers service bulls and bull calves of 34-lb. breeding Females offered for foundation stock Tuberculin tested.

M. M. Holdridge, San Jose, Cal.

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Two miles out North First Street.

Pontiac Prilly, Bridgford.

Bull, three years old and over.—First: King Segis Alcartra Prilly, Bridgford. Second: Segis Creamcup Pontiac Burke, Gibson. Third: King Kornadyke Pontiac 20th, Higdon. Fourth: Sir Johanna De Kol Rag Apple, Cornwell. Fifth: King Lillian Walker Segis, Henderson.

Bull, two years and under three.—First: Model Domino Glista, Henderson.

Senior yearling bull.—First: Model Bonnie Forbes De Kol, Higdon. Second: Manteca Kornadyke Inka, Henderson.

Junior yearling bull.—First: Bonita Sir Cornucopia Glista, Henderson. Second: Tagus Sadie Vale De Kol, Dolcini.

Senior bull calf.—First: Sir Aaggie Kornadyke Mead, Dolcini. Second: King Hengerveld Alcartra Prilly, Bridgford. Third: King Adelina Kornadyke Prilly, Bridgford. Fourth: King Segis Hengerveld Inka Prilly, Bridgford. Fifth: King Prilly Segis Pontiac, Bridgford. Sixth: Manteca Spofford Lyons, Henderson.

Junior bull calf.—First: Manteca De Kol Pietertje Inka, Henderson. Second: King Pontiac Abbekerk, Bridgford. Third: Prince Alcartra Kornadyke 7th, Gibson. Fourth: Holmes De Kol Walker, Holmes. Fifth: Jane Garden Omo Kornadyke, Jane Garden Farm. Sixth: Holmes' Blue Bell Walker, Holmes.

Cow, four years old or over.—First: Spring Farm Pontiac Maid 2nd, Bridgford. Second: Mona Forbes, Higdon. Third: Model Bonnie Echo, Higdon. Fourth: Colantha Ormsby 4th, Henderson. Fifth: Model Pontiac Kornadyke, Henderson.

Cow, three years old or under four.—First: Klaare De Kol Kornadyke, Henderson. Second: Natteline Walker, Bridgford. Third: Queen Pontiac Burke, Higdon.

Cow, two years old and under three.—First: Cruella Walker, Cornwell. Second: Bos Cornucopia Butter Girl, Bridgford. Third: Manteca Fidesa Pontiac Inka, Henderson. Fourth: Fay Tritonia Hengerveld Walker, Higdon. Fifth: Sadie Clothilde Vale, Jane Garden Farm. Sixth: Sterling Colantha Duchess, Jane Garden Farm.

Senior Yearling Heifer.—First: Empress Pontiac Prilly, Bridgford. Second: Jane Garden Tapioca De Kol, Jane Garden Farm. Third: Netherland Snowball, Dolcini. Fourth: Miss Bracelet Forbes Kornadyke, Higdon. Fifth: Blanche Nudene Clothilde, Higdon. Sixth: Mabel Walker Pietertje, Cornwell.

Junior Yearling Heifer.—First: Miss Orpha Pontiac Prilly, Bridgford. Second: Miss Segis Alcartra Prilly, Higdon. Third: Jane Garden Magnolia Kork, Jane Garden Farm. Fourth: Raphaella Pontiac Prilly, Bridgford. Fifth: Aaggie Juliet Alcartra, Gibson. Sixth: Miss Tulare Champion, Higdon.

Junior Heifer Calf.—First: Unnamed, Bridgford. Second: Empress Pontiac Segis Prilly, Bridgford. Third: Tilly Cornucopia Johanna, Gibson. Fourth: Juliana De Kol Mead, Anderson. Fifth: Manteca Walker Colantha, Henderson. Sixth: Holmes Lady Walker, Holmes. Seventh: Jane Garden Peprica Horn, Jane Garden Farm.

Cow having official yearly record.—First: Coloma Beauty Butter Maid, Higdon.

Aged herd.—First: Konigan Pontiac Prilly, Bridgford. Second: Mantyka Fidesa Pontiac Inka, Henderson. Third: Fat Tritonia Hengerveld Walker, Henderson.

Breeder's young herd.—First: Empress Kornadyke Prilly, Bridgford. Second: Jane Garden Tapioca De Kol, Jane Garden Farm. Third: Queen Pontiac Torchlight, Henderson. Fourth: Eloise Hartig Walker, Higdon. Fifth: Aaggie Topsy Pauline, Gibson.

Calf herd.—First: Miss Konigan Pontiac Prilly, Bridgford. Second: Martha Clothilde Weeman, Henderson. Third: Jane Garden Aurora Kornadyke, Jane Garden Farm.

Get of sire.—First: Empress Kornadyke Prilly, Bridgford. Second: King Adeline Kornadyke Prilly, Bridgford. Third: Fay Tritonia Hengerveld Walker, Higdon. Fourth: Jane Garden Ona Kornadyke, Jane Garden Farm. Fifth: Martha Clothilde Witkop, Jane Garden Farm.

Produce of dam.—First: Empress Pontiac Prilly, Bridgford. Second: Raphaella De Kol Pontiac Prilly, Bridgford. Third: Unnamed, Higdon. Fourth: Jane Garden Magnolia Kornadyke, Jane Garden Farm. Fifth: Model Pontiac Kornadyke, Henderson.

Dairy herd.—First: Guben Colantha, Bridgford. Second: Oatsfield Kornadyke Adelle 2nd, Jane Garden Farm.

Jerseys.—Exhibitors: A. Cruikshanks, Sacramento; M. Fortin, Orland; E. D. Greenough, Merced; Dr. H. W. Hand, Orland; Guy H. Miller, Modesto; J. H. Sawyer, Galt; J. E. Thorp, Lockford; S. F. Williams, Chico.

Senior champion bull.—Jolly Senator Raleigh, Thorpe.

Junior champion bull.—Wanda's Altama Interest, Thorpe.

Senior champion cow.—Brilliant Jersey Queen, Hand.

Junior champion cow or heifer.—Jewell of Titagel, Fortini.

Grand champion bull.—Jolly Senator Raleigh, Thorpe.

Grand champion cow or heifer.—Brilliant Jersey Queen, Hand.

Bull, three years old or over.—First: Jolly Senator Raleigh, Thorpe. Second: Altama Interest, Miller. Third: Fussy's Fern Noble 9th, Greenough. Fourth: Golden Maidkins Boy, Williams. Fifth: Lucy's Warder Foss Boy, Williams.

Bull, two years and under three.—First: Oxford Daisy's Keep On, Hand. Second: Blossom's Liberty Bond, Hand.

Senior yearling bull.—First: Golden Legacy's Champion, Thorpe. Second: Opal's Golden Laddie, Greenough.

Senior bull calf.—First: Wanda's Altama Interest, Miller. Second: Biddy's King of Mossdale, Thorpe. Third: Salome's Idy Boy, Thorpe. Fourth: Countess's Lad's Chieftain, Sawyer. Fifth: Oxford's First Prince, Hand.

Junior bull calf.—First: Jolly Ben of Mossdale, Thorpe.

Cow, four years old or over.—First: Salome of Mossdale, Thorpe. Second: Valet's Golden Biddy of L, Thorpe. Third: Duchess of Lorina, Greenough. Fourth: Eminent's Wardness, Thorpe. Fifth: Imp, Brilliant Spray, Hand.

Cow, three years and under four.—First: Brilliant Jersey Queen, Hand. Second: Nomie of Mossdale, Thorpe. Third: Angela of Venadara, Miller. Fourth: Alta La Foss, Williams.

Cow, two years and under three.—First: Lumas Lola, Hand. Second: Birdie's Agnes, Hand. Third: Pansy of Mossdale, Thorpe.

Fourth: Cantata of Venadara, Miller. Fifth: Goldie of Sunshine Farm, Greenough.

Senior yearling heifer.—First: Golden Nehalem's Cowslip, Thorpe. Second: Fair Salome of Mossdale 2nd, Thorpe. Third: Bonnie Rosalind, Cruikshanks. Fourth: Beauty of Sunshine Farm, Greenough.

Junior yearling heifers.—First: King Handford's Anna Girl, Williams. Second: St. Maw's Rosalind, Hand. Third: Daphne of Venadara, Miller. Fourth: Marcella of Mossdale 2nd, Thorpe. Fifth: Arla of Venadara, Miller.

Senior heifer calves.—First: Jewel of Tintagel, Fortini. Second: Aaggie of Tintagel, Hand. Third: Brilliant Spray's Glorianna, Hand. Fourth: Dagmar of Venadara, Miller. Fifth: Melba of Venadara, Miller.

Junior heifer calves.—First: Queen Bess of Mossdale, Thorpe. Second: Goldie's Golden Princess, Greenough. Third: Chico Hope, Williams. Fourth: Fay of Venadara, Miller. Fifth: Bettle of Mossdale, Thorpe.

Aged herd.—First: Thorpe. Second: Hand, Thorpe. Third: Williams.

Breeders young herd.—First: Miller. Second: Thorpe. Third: Williams.

Calf herd.—First: Miller. Second: Thorpe. Third: Williams.

Get of sire.—First: Get of Jolly Senator Raleigh, Thorpe. Second: Get of Altama Interest, Miller. Third: Get of Alva Lady's La Foss Boy, Williams. Fourth: Get of Oxford Daisy's Keep On, Hand. Fifth: Get of Lorna's Exile King, Greenough.

Produce of dam.—First: Produce of Imported Brilliant Spray, Hand. Second: Produce of Benedita of Venadara, Thorpe. Third: Produce of Anna Burer's Double, Williams. Fourth: Produce of Salome of Mossdale, Thorpe.

Dairy herd.—First: Thorpe. Second: Hand, Thorpe. Third: Miller.

Cow having Register-of-Merit record shown with two of her progeny.—First: Hand.

Dairy Shorthorns.—Exhibitors: Alexander & Kellogg, Suisun; Leon F. Douglas, San Rafael; Thos. Harrison, Santa Rosa; G. A. Murphy, Perkins; Chas. L. Weaver, Tulare.

Bull, three years old and over.—First: Foothills Pioneer, Harrison. Second: Daisy's Lad, Harrison.

Bull, two years and under three.—First: Westward Ho, Alexander & Kellogg. Second: North Star, Weaver.

Junior yearling bull.—First: Mary's Chief, Murphy.

Senior bull calf.—First: Count Tickford, Harrison. Second: Frantic Chief 2nd, Murphy. Third: The Westerner, Weaver.

Junior bull calf.—First: Brighton Gloster, Harrison. Second: Innisfail Favorite, Alexander & Kellogg. Third: Pedro Forrest, Douglas. Fourth: Innisfail Bettle, Alexander & Kellogg. Fifth: Kelmscott Charles, Alexander & Kellogg.

Cow, four years old and over.—First: Lady Beatrice, Alexander & Kellogg. Second: Bellevue Daisy, Alexander & Kellogg. Third: Naomi 2nd, Harrison. Fourth: Idlewood 12th, Weaver.

Cow, two years and under three.—First: Carol, Alexander & Kellogg. Second: Alma, Alexander & Kellogg.

Senior yearling heifer.—First: Glen Dorothy, Harrison. Second: Welfare's Belle, Harrison. Third: Annabel, Alexander & Kellogg. Fourth: Rose Fairfield 2nd, Alexander & Kellogg.

Junior yearling heifer.—First: Roan Duchess 2nd, Harrison. Second: Innisfail Dairymaid, Alexander & Kellogg. Third: Roan Lily 5th, Alexander & Kellogg. Fourth: Bonnie May, Weaver.

Senior heifer calf.—First: Santa Rosa Queen, Harrison. Second: Valley Belle 6th, Alexander & Kellogg. Third: Beggar Maid's Beauty 2nd, Alexander & Kellogg. Fourth: Wild Eyes Princess 4th, Harrison. Fifth: Lady Christiana 12th, Harrison.

Junior heifer calf.—First: Frantic Beauty, Harrison.

Cow having official yearly record.—First: Bellevue Dairy, Alexander & Kellogg. Second: Carperby Dairymaid 2nd, Alexander & Kellogg.

Senior Champion bull.—Foothills Pioneer, Harrison.

Junior champion bull.—Count Tickford, Harrison.

Senior champion cow.—Lady Beatrice, Alexander & Kellogg.

Junior champion cow.—Glen Dorothy, Harrison.

Grand champion bull.—Foothills Pioneer, Harrison.

Grand champion cow.—Lady Beatrice, Alexander & Kellogg.

Aged herd.—First: Alexander & Kellogg.

Breeders' herd.—First: Alexander & Kellogg.

Get of sire.—First: Get of Glenside Royal, Alexander & Kellogg. Second: Get of Kelmscott Viscount 10th, Alexander & Kellogg.

Produce of dam.—First: Produce of Valley Belle 4th, Alexander & Kellogg. Second: Produce of Greenhill Caroline, Alexander & Kellogg.

Dairy herd.—First: Alexander & Kellogg.

BEEF CATTLE.

Herefords.—Exhibitors: H. M. Barngrover, San Jose; J. E. Brunton, Aspen, Colo.; J. A. Bunting, Mission San Jose; G. W. Emmons, San Francisco; Riverside Hereford Ranch, Northam, Nevada.

Senior champion bull.—Patrician 5th, Barngrover.

Junior champion bull.—Mission Chief, Bunting.

Senior champion cow.—Pearl, Brunton.

Junior champion cow or heifer.—Woodford Lady P., Brunton.

Grand champion bull.—Mission Chief, Bunting.

Grand champion cow or heifer.—Pearl, Brunton.

Bull, three years old or over.—First: Patrician 5th, Barngrover.

Bull, two years and under three.—First: Alamo Reuben, Riverside Hereford Ranch. Second: Groves Perfection, Third: Witchford, Emmons.

Senior yearling bull.—First: Alec, Bunting. Second: Echo Repeater, Brunton. Third: Junior Grove, Emmons.

Junior yearling bull.—First: Bonnie Grove, Brunton. Second: Diablo Fairfax, Emmons.

Senior bull calf.—First: Mission Prince, Bunting. Second: Plumas Lad 2nd, Barn-

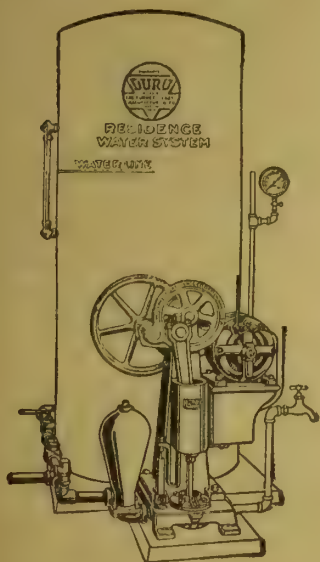
(Continued on page 268.)

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"Less Labor" "Bigger Profits" "Better Work" "More Comfort"

Invest some of this year's fine profits in better equipment that will not only help to produce a big season next year, but that will add comfort and pleasure to your living this year, next year, year after, and through all the years that lie ahead. We specialize in modern equipment for farm and dairy; and handle more

lines of farm machinery than any other farm equipment concern on the coast. Our years of experience are at your command. Write us about any of the equipment described on this page, or any other equipment in which you may be interested. Every inquiry answered promptly and fully. **WRITE TODAY.**



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JUST the thing to bring suburban or country home right up to date.

Pumps water from wells, where depth to water level ranges from 22 to 150 feet, and supply it under pressure for all purposes about the house or grounds.

"Built like a battleship," economical and entirely automatic in operation.

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AMERICAN PUMPS



We are distributors for American Standard Horizontal and Vertical Pumps—and Turbine Centrifugals.

They're the best pumps on the market. They cost a little more—but last longer and are decidedly cheaper in the long run.

American Pumps are famous for their large capacity and high efficiency.

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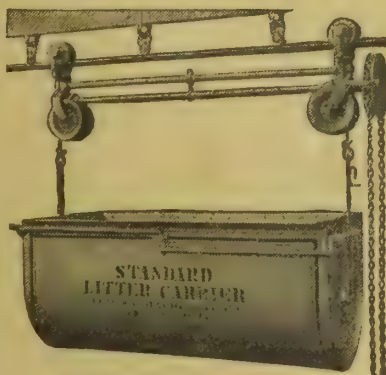
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LOUDEN FEED AND LITTER CARRIERS

With a Loudon Carrier, one man can do the work of four with wheelbarrows—and the man with the Loudon will be less tired, at the end of the day.

That's the way to keep your help and cut your labor cost. The dairymen who make money are the dairymen who use modern equipment like this.

SEND FOR LOUDON CATALOG AND FREE BOOK OF BARN PLANS.



UNIVERSAL Milking Machine



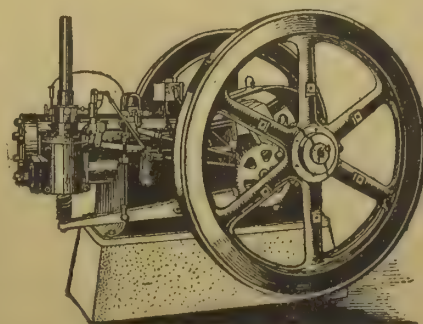
With a Universal outfit one man can do the work of three, thus actually eliminating the work of two men. You can solve your labor problem, save time and inestimable hard work, and do the milking better with a Universal.

Milks with alternating action, massaging and relieving two teats while the other two are being milk—the natural way. Fits any cow.

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ENGINES in All Sizes

We have engines in every type and size—from 2½ H. P. to 100 H. P., operating on distillate or low grade fuel oil. Our lines include Western, Faultless, and Muncie Oil Engines. We'll show you how to get the most power and the best results at least cost—and that's what you want.



California Hydraulic Engineering & Supply Co.

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420 E. THIRD ST., Dept. A, LOS ANGELES.

Save \$5 a Day While You Make Hay!



When help is scarce and high priced, and all the horses are needed in the field, the Loudon Power Hoist comes to the rescue. Does the work of both a team and a man, and does it in half the time.

There's nothing complicated about the Power Hoist; it's just a plain, common-sense, sturdy machine, built to handle big loads easily, and to save

time and labor in hay harvest. Can be used with any kind of power. Anybody can operate it.

Try it out this season.



Write for Catalog

ALAMO Electric Light Plant

Most efficient plant of its kind on the market. No vibration. No noise. Solid, substantial, highly perfected. Will give many years of service. **WRITE FOR ALAMO BOOKLET.**

THE EXHIBITION OF LIVE STOCK AT THE FAIR.

(Written for Pacific Rural Press.)

As the Fair progressed and the live stock judging was finished, the hopes of some were realized as well as the fears of others, then came the chance of each and every one to learn. The veterans always absorb more or less unconsciously the whys and where-fors of their winnings and also of their losses. The young exhibitor has perchance his hopes too high and finds them dashed even lower than the ground. Then comes his great chance for learning. Perhaps his animal was not fitted as well as it should have been or overfitted. Maybe it was handled in the ring in the best manner. He should be in a frame of mind that will permit his accepting defeat gracefully and coolly and studying the proceedings from all angles. If he will do this he has started right, and will eventually come to be a great breeder and showman. The herdsman and shepherd becomes expert in always presenting the best side of their animal to the judge in the ring in a perfectly legitimate and honest way. This is all right as long as deceit is not practiced. The career of a tricky man in the ring sooner or later comes to a point where he loses the respect of his competitors and his value as a herdsman or stockman.

There are certain methods of preparation of animals, however, that are recognized as legitimate and standard, such as trimming the medium-wooled sheep, dressing the Merinos with oil and coloring matter, oiling hogs, polishing and waxing horns of cattle and using clippers to bring out the quality, etc. Such things are legitimate and simply give an added bloom and luster to the animal and deceive no one.

Properly carried out the growing, fitting and exhibition of live stock in all its classes is almost or quite a profession in its perfection. It is a profession or employment that is a remunerative and pleasant one for one who follows it as a calling. It is doubly so for the stockman who grows, fits and shows his own stock.

LIVE STOCK JUDGES.

The men who performed the somewhat arduous task of placing the ribbons on the different classes of live stock at the State Fair this year are as follows: John C. Burns, College Station, Texas, draft horses and beef cattle; E. A. Trowbridge, Columbus, Mo., horse show; Hugh G. Van Pelt, Waterloo, Iowa, dairy cattle; James F. Wilson, University Farm Davis, sheep and goats; Dwight Putman, Tecumseh, Neb., Duroc Jerseys; Thos. A. Shattuck, Hastings, Neb., Poland Chinas; Wyman Lovejoy, Roscoe, Ill., Berkshires; Prof. J. T. Thompson, University Farm, Davis, Chester Whites and Yorkshires.

SHORTHORN BREEDERS' BANQUET.

Certainly the men of this association outdid themselves in their banquet at the Travelers' Hotel on Thursday evening of State Fair week. After partaking of the feast, Toastmaster C. N. Hawkins introduced B. O. Cowen, formerly Assistant Secretary of the American Shorthorn Association, who gave a very pleasing and instructive address on the origin of the Shorthorn, and proving in a very logical and convincing way that his favorite breed was by far the most ancient of any of the breeds.

Following Mr. Cowan, Mr. Glide, Prof. True, Mr. Troup and others gave short talks on the Shorthorn as a breed and other relevant matters. No business was transacted of importance.

Thos. Harrison of Santa Rosa reports the sale of his Grand Champion Dual Purpose Shorthorn bull, Foot-hills Pioneer to Leon F. Douglas Geyserville for a price that runs well up in four figures.

Estimated attendance by the Board of Directors at the State Fair this year is 150,000. All debts are paid and \$6,000 remain in the treasury.

THE BERKSHIRE DONATION SALE.

This sale, held immediately after the judging of the Berkshires at the State Fair this year, for the purpose of filling the treasury of the Western Berkshire Congress, was a pronounced success. The top of the sale was the bred gilt Castlevew Lady, consigned by J. Francis O'Connor of Santa Rosa. She is a particularly good animal, smooth and stretchy, bred to Baron Rookwood 2d, son of the \$1100 Grand Champion boar of the National Swine Show, and out of Rookwood Lady 100th, Grand Champion sow of America. Mr. A. B. Humphrey of Escalon thought she was good enough to place in his herd and paid \$200 for the privilege.

The average of the sale was \$64.86, including all consigned, among which were several young boar and sow pigs. These materiallv reduced the average, but the total of the sale was sufficient to put the "Congress" on "easy street" for some time to come.

POLAND-CHINA BREEDERS.

Everyone that classes himself in the above list should not fail to attend the bred sow and gilt sale of John M. Bernstein and W. L. Haag & Son at the Kings County Fair Grounds, Hanford, on September 17th. Both Eastern and Coast bred stock will be offered and of the type and breeding that every up-to-date Poland-China breeder is looking for. Sows bred to The Yankee Jr. and Lendorris Libery Bond—two sensational young boars of ultra fashionable type. Do not miss this sale.

HOLSTEIN BREEDERS AND DAIRYMEN, ATTENTION

65 Head Registered Holstein-Friesians

Combination Sale

Henderson Co.

Bonita Stock Farm

STOCKTON, CALIFORNIA

Thursday, September 18th, 1919

Young bulls sired by and cows and heifers bred to the great King of the Blacks and Whites, who has more A. R. O. daughters to his credit than any other sire on the Pacific Coast; King Pontiac Segis Inka, son of King of the Pontiacs; King Lillian Walker Segis; Supreme Glista Pielje, a 32-pound sire and sire of the junior champion bull at the State Fair this year.

Winings of the Henderson Co. Holstein Herd at the State Fair this year included one championship, four firsts and other awards in the strongest competition ever offered on the Pacific Coast.

Females offered are either just fresh or bred to one of the above sires. Bulls in the sale are very fashionably bred and out of A. R. O. dams.

No animal in sale tuberculin tested.

Sale at Darby's Barn, corner East Jefferson and Pilgrim Sts., Stockton.
Cattle on exhibition two days prior to sale.

AUCTIONEERS: COL. BEN A. RHOADES, Los Angeles.

COL. GEO. W. BELL, Tulare.

3½

You Buyers of 3½ Inch Tires

You represent over half the tire buyers of the world. You deserve special consideration. Your volume of demand calls for the biggest value.

Recognizing this, Firestone has built a special \$7,000,000 factory for you, designed special machinery for your tire and special looms to weave your fabric.

And this factory is operated by an organization devoted entirely to your requirements. The methods and machinery leave no room for errors or flaws. Result: This special molded tire is the nearest thing to a perfect tire that engineering can give you.

By saving from 10% to 30% on every factory operation, you get this tire at a price that some pay even for the "off brand" kinds. 30x3½, non-skid, \$18; 32x3½, non-skid, \$21.

You get a 6,000 mile adjustment basis, and you get it from Firestone—always in the front in value-giving and now years ahead of the field. Any one of the 42,000 dealers who bank on Firestone quality will put these money-saving tires on your car.

Most Miles per Dollar

Firestone

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Rate 3 1/2 cents per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rockwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs. Anchorage Farm, Orland, Calif.

GRAND NATIONAL CHAMPION

Baron Duke 201st, 200001. Do you realize this is the only opportunity you have ever had on this Coast to secure the pigs of a Grand National Champion. Duke is breeding them long and thick. He is getting old and may die any time. You are started right if you get his pigs. A very good April boar pig sired by Duke and from a half-sister of Rincos Rival 2nd, cholera immune, \$35.00. Sandercock Land Co. In charge of Natomas Sales, 23 Montgomery Street, San Francisco, California.

GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. E. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH—Top Berkshire gilts. Bred right, prices right. Satisfaction guaranteed. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

RIVER GARDEN FARM BERKSHIRES—They are sure to please. E. H. Whiting, Ukiah, Calif.

REAL GOOD BERKSHIRES—Cholera immune. Frank B. Anderson, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

FIVE MARCH GILTS—Good enough for anyone on earth. Sire, Big-Bone Bob. Dam, Mollie H. Blood lines, I. B. A. Wonder, Lady Wonder, A. A. Quackenbush, West View Ranch, R. F. D. 2, Acampo, Cal.

"SOLD OUT except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route G, Fresno, Cal.

BOOKING ORDERS for spring pigs sired by "Bob Big Bone" 281289, litter brother of the Junior Champion of Sacramento, 1918, P. E. Mitchell, Atwater, California.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay Tipton, California.

BIG-TYPE POLAND CHINA BOAR PIGS, from champion boar. Write for prices and particulars. Carstens & Holloway, Madera, Cal.

WAKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Lee McCracken, Prop., Ripon, Cal.

ELDERLEY FARM—Big-type Poland-China hogs and Aberdeen Angus cattle. J. H. Ware, Live Oak, Calif.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Rt. 1, Box 39, Watsonville, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

POLAND-CHINAS—Weanling pigs, both sexes. True big type. Blue Valley strain. W. A. Clarke, Madera, Calif.

POLAND CHINAS—A few 4 to 5 mo. boars and gilts of good type and size. J. E. Thomas, Gilroy, Cal.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

POLAND CHINAS. See my boars at Lodi sale. J. E. Steely, Clements, Calif.

CHAS. L. WEAVER, Tulare, Cal., Poland Chinas. One 11 months old — "A Wonder" bred boar.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

POLAND-CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Chester Whites.

BILLIKEN CHESTER WHITES—Nothing this month. Eight spring boar and 5 spring sow pigs to offer during August. All young stock is now immune. At the State Fair this year will show a full exhibit of good ones. Drop in and see them and get some real big type ones. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

DUROC-JERSEY HOGS—Here is a hog-buying opportunity. The R. E. Whitley Ranch has just purchased a large and very fine herd of Registered Duroc-Jersey hogs, bred from the best Duroc-Jersey blood in the country and in the pink of condition. Immunized against cholera by double treatment, and have for sale a few choice Boars and Gilts of April and May farrowing from Orion Cherry King and Grand Golden Model breeding. If you want large litters of quick-growing pigs that will make you money, come and pick the boars and gilts now, to head your herd. Breeders of Grade Hogs, don't overlook this opportunity to get a good Boar. He is half of your herd and will make you money by large litters of large type, quick-growing pigs. Mrs. R. E. Whitley, Ventura Boulevard and Hazeltine Avenue, Van Nuys, California. Phone 160-J.

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ORION CHERRY KING, JR.
the \$3,500 Boar.
Is Making His Mark As a Great Breeder. He heads our herd of up-to-date Durocs. The most popular blood lines are represented in his pedigree—the kind that have laid the foundation for many prize-winning herds. Choice Spring Boars For Sale. If you are in the market for some outstanding boars, we have them.

F. D. BURR CO. ORLAND, CALIF.

REGISTERED DUROC-JERSEYS—Choice open gilts ready for breeding; also weanling sow pigs. One fine service boar. "Square Deal Ranch," S. K. Helsley, Prop., Ceres, Calif.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

REGISTERED DUROC JERSEYS—Open and bred gilts. August and November boars. Great herd headers. Weanling pigs, both sexes. Stock of the big strong type so much desired. Jack Borge, Dos Palos, Cal.

WE HAVE 100 YOUNG GILTS and boars, bred on the purple, which we are selling for about half their value. Money back if not satisfied. Derryfield Farm, Capital National Bank Bldg., Sacramento.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Ethanac, Calif.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Sloum & Son, Willows, Calif.

WE WON MORE MONEY in Durocs at the State Fair than any other exhibitor. Why not buy some of this winning stock? June Acres Stock Farm, Davis, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

MCCARTY AND STARKWEATHER FALL BOARS—Big type, smooth and classy. Cholera immune. Box 2250, San Francisco, or Paradise Road, Modesto.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

REGISTERED DUROC JERSEYS—Gilts and weaned pigs of either sex for sale every month in the year. Correspondence invited. Geo. L. Horine, Winton, Calif.

MARCH PIGS—Gilt edge breeding from prize-winning stock. Would trade. P. O. Box 558, Sacramento, Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Hampshires.

HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Unecda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

Miscellaneous.

LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

DAIRY CATTLE.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckles Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

Guernseys

EDGEWOOD FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgewood Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal. R. 2.

Jerseys.

SERVICE JERSEY BULL, bull calves, Financial King blood. Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—Registered and unregistered bulls and heifers. Two unregistered 2 1/2 years old range bulls. Chas. L. Weaver, Tulare, Cal.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEIN bull calves, sired by grandson of King of the Pontiacs Sunnybrook Ranch, Willits, Calif.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spires, Hilcrest Farms, Caruthers, California.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

A PRICE ON EVERY ANIMAL. Herd free from tuberculosis. All sales subject to sixty days' retest. Sons of Findern Soldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production. Teyon Farms Association, 679 Mills Building, San Francisco.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. J. Freeman Route B Modesto California

CREAMCUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A. Box 437, San Jose, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif. Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Calif., John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED YEARLING SHORTHORN BULLS—Heavy boned, thick-meated. Scotch and Scotch-top'd breeding. Ormondale Co., Route 1, Redwood City, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier, & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Caruthers Farms. Live Oak, California.

HOPLAND STOCK FARM—Registered Shorthorns. Prices on application. Hopland, Calif.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch, Esparto, California.

HORSES AND MULES.

PERCHERONS—Registered Stallions, Mares and Fillies; three, four, and five years old. Cora S. Secrest, Escalon, Cal.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

FOR SALE—225 unshorn merino ewes—old but in good, fair condition; price \$6.00 per head. Address Jas. G. Mee, St. Helena, Calif. Phone 60F 141.

J. A. SWALL, Bishop, Inyo Co., Cal.—Registered Angora Bucks, 100 grade Angora nannies.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

WANTED ABOUT 50 good pure-blood Rambouillet ewes. P. O. Box 558, Sacramento, Cal.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale. Shorthorns; Shropshires; Berkshires; Ponies. Next sale April 17, 1920. All breeds.

The Western Berkshire Congress held a banquet at the Hotel Sacramento on Tuesday evening of State Fair week, which certainly was a very enjoyable affair for everyone present.

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29 SHROPSHIRE
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will reduce them and leave no blemishes. Stops lameness promptly. Does not blister or remove the hair, and horse can be worked. \$2.50 a bottle delivered. Book 6 R free.

ABSORBINE, JR., for mankind, the antiseptic Uniment for Boils, Bruises, Sores, Swellings, Varicose Veins, Allays Pain and Inflammation. Price \$1.25 a bottle at druggists or delivered. Will tell you more if you write.

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LIVESTOCK—RACING—ENTERTAINMENT.

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Enter your stock!

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Chamber of Commerce.

A hog has no interest in your profits

He roots the grain you pay good money for—scatters it all over the ground—that is, if you feed in the old way.

Install Calco Automatic Grain Feeders—and note the saving in grain and money. Modernize your equipment.

This feeder is made for your hogs. The grain is automatically fed to the feeding trough. The feeder is light, easily moved, and sanitary.

In some models, V-shaped compartments make possible individual feeding of small hogs—and prevent rooting.

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MILLETS	GRASSES	SORGHUMS
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Golden Millet	Billion Dollar Grass	Feterita
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Chinese Millet	Natal	Egyptian Corn
Indian Millet	*Bromus Enermis	*Schrook Kaffir Sorghum
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The varieties marked * are by far the most valuable. Be sure to see them growing on the 1500 block, West Sixteenth street. Send at once for our bulletin describing each one.

Aggeler & Musser Seed Co.

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Los Angeles, Calif.

STATE FAIR AWARDS.

(Continued from page 264.)

grover. Third: Prince Patrician, Barn-grover. Fourth: Repeater Grove, Brunton. Junior bull calf.—First: Mission Chief, Bunting. Second: Perfection Grove, Brunton. Cow, three years old and over.—First: Pearl, Brunton. Second: Lulu 14th, Barn-grover. Third: Cinderella, Barn-grover. Fourth: Lady Berenda, Emmons.

Cow, two years old under three.—First: Miss Betty, Bunting. Second: Sally Clark, Emmons. Third: Mary Jane, Barn-grover. Fourth: Cherry Grove (Polled), Emmons. Fifth: Blue Belle 4th (Polled), Emmons.

Senior yearling heifer.—First: Lady Jane, Bunting. Second: Thelma, Barn-grover. Third: Laura (Polled), Emmons.

Junior yearling heifers.—First: Woodford Lady P., Brunton. Second: Mission Girl, Bunting. Third: Normanline, Barn-grover. Fourth: Belle Poll 3r, Emmons. Fifth: Mineola Fairfield, Emmons.

Senior heifer calf.—First: Lulu's Pride, Barn-grover. Second: Mission Lass, Bunting. Third: Belle Grove 2nd, Brunton.

Junior heifer calf.—First: Miss Woodford, Brunton. Second: Patrician Sue, Barn-grover. Aged herd.—First, Barn-grover. Second, Brunton.

Get of sire.—First: Get of Echo Repeater, Brunton. Second: Get of Patricia 5th, Barn-grover.

Produce of dam.—First: Produce of Anxiety Clarice, Bunting. Second: Produce of Shade-land's Maid 52nd, Barn-grover.

Shorthorns.—Exhibitors: Wm. Bond, Newark; Thos. B. Dibblee Estate, Lompoc; T. S. Glide, Davis; Pacheco Cattle Co., Hollister.

Senior champion bull: Pacheco Marshal, Pacheco Cattle Co.

Reserve senior champion bull: Hallwood Flash, Dibblee Estate.

Junior champion bull.—Basham Augusta, Dibblee Estate.

Senior Champion Cow.—Little Sweetheart, Glide.

Junior champion cow or heifer.—King's Countess, Glide.

Grand champion bull.—Basham Augusta, Thos. B. Dibblee Estate.

Grand champion cow or heifer.—Little Sweetheart, T. S. Glide.

Bull, three years old and over.—First: Hallwood Flash, Dibblee Estate.

Bull, two years old and under three.—First: Pacheco Marshal, Pacheco Cattle Co. Second: Matchless Elite, Glide.

Senior yearling bull.—First: Basham Augusta Dibblee Estate. Second: Dalmony Count, Pacheco Cattle Co. Third: Hillcrest Amaranth, Glide.

Junior yearling bulls.—First: Cumberland Gloster, Bond. Second: Pacheco Lad, Pacheco Cattle Co.

Senior bull calf.—First: Cheerful Count, Glide. Second: Pacheco Cumberland, Pacheco Cattle Co. Third: Baron Lancaster, Dibblee Estate. Fourth: Orange Villager, Dibblee Estate.

Junior bull calf.—First: Pacheco Barmpton, Pacheco Cattle Co. Second: Spicy Count, Glide. Third: Royal Broadhooks, Dibblee Estate.

Cow, three years old and over, with calf.—First: Spicy Lady with bull calf, Glide.

Cow, two years old and under three.—First: Little Sweetheart, Glide. Second: Pacheco Lass, Pacheco Cattle Co. Third: Meadow View Village Girl, Dibblee Estate. Fourth: Mayfield Victoria, Bond.

Senior yearling heifer.—First: King's Countess, Glide. Second: Princess Royal, Dibblee Estate. Third: Lavender Queen, Dibblee Estate.

Junior yearling heifer.—First: Village Lassie, Glide. Second: Ormondsdale Maid, Bond. Third: Pacheco Lass 144th, Pacheco Cattle Co. Fourth: Ruby Avon, Dibblee Estate.

Senior heifer calf.—First: White Pacheco, Pacheco Cattle Co. Second: Lucy Lee 5th, Dibblee Estate. Third: Pacheco Blossom, Pacheco Cattle Co. Fourth: Village Rose, Glide. Fifth: Orange Blossom, Dibblee Estate.

Junior heifer calf.—First: Countess Fortuna, Glide. Second: Pacheco Doris, Pacheco Cattle Co. Third: Cumberland Maid, Bond. Aged herd.—First: Dibblee Estate. Second: T. S. Glide.

Breeder's young herd.—First: T. S. Glide. Second: Pacheco Cattle Co.

Calf herd.—First: T. S. Glide. Second: Pacheco Cattle Co. Third: Thos. B. Dibblee Estate.

Get of sire.—First: Get of Count Amaranth, Glide.

Produce of dam.—First: Produce of Baron's Delight, Dibblee Estate. Second: Produce of King's Mystic, Glide. Third: Produce of Cheerful Maid, Glide.

SWINE.

Berkshires.—Exhibitors: Frank B. Anderson, Sacramento; J. A. Barker, Dixon; S. A. Brittain, Santa Rosa; Castleview Ranch, Santa Rosa; A. B. Humphrey, Escalon; Italian Vineyard Co., Guasti; E. B. McFarland, San Francisco; H. C. Muddox & Son, Sacramento; H. L. & E. H. Murphy, Perkins; Sandercock Land Company, San Francisco; H. B. Teasdale, Sparks, Nevada.

Senior champion boar: Natomas Baron Duke, Sandercock Land Co.

Reserve senior champion: Rincon Leader, H. C. Muddox & Son.

Junior champion boar: No name, Humphrey.

Senior champion sow: Grape Wild Rose, Humphrey.

Reserve champion sow: Duke's Natamario Rookwood, Sandercock Land Co.

Junior champion sow: Castleview Premier Belle, Castleview Ranch.

Reserve champion sow: Grape Wild Rose 6th, Humphrey.

Grand champion boar: Natomas Baron Duke, Sandercock Land Co. Reserve grand champion boar: No name, Humphrey.

Grand champion sow: Grape Wild Rose, Humphrey. Reserve grand champion sow: Duke's Natamario Rookwood, Humphrey.

Boar, two years old and over.—First: Rincon Leader, Muddox. Second: Grape Wild Emblem, Humphrey. Third: Wilsonia King Laurel, Murphy. Fourth: Ideal Royal Lee,

Anderson.

Senior yearling boar.—First: Escalon Superb, Humphrey. Second: Escalon Grand Royal, Humphrey.

Junior yearling boar.—First: Natomas Baron Duke, Sandercock. Second: Choice Goods 10th, Italian Vineyard Co. Third: Barrow's Baron Duke, Brittain. Fourth: Nevada Epochal, Teasdale.

Senior boar pig.—First: Escalon Type 2d, Humphrey. Second: Escalon Type, Humphrey. Third: Castleview Rival 2d, Castleview Ranch. Fourth: Wiesendenen Prince, Muddox. Fifth: Meadowview Rival, Muddox.

Junior boar pig.—First: No Name, Humphrey. Second: No Name, Humphrey. Third: Castleview Rival Duke, Castleview Ranch. Fourth: Meadowview Rival 3rd, Muddox. Fifth: Meadowview Rival 2d, Muddox.

Sow, two years old and over.—First: Grape Wild Rose, Humphrey. Second: Leader's Jeanette 2d, Humphrey. Third: Symboler's Star Lady, Sandercock. Fourth: Daisy Lee 11th, Fair Oaks Ranch. Fifth: Wilsonia Princess Laurel, Sandercock.

Senior yearling sow.—First: Escalon Blue Belle, Humphrey. Second: Royal Polly 2d, Humphrey. Third: Hopland Iowa Princess, Castleview Ranch. Fourth: Hopland Grand Lady, Muddox.

Junior yearling sow.—First: Duke's Natamario Rookwood, Sandercock. Second: Grape Wild Rose 3d, Humphrey. Third: Escalon Majestic Fashion, Humphrey. Fourth: Emblem's Escalon Belle, Humphrey.

Senior sow pig.—First: Castleview Premier Belle, Castleview Ranch. Second: Grape Wild Rose 6th, Humphrey. Third: Grape Wild Rose 7th, Humphrey. Fourth: Meadowview Duchess 5th, Muddox. Fifth: Meadowview Duchess 4th, Muddox.

Junior sow pig.—First: Natomas Symboler Belle 2d, Sandercock. Second: Castleview Rival Duchess, Castleview Ranch. Third: Rival's Lady Duchess, Sandercock. Fourth: Double's Duchess, Sandercock. Fifth: Natomas Symboler Belle 3rd, Sandercock.

Herd over one year.—First: Sandercock Second: Humphrey. Third: Muddox & Son. Herd, under one year.—First: Humphrey. Second: Sandercock Land Co. Third: Castleview Ranch.

Herd bred by exhibitor.—First: Humphrey. Second: Humphrey. Third: Sandercock Land Co.

Get of sire.—First: Get of Baron Duke 201st, Sandercock. Second: Get of Big Leader, Humphrey. Third: Get of Mayfield Rookwood 2d, Castleview Ranch. Fourth: Get of Mayfield Rookwood 2d, Castleview Ranch.

Produce of dam.—First: Produce of Laurel Rookwood Duchess, Muddox. Second: Produce of Escalon May, Humphrey. Third: Produce of Princess Leader, Sandercock. Fourth: Produce of Leader's Rival Duchess, Castleview Ranch.

Fat barrows, any age.—First: Castleview Ranch. Second: A. B. Humphrey. Third: Sandercock Land Co.

Pen of fat barrows.—First: A. B. Humphrey. Second: Sandercock Land Co.

Duroc-Jerseys.—Exhibitors: W. V. Bennett, Nord, H. M. Berglund, Dixon; Jock Borre, Dos Palos; Joe N. Chinoweth, Visalia; Henry Cummins, Visalia; Diamond Bar Ranch, Spadra; Fulgram & Sons, Visalia; F. W. Gardner, Sacramento; Hazel Louise Farm, Sacramento; Jane Garden Farm, Sacramento; Cloum & Sons, Willows; J. E. Thorp, Lockeford; E. J. Weldon, Sacramento; Winsor Ranch, Bonita; Witherow & Stafford, Live Oak.

Senior champion boar, one year or over.—First: Uneda Model Col, Slocum. Second: Mammoth Sensation 2nd, Diamond Bar Ranch. Junior champion boar.—First: Uneda Invincible Col, Slocum. Second: You'll Do's Prince, Thorp.

Senior champion sow.—First: Model Defender Lady, Winsor Ranch. Second: Miss Pathfinder, Winsor Ranch.

Junior champion sow, under one year.—First: Pathfinder's Very Best, Diamond Bar Ranch. Second: You'll Do's Queen, Thorp.

Grand champion boar.—First: Sensation Wonder First, Slocum. Second: Uneda Invincible Col, Slocum.

Boar, two years old or over.—First: Sensation Wonder 1st, Slocum & Son. Second: California Orion King, Berglund. Third: Trailblazer, Jane Garden Farm. Fourth: Uneda Model Col, Slocum. Fifth: Uneda Wonder, Slocum.

Senior yearling boar.—First: Lord's Orion Cherry King, Chinoweth. Second: Model Defender 1st, Winsor Ranch. Third: Uneda Model Col 3rd, Slocum. Fourth: Latest Model, Diamond Bar Ranch.

Junior yearling boar.—First: Mammoth Sensation 2nd, Diamond Bar Ranch. Second: Johnson's Defender Jr, Witherow & Stafford. Third: Natoma Defender, Hazel Louise Farm. Fourth: Freddie You'll Do, Thorp. Fifth: Orion King Defender, Barker.

Senior pig.—First: Uneda Invincible Col, Slocum. Second: No name, Cummins. Third: Great Sensation 2nd, Diamond Bar Ranch. Fourth: Top Sensation 2nd, Winsor Ranch. Fifth: Invincible Uneda 2nd, Slocum.

Junior pig.—Regulator's You'll Do, Thorp. Second: Critic's Ideal Pathfinder, Fulham. Third: Regulator's You'll Do Again, Thorp. Fourth: Greenwood Defender, Witherow & Stafford. Fifth: Greenwood Defender G, Witherow & Stafford.

Sow, two years old or over.—First: Model Defender Lady, Winsor Ranch. Second: Critic Rose, Diamond Bar Ranch. Third: Royal Critic 2nd, Fulham. Fourth: Butte's Golden Pet, Bennett. Fifth: Happy Lass of Mossdale, Thorp.

Senior yearling sow.—First: Miss Pathfinder, Winsor Ranch. Second: Tattletale Miss, Diamond Bar Ranch. Third: Uneda Queen Model 3rd, Slocum. Fourth: La Raja, Borre.

Junior yearling sow.—First: Pathfinder's Col, Girl, Diamond Bar Ranch. Second: Ohio Sensation Lady, Diamond Bar Ranch. Third: Orion's Cherry Blossom, Bennett. Fourth: Ganos Wonder Girl, Diamond Bar Ranch. Fifth: Uneda H. A.'s Queen 1st, Slocum.

Senior pig, sows.—First: Pathfinder's Very Best, Diamond Bar Ranch. Second: Golden Sensation, Winsor Ranch. Third: Reggie's Twilight of Mossdale, Thorp. Fourth: Golden Sensation 1st, Winsor Ranch. Fifth: King's Golden Girl, Diamond Bar Ranch.

Sow, junior pigs—Open Class.—First: You'll Do's Queen, Thorp. Second: Reggie's

You'll Do 2nd, Thorp. Third: Ideal Pathfinder's Critic 1st, Fulham. Fourth: Reggie's You'll Do, Thorp. Fifth: Butte's Premier Pet 3rd, Bennett.
Champion junior sow pig.—Campion: You'll Do's Queen, Thorp.

Aged herd.—First: One entry, Diamond Bar Ranch. Second: Golden Defender, Model Defender Lady, Great Lady, Miss Pathfinder, Winsor Ranch. Third: Sensation Wonder 1st, Uneda Queen Model 3rd, Uneda H. A's Queen 1st, Uneda Orion Lena, Slocum.

Young herd.—First: You'll Do's Prince, You'll Do's Volunteer, You'll Do's Princess, You'll Do's Queen, Thorp. Second: Great Sensation Jr., Pathfinder Very Best, Sen. Belle, Creator's Queen, Diamond Bar Ranch.

Herd bred by exhibitor.—First: One entry, Thorp. Second: Golden Defender, Model Defender 20th, Model Defender Lady 21st, Model Defender Lady 22nd, Winsor Ranch. Third: Uneda Queen Model 3rd, Uneda H. A's Queen 1st, Uneda Model Queen, Uneda Invincible Col., Slocum.

Get of sire.—First: Ohio Sensation Lady, Sensation Belle, Sensation Rose 11, Orion Crimson Lady 1st, Sire, Creator, Diamond Bar Ranch. Second: Regulator's You'll Do Again, Reggie's You'll Do 2nd, Reggie's You'll Do 3rd, Reggie's You'll Do, Sire, Brookwater Regulator, Thorp. Third: Model Defender Lady 20th, Model Defender Lady 21st, Model Defender Lady 22nd, Model Defender Lady 23rd, Sire, Great Model, Winsor Ranch.

Produce of dam.—First: Freddie You'll Do, Defender, Happy Lass of Mossdale, Miss You'll Do, Thorp. Second: Model Defender Lady 20th, Model Defender Lady 21st, Model Defender Lady 22nd, Model Defender Lady 23rd, Dam, Model Defender Lady, Winsor Ranch. Third: You'll Do's Prince, You'll Do's Volunteer, You'll Do's Princess, You'll Do's Queen, Thorp.

Poland-Chinas.—Exhibitors: Johnnie Glusing, Winton; H. C. Shinn & A. J. Elliott, Tulare; Geo. V. Beckman & Sons, Lodi; J. F. Lehman, Lodi; Chas. Gatewood, Fresno; W. A. Young, Lodi; Eugene Miner, Lodi; J. H. Cook, Paradise; W. T. Dice, Hanford; J. W. Wakefield, Acampo; N. K. Horan, Lockeford; R. W. Jickling, Elmira; Fred D. Ross, Hanford; Cross Bros., Merced; A. L. Bassett, Hanford; J. F. McSwain, Merced; McCarty & Starkweather, San Francisco; H. I. Marsh, Modesto.

Senior champion boar, one year old or over.—Champion: Giant Bob, Chas. Gatewood. Reserve champion boar: Big Model Fellow, McSwain.

Junior champion boar under one year.—Champion: Big Bone King, Lehman. Reserve Champion: Fresno Boy, Fred Gatewood.

Senior champion sow, one year old or over.—Champion: Big Mary 3rd, McCarty & Starkweather. Reserve champion sow.—Black Beauty C, Young.

Junior champion sow, under one year.—Champion: Nugget Nell, McCarty & Starkweather. Reserve champion: Black Beauty C, Young.

Grand champion boar.—Grand champion: Giant Bob, Cas, Gatewood. Reserve grand champion: Big Model Fellow, McSwain.

Grand champion sow.—Grand champion: Big Mary 3rd, McCarty & Starkweather. Reserve grand champion sow: Black Beauty C, Young.

Boar, two years old or over.—First: Matchless Big Bob of U. F. Beckman & Son. Second: Big Bone Bob, Horan. Third: Clark's Wonder, Horan.

Boar, senior yearling.—First: Big Model Fellow, McSwain. Second: King's Gerstdale Jones, Bassett. Third: Big Model, Marsh. Fourth: Justo Bos, Jickling. Fifth: King's Timm, Bassett.

Boar, junior yearling.—First: Giant Bob, Gatewood. Second: The Californian, Elliott & Shinn. Third: Bartons Big Kower, Young. Fourth: Long Big Bone Jr., Young. Fifth: King Jones Over, McCarty & Starkweather.

Boar, senior pig.—First: Fresno Boy, Gatewood. Second: Model Big Bone, Glusing. Third: Model King, Bassett. Fourth: J. B.'s Model, Bassett. Fifth: California Bob, Beckman.

Boar, junior pig.—First: Bob Price, Lehman. Second: Bob's King, Lehman. Third: Long King, Lehman. Fourth: Big Bone King, Lehman. Fifth: Model Timm, Bassett.

Sow, two years old or over.—First: Big Mary 3rd, McCarty & Starkweather. Second: Hopeful, Bassett. Third: Model Riverina, McCarty & Starkweather. Fourth: Mollie Wonder 2nd, Cook. Fifth: Katie Fisher, Clyde Horr.

Sow, senior yearling.—First: Forest View Bess, Cook. Second: Big Model Maid, Bassett. Third: Blue Valley B, Chas. Gatewood. Fourth: Wonder Alice 2nd, Marsh.

Junior yearling sow.—First: Black Beauty C, Young. Second: Belle's Beauty, Beckman. Third: Lady Wonder, Beckman. Fourth: Black Beauty 5th, Young. Fifth: Liberty Girl 3rd, McCarty & Starkweather.

Sow, senior pig.—First: Nugget Nell, McCarty & Starkweather. Second: Polly, Marshall & Son. Third: Long Prospect, McCarty & Starkweather. Fourth: Lady Washington's Model, Johnnie Glusing. Fifth: Big Princess Model, Bassett.

Sow, junior pig.—First: Lady King, Lehman. Second: Lady Bob, Lehman. Third: Gerstdale's Best, Bassett. Fourth: Polandale Bettie, Chas. Gatewood. Fifth: Letty C, Cross Bros.

Herds, boar and three sows over one year.—First: Barton's Big Kover, Smooth Beauty C, Smooth Beauty 5th, Smooth Josie, Young. Second: Matchless Big Bob, Lady Wonder, Belle's Beauty, Margaret, Beckman. Third: King's Timm, Hopeful, Big Model Maid, Chief's Jumbo Lady 2nd, Bassett. Fourth: King Jones Over, Big Mary 3rd, Model Riverina, Liberty Girl 3rd, McCarty & Starkweather.

Herd, boar and three sows under one year.—First: Big Bone King, Lady King, Miss Goldie, King's Maid, Lehman. Second: Smooth King, Nugget Nell, Long Prospect, Stylish Wonder, McCarty & Starkweather. Third: Unnamed pigs by Long Big Bone Jr. and out of Smooth Beauty C, Young.

Herd, boar and three sows, bred by exhibitor.—First: Big Bone King, Lady King, Miss Goldie, King's Maid, Lehman. Second: Smooth King, Nugget Nell, Long Prospect, Stylish Wonder, McCarty & Starkweather.

Third: Four unnamed pigs by Long Big Bone Jr. and out of Smooth Beauty C, Young.

Get of sire.—First: Sire Golden State King; Get, Big Bone King, Long King, Lady King, Miss Goldie, Lehman. Second: Sire, Kansas King; Get, Smooth King, Nugget Nell, Long Prospect, Stylish Wonder McCarty & Starkweather. Third: Sire, Long Big Bone Jr.; Get, Four unnamed pigs out of Smooth Beauty C, Young.

Produce of dam.—First: Bobetta; produce, Big Bone King, Bole's King, Lady King, Miss Goldie, Lehman. Second: Dam, Smooth Beauty; produce, Barton Big Korver, Black Beauty 5th, Spring Sow, Young. Third: Miss Nebraska 2nd; produce, Smooth King, Nugget Nell, Long Prospect, Stylish Wonder, McCarty & Starkweather.

Fat barrow.—First: Unnamed, Bassett. Second: Unnamed, Bassett.

Pen of fat barrows.—First: Bassett.

HENDERSON HOLSTEIN SALE.

Breeders of the "Blacks and Whites" will have an opportunity on September 20th at Stockton of purchasing at their own price individuals from 65 head listed from the Henderson and Bonita Stock Farms. Many

of those in the sale closely related to the King of the Blacks and Whites, with more A. R. O. daughters than any other bull on the Pacific Coast. Also the senior herd sire at the Bonita Ranch, Supreme Glista Pietje, sire of of Bonita Sir Cornucopia Glista, blue ribbon junior yearling bull at the State Fair this year, is also closely related to many consigned.

The H. C. L. is receiving so much of our attention at the present time that every chance to improve our methods of production of milk, one of the necessities, should not be overlooked. This sale is one of those chances to

procure animals of the very highest economic production in the breed and any one interested should not fail to attend the sale and buy some of this great offering.

Clyde Horr of Susanville was at the State Fair with an excellent herd of Poland-Chinas. Mr. Horr has the distinction of having the first exhibit of registered livestock at the State Fair from Lassen county. His sow, Horr's Big Orphan, was placed fifth in a very strong class. Mr. Horr knows there is a great future for blooded livestock in his country.

HAVE SOME NICE YOUNG BULLS

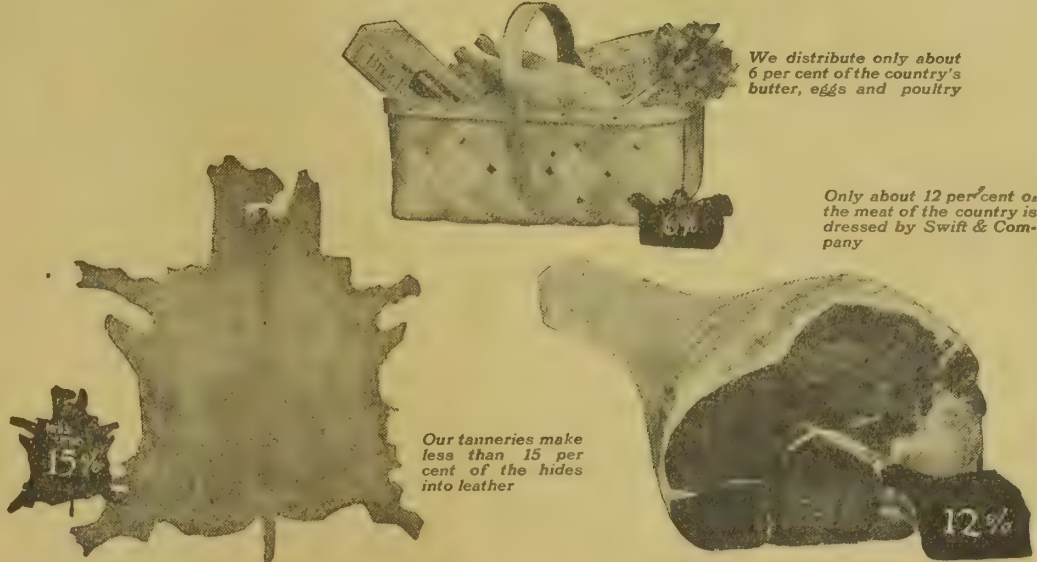
Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.



We distribute only about 6 per cent of the country's butter, eggs and poultry

Only about 12 per cent of the meat of the country is dressed by Swift & Company

Our tanneries make less than 15 per cent of the hides into leather

Compared to the entire industry, our business is small

The United States produces an immense amount of meat.

Swift & Company does a big business, but compared to the nation's total, our output is small. It is like comparing one big apple to a whole tree of fruit.

We handle only about 12 per cent of the dressed meat of the United States. There are 302 national packers and 944 local ones competing with us.

We distribute only about 6

per cent of the country's butter, eggs, and poultry.

Our tanneries handle less than 15 per cent of the hides made into leather in the United States.

Our soap factories make less than 10 per cent of the soap output.

Compare these small percentages with the proportions handled by large corporations in other industries, and you can easily see that Swift & Company is not so large after all.

Swift & Company, U. S. A.

Founded 1868

A nation-wide organization owned by more than 30,000 shareholders



PROTEIN

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Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

**Western Meat
Company**
SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

Poultry and Rabbits for Profit

POULTRY AS A SIDE LINE.

Do you want to make poultry an important side line on your farm by looking after them in the right way? Here are some of the features of a successful poultry plant down Tulare way:

Roosts.

Roosts are kept entirely separate from the walls, because when they touch the walls a regular path is made for ticks and other vermin, from roof and wall to resting hens.

Instead, 4x4 posts are sunk firmly in the ground in two rows, with slits in them in which a 1x4 will fit. These 1x4's have also grooves 12 inches apart in which 1x1½ roosts fit. In housecleaning a man can walk along quickly, taking up the roosts, then taking up the side boards, putting them out to air, and cleaning the floors up in no time. Some heavy oil, or grease, dropped in these grooves occasionally prevent vermin of any kind from hiding in them or passing through them. This is an extremely simple and convenient arrangement.

You might not think that such small roosts could hold up a lot of hens. They do so easily on account of the strain coming on the long side; if they were laid flat two hens on the middle might break them. As it is there is a span of six feet between supports and all the Leghorn hens that get on them cannot break them. The roosts project six or eight inches over the sides.

Nests.

Tightly stretched woven wire is slanted over the nests on the north walls. This prevents the hens from standing on the top boards and leaving their droppings on them, which would cause vermin. At night a 1x4 is slipped in front of the nests, which prevents the hens from roosting in the nests. If they tried to do that, mites, lice, and ticks would gather.

Miscellaneous Pointers.

Given a large flock of Leghorns and they will range over a 40-acre ranch. Consequently a large flock on free range does not go on a 10-acre farm, unless the neighbors are obliging. When grasshoppers are abundant the hens will not range far; when they are scarce, they will range farther.

A collie dog is a convenience on a ranch where hens range wide. It is the nature of the breed to protect the creatures he is with. A collie dog on the George ranch rushes out and under every hawk or buzzard he sees overhead, and it keeps them off. The buzzards do not notice the dog; the hawks either fly off, or try to dive at some other part of the ranch. It takes some time for them to work around to that plan, so if they do not fly off right away, Mr. George waits for them with a shot gun and then they give up chicken-killing forever. A shepherd dog, owned before the collie came, was just as good at the same work.

The time to kill a hen in her last season is when she starts in to want to set during the summer. If broken up, it will be quite a while before she begins to lay again, and mostly she will begin to moult first, so put her on the market before that happens, while she is still marketable and before a lot of valuable feed is wasted on her.

Unless there is lots of irrigation water a person has to be careful about putting poultry manure on land, according to Mr. George. He used to put it broadcast on his alfalfa checks, but found that it burned the ground (which it would not do if irrigation was heavy), so now he dumps it in the ditches, and the water distributes it all over the ranch and there is no burning at all. Orange growers are willing to buy the manure at \$7.00 per ton. Chemical analysis would probably show that it was worth double that price.

A scratching shed 14x36 is in large enough for 600 hens, according to Mr. George. He has his house board-

ed up a foot off the ground to keep in the straw, and feeds all of his grain in straw. The roof alone will not give enough protection from the sun in the middle of the day when the hens are loafing, but he boarded up two sides, which prevents the hot wind from passing through, and now the hens think it gives grateful shade.

"Swat the rooster" is the slogan for most farms. You do not hear it much around Tulare, for the roosters are all swatted before they are roosters. Nearly everybody buys baby chicks to raise. There were 75,000 sold by Poultry Association last season, 50,000 were turned out by a local hatchery, others imported chicks directly, and as is customary incubators and even setting hens were vigorously on the job on lots of ranches.

SWOLLEN EYES AND BLINDNESS.

To the Editor: We are having trouble with our chicks and wonder if you can give us advice. For feed our chicks three months old are getting wheat and barley, whole grain twice a day; and a dry mash is in front of them all of the time. Mash contains bran, charcoal, beef scrap, cracked corn, rolled barley and alfalfa meal. They also get some sour milk. They are at liberty to range at will. But we are continually finding them with swellings about the eyes which eventually blinds them and they soon die. Be kind enough to tell us what is the trouble and suggest a remedy.—J. R. Washburn, Oakdale.

Apparently these growing chickens have a simple cold that has become chronic, and as they do not see well they die more from starvation than from the cold. The trouble may have originated in the sleeping quarters and be due to drafts created by cracks in the sides of the house; or the quarters may have no ventilation and when they go out of the house in the early morning they are chilled by the great change of temperature. If the quarters are properly constructed, with abundant ventilation on the front only, it is possible the chickens are in the habit of crowding or "stacking" into one corner which causes them to sweat and they continue or intensify the cold each morning as they separate from the heated mass. Red mites also produce similar results if the quarters are overrun with them. The eyes may be washed and opened by the use of witch-hazel or a solution of permanganate of potash; this treatment will enable them to eat and drink. A liberal dose of epsom salts in the feed or water, or both, helps to cleanse the system. It requires patience and some experimenting to get chickens over the stacking habit. Frequently it may be accomplished by placing in their favorite corner a frame covered with burlap. For fowls three months old the legs should be about six inches high and the burlap tacked so the center of the cloth will be about three inches from the floor.

TO DETERMINE A FRESH EGG.

The absolutely fresh egg held against the light says an exchange, shows a distinctive pinkish glow of goodness. Let the egg, however, remain out in the sun or in the summer heat for a little time, and within a day or two it begins to show blood, a tiny series of little blood vessels forming around the embryo of the chick; or the heat may cause the yolk to go toward the top and shift easily which characterizes it as a "light floater."

Again, the yolk may mix with the white and make a "white rot," a condition also revealed by the candle. The final stage is the "black rot," where no light at all can be seen through the egg. The egg has now reached the explosive stage, which makes it such a favorite missile of the average boy. There is, however, another type of bad egg which most

people would think good for food. The yolk is a firm golden ball and the white a clear liquid. But the white has a greenish color—and the green indicates that the egg is full of bacteria—it is a "green white egg."

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

BOOKING FOR WINTER, SPRING DELIVERY

Most Fall Chicks Already Booked. yet hundreds open most weeks, reduced, in each of seven popular breeds. Clearing customers, \$5 yearly. 200-250 egg strain. Large vigorous winter layers. Half chicks go to former customers. Doubling our 70,000 hatching capacity. Returned thousands of dollars for chicks we couldn't supply. FEW HUNDRED BREEDING HENS, MALES, laying younger pullets, going rapidly—50c to \$2.00 under price. Valuable circular with proof free. J. Beeson, Pasadena, Calif.

PEERLESS WHITE WYANDOTTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hoganized and Trapped stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

FOR SALE—About 135 pair of pigeons, mostly Carneaux, some white Kings and Homers. All fine stock and in good condition. Must sell on account of leaving. Price, \$1.50 per pair. Address Frank Knolle, Vineburg, Calif.

FEBRUARY BARRED ROCK PULLETS—A few dozen especially good birds from extra large, heavy laying parent stock, for sale at \$2.50 apiece, crated and delivered at station. Also March Leghorn pullets at \$2.00 each. Geo. L. Horine, Winton, Calif.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties very week. Only good, strong youngsters shipped. Stubbs Poultry Ranch and Hatchery, Box 87, Palo Alto.

EASTMAN'S BRED TO LAY—Hoganized and trapped Barred Poultry Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

FALL BABY CHICKS—Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. Santa Clara Valley Hatchery, San Jose, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

WRITE FOR SPECIAL PRICES on Fall chicks. Willow Glen Poultry Yards, 10 South Lincoln Ave., San Jose.

ROCK, RED OR LEGHORN baby chicks—large or small lots. Right prices. Madera Hatchery, Madera, Cal.

FALL BABY CHICKS from our large heavy-laying S. C. White Leghorns. Send for prices. Tupman Poultry Farm, Box 7A, Ceres, Calif.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GOOSE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

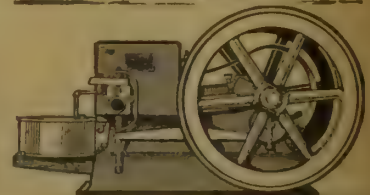
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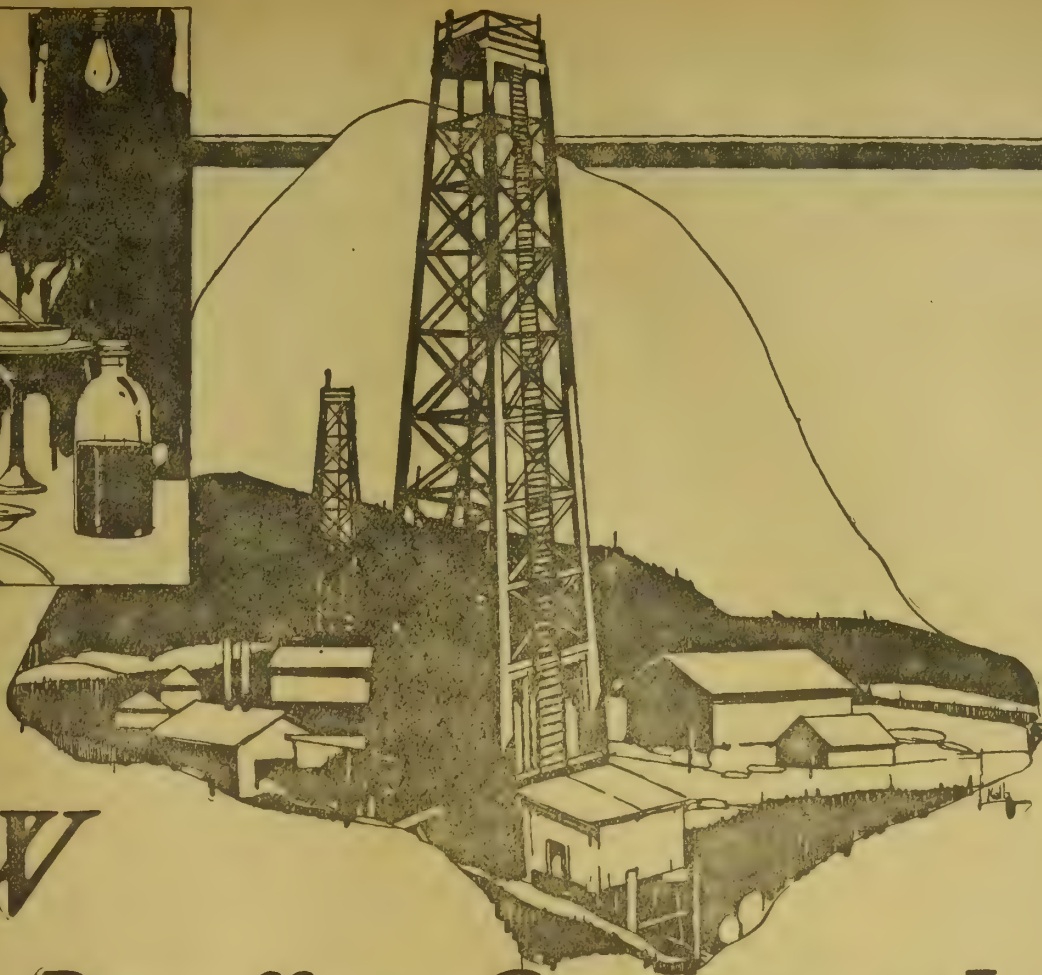
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HOW

The Paraffine Companies Inc. helped develop the oil and asphalt industry of California

The tremendous growth of the oil and asphalt industry of California was due in a measure to The Paraffine Companies, Inc.
How?

"Black Paraffine" Apparently Worthless

In the early days, oil experts from the Pennsylvania fields, thought that the black viscous residue left after the lighter oils had been distilled from California petroleum was "black paraffine." But it was not like the paraffine they knew, and they considered it worthless.

For a long time the oil industry was handicapped by the large quantity of this black residue.

Its Great Value Discovered

Then came Beardsley, an Eastern oil expert, and Pierce, a chemist, who resolved to find a use for it. They experimented ceaselessly without result, until one

day by accident they discovered that this "black paraffine" would dissolve readily in that evil-smelling liquid known as carbon bisulphide. Their search was at an end. They had made a paint which dried quickly and withstood the action of acids and alkalis.

As a result of this discovery The Paraffine Paint Company was formed to manufacture the now famous "P & B" paints and a small plant was established in Oakland in 1884.

Oil Was Distilled to Get the Asphalt

During the early life of The Paraffine Paint Company there was difficulty in securing enough "black paraffine," or what was later discovered to be asphalt. The oil companies had trouble in supplying it, because it forced them to distill a large quantity of the lighter oils in order to get the residue. And, they stated, there was little or no market for the distilled products! Thus, for a time, asphalt was the main product and the lighter oils the by-products. A curious situation in the light of present-day conditions.

Growth of The Paraffine Paint Company

Through the company's success in making paint, other uses for asphalt were sought and found, and it gradually extended its business. New products were brought out from time to time, such as "P & B" roofings—the original ready roofing—building papers, specialty paints and wall-board, and later, floor coverings.

The Paraffine Companies, Inc., Organized

Built upon a solid foundation and a policy of high quality always, the Company grew and expanded until in November, 1917, The Paraffine Paint Company with other companies was merged into The Paraffine Companies, Incorporated. Today this organization is one of the largest industrial concerns in the West and the products of its fourteen great plants are distributed throughout various parts of the world.

Everybody on the Pacific Coast who has ever had anything to do with building construction knows the names of the "P & B" products, Malthoid and Ru-ber-oid Roofings, as the standards of ready roof-

TRADE MARK
PABCO
PRODUCTS

Roofings
Felts
Building Papers
Waterproofing
Materials
Wall-Board
Floor Covering
Industrial Paints
Box Board
Paper Boxes
Fibre Containers

THE PARAFFINE COMPANIES, INC.
San Francisco

MALTHOID and RU-BER-OID
READY ROOFINGS

THE HOME CIRCLE

I HEAR THE SEA.

When night has let her curtain down
And darkness shuts the world from
me,
In yonder little fisher town
I lie and listen to the sea.

My windows open to the strand,
I hear the sounding waters roll;
They beat the rocks, they wash the
sand,
Their breakers cross the lighthouse
mole.

And all the night, against the shore,
I hear their beat but have no fear;
'Tis not alone the ocean's roar,
It is the voice of God I hear.

Forever thus, O sounding sea,
The years perpetual come and go;
Across life's bar they call to me,
As constant as the ocean's flow.

And so it is in yonder town,
When darkness falls across the lea,
Where fisher folk go up and down,
I lie and listen to the sea.

—S. H. M. Byers.

THE ROD OF GOLD.

Once upon a time an old woman,
who had been walking through a
wood, came at last to the open coun-
try beyond. Just before her flowed a
stream which she must cross on her
way. She seemed feeble, and, when
the bank of the river was reached,
she stopped in dread; for the current
was swift and the stones were slip-
pery and unsafe. She glanced about

her at the trees, for she must have
help. A great oak stood near with
its beautiful leaves and many acorns.
"Kind oak," said the old woman, "may
I have part of one of your branches
to make a rod to help me over the
stream?"

"Indeed, no," cried the oak. "I can
not spare a single branch. My acorns
are far too beautiful to give away."

Then the old woman went to a red
maple standing near the oak, and said,
"Will you be kind to me and spare
me a branch from which I may make
a staff to carry me over the river?"

"Of course not," said the maple.
"Could you imagine I would spare any
of my beautiful red leaves?"

The old woman turned sadly away.
A chestnut-tree stood near, and she
appealed to it. "Good chestnut, may
I have one of your branches?" she
asked. But the chestnut-tree could
not spare a single nut, and so refused.

The sycamore thought her balls too
pretty to part with and the poplar
stood tall and disagreeable and would
not help her.

The elm drooped languidly, and told
her she might ask the walnut. And
so it went; hickory, ash, horse-chest-
nut, and birch-tree all said, "No," till
the poor woman, quite discouraged
and tired out, sank on a great stone
to rest and decide what was best to
be done.

At her feet lay a stick, old and dis-
colored, but straight and strong. It
spoke to the old woman, and said,
"I'm sorry the beautiful trees have
been so unkind to you, and I will help
you gladly if I may. You see I have
no beauty; I do not even know to

what tree I belong; I have no acorns
nor nuts nor leaves, and even my bark
is gone; but I am strong, and will
gladly take you over the stream."

The old woman picked up the poor
rod at her feet, and, leaning heavily
upon it, started on her journey across
the river. The water roared about
them, but the rod bore her in safety to
the other side. When the farther
bank was reached, a wonderful thing
happened. The long cloak worn by
the old woman fell away, and there
she stood, not really an old woman
at all, but a beautiful fairy. "I am
the fairy of the woods, kind rod," she
said. "I came to see if my trees were
kind as well as beautiful. You have
done all in your power for a feeble
old woman. Now what can I do for
you?"

The rod replied, "I should like to
be beautiful, but most of all I want
to be loved, especially by the chil-
dren."

"You shall have your wish," said

the fairy. "You are worth your
weight in gold, but the rod of gold
would not be loved by the little ones.
I will give to you fairy gold instead."

More Light Than 20 Oil Lanterns

AT LAST—the light of lights! A lantern
that lights with common matches just
like the old style oil lantern, but makes
and burns its own gas from common gaso-
line, giving a brilliant, steady, white light
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MOST BRILLIANT LIGHT MADE

Brighter than the brightest electric bulb.
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and best light made. Costs
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safest oil lantern. The

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globes to wash. No dirt or
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Absolutely safe. Fuel can't
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for steam-cooked feed, sterilizer, etc. Laundry, vulcanizer,
Steam-cooked food products and hundreds of other uses.

What does it—Nothing more or less than the little Dread-
naught Burner we have been talking about right along. The
steamer is our own make and like everything we turn out, is fully
guaranteed. We prove every step and offer nothing to the public until
we have positive evidence of success. You will see several of our won-
ders at the Tractor Show that opens September 16th—always to be seen
at our home address given below.

Write for our circular. Tell us what you are interested in—we can
meet every need. Detailed information gladly furnished. The Dread-
naught Oil-Gas Burner can be sent you as quickly as a letter.

BURNER AND VALVE—FITS ANY STOVE

MAILED ANYWHERE

\$6.50

SCIENTIFIC SPECIALTIES CO.

Manufacturers,

310 South Hill Street,
Los Angeles, Cal.

The Name Over the Door Is Just as Important as The Name on the Piano

There are hundreds of different Piano
makes on the market today—many of these
names are unknown to you. Even if you
have seen them advertised you are unable
to verify the statements made about them,
as you have no expert knowledge on the
manufacture of Pianos.

That is why the name over the door of the store
you patronize is just as important as the name on
the Piano. If the name is that of a good reliable
Piano Dealer you can rely upon being shown good
dependable Pianos—you can rely upon his state-
ments and his advice. The result of your call upon
the reliable dealer will be a Piano which will give
you years of satisfaction and a feeling that you re-
ceived full value for the money paid.

We invite you to call at any of our stores—or write us
asking for illustrated catalogs and prices.

We are dealers in Steinway and other Pianos, Planolas and
Duo Art Pianos, Aeolian Player Pianos, Player Rolls, etc.

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Portable heat—
convenient - economical

At the light of a match—in-
stant heat. No smoke, no odor.
Comfort without dust or dirt.
Oil consumed only as needed.

Pearl Oil is refined and re-
refined; pure and clean burn-
ing. Sold in bulk and in five-
gallon cans. Order by name—
Pearl Oil.

We recommend Perfection Oil
Heaters.



STANDARD OIL COMPANY
CALIFORNIA

She planted the rod in the earth, and it at once became green. From it grew beautiful leaves, and many stems, and over all the fairy scattered millions of tiny stars of fairy gold till the top of the plant looked like sunshine. "Hereafter you shall be called 'Goldenrod,'" said the fairy, "and everyone shall love you."

What the fairy has said has come to pass. The lovely goldenrod has been showing her yellow stars in our meadows ever since that day.—Sophia Brown, in Christian Intelligencer.

CANNED TOMATOES.

Tomatoes can probably be prepared in a greater number of ways than any other common vegetable. They form the basis of many soups and are used in sauces for fish or oysters. As a vegetable, they may be used in many ways. Tomatoes are one of the stand-bys in salad-making and the combinations made with onions, pepper and spices are almost endless. Canned, they do not spoil easily when reasonable care is exercised in the work.

One of the best methods of canning tomatoes is: Select only sound and ripe tomatoes. Dip them in boiling water for about 1½ minutes, or until the skins loosen. Remove skins and, with a slender-pointed knife, cut out the core without cutting into the seed cells. Have in readiness jars which have been boiled 15 minutes. Pack the whole tomatoes into the jars as rapidly as they are peeled. Add one level teaspoon of sugar and one-half teaspoon of salt to each quart. Put on the cleansed rubber, which has been dipped in hot soda water and top which has been boiled 15 minutes. Half tighten the top. If hot-water bath canner, either commercial or home-made, is used, place jar on false bottom with sufficient water to process the jars. Boil 30 minutes after the water starts boiling vigorously. Remove jars, tighten tops, invert to test for leaks and store in a cool, dark, dry place.

Another procedure which is more economical of space is to fill quart jars with peeled whole tomatoes and then pour in a thick tomato sauce. Each jar will have whole tomatoes

for salads or baking and a tomato puree for soups or sauces. This sauce is made by cooking the small or broken tomatoes until tender. The seeds are then removed and the pulp concentrated by boiling to about the consistency of catsup. Process quart jars for 30 minutes.

FLY MIXTURE.

Practically all fly poisons contain arsenical poisons that would be fatal to children, and every year lives are lost by their careless use. For that reason, it is best to specify that formalin should be used in weak dilutions (1 to 1½ per cent) at which strength it would not be easy to drink a fatal quantity.

A formula furnished by the University of California is as follows: one part each of formalin, sour milk, sugar, or syrup to twenty-four parts of water. For household use, the measurements may be by tablespoonful or where large quantities are required, by pints. The poison is used as follows: place a thin slice of bread, or scraps of bread, in a saucer and pour over this enough of the above mixture to saturate the bread and leave some of the liquid free. Then place the receptacle where flies are abundant. Since the formalin evaporates within a few hours, a fresh mixture should be added two or three times daily. Flies drinking this mixture die within a few minutes, usually falling within four or five feet of the dishes.

USE OF OILED PAPER.

There are many uses of oiled paper besides that of wrapping sandwiches. Rice, macaroni, cold cereal may be covered by pressing the paper tight to its surface and no hard crust is formed. Keeping out the air keeps the surface soft and fresh. If spread over the cut end of a melon, it excludes the air and prevents a tough dry layer. Left over piecrust, if tightly wrapped in it will not develop that heavy crust so trying and wasteful Jelly that is to be used shortly may be sealed with oiled paper instead of paraffine.

If desired, all of the tomatoes may be cooked to a pulp and a more economical utilization of space within the jar will be obtained.



THE PREMIER BURNER

Makes Gas from Kerosene (common coal-oil)

The Original Cost is Small, and this is the only expense you'll ever have—for if the Burner becomes defective we replace it free of cost, and there is no time limit to this.

Just to show the durability and dependability of the Premier, we call your attention again to the burner installed in the Mile Rock Light-house, that has been burning continuously since seven thousand hours.

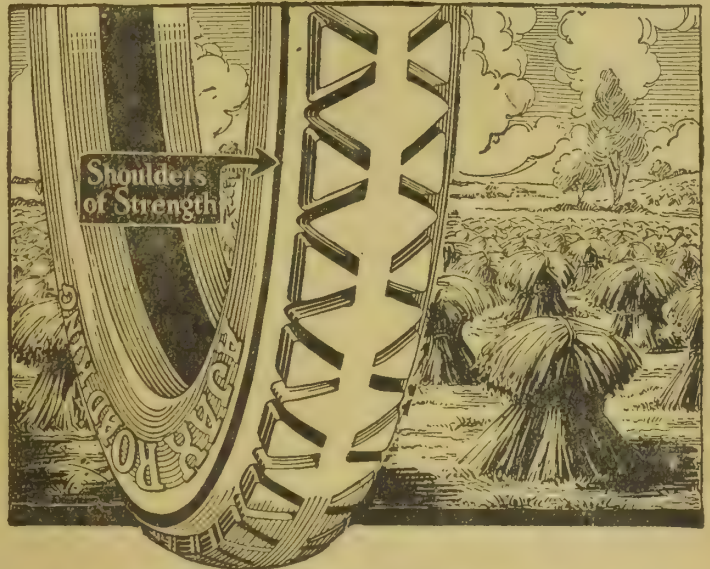
Complete Outfit, \$12.50—for No. 6 Stoves.

Complete Outfit, \$20.00—for No. 7 to No. 9 Stoves.

VAUGHAN & MATTISON, Agents

225 Market Street,

San Francisco, Calif.



A Mileage Harvest

JUDGE tires by results. On the strictest basis of mileage measurement, the Ajax Road King tops the field.

Chief among reasons for the greater mileage yield of the Ajax Road King is that special feature—Ajax Shoulders of Strength. Shoulders of Strength are burly buttresses of rubber that brace and reinforce the tread. Their function is to add mileage—and they do, for they distribute wear evenly over the road. They put more rubber where it should be—more tread on the road.

The harvest tells. Try Ajax Road King tires. They are typical of the better inbuilt value that makes Ajax mileage yield so great.

Ajax Tires Are Guaranteed In Writing 5000 Miles
Write for the free book—Ajax Shoulders of Strength

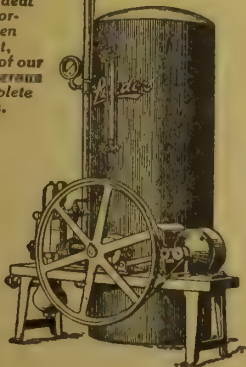
AJAX RUBBER COMPANY, Inc.
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AJAX TIRES

An ideal Motor-Driven outfit, one of our numerous complete units.



Corner-Stones of a Water System for Your Home or Farm

Satisfaction to the customer, responsibility on the part of the distributor, and the manufacturer—

These are the corner-stones upon which all installations of water systems for the home or the farm must be built.

"Everybody Knows

Leader-Trahern
TRADE MARK
Water Systems"

Leader-Trahern Tanks, Pumps and Power Equipment reach the customer direct from a concern near the customer's home.

This equipment—for deep or shallow wells, electric motor or gas engine drives, for any capacity—is the most complete line in America.

Manufacturer, distributor and dealers interlock their responsibilities to the customer, so that the result is SATISFACTION.

Think this over—then write to us!

The Pacific Pump and Supply Co.
San Francisco

SAN FRANCISCO.

San Francisco, September 10, 1919.
WHEAT.

The supply of wheat seems ample for all demands in San Francisco, although it is stated that arrivals are slow. All grain markets are dull.

Per bushel—

No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
California, per cbl	\$3.65 @ 3.70

BARLEY.

This was again a broken week on the grain markets, with the exchange closed both Monday and Tuesday. Barley continues to be weak with very little demand except for export, and this demand shows a steady decline.

Feed	\$3.00 @ 3.05
Shipping	\$3.20 @ 3.30

OATS.

Oats showed continued weakness this week and some concessions in price were made in the hope of stimulating trade.

Red feed, per cbl	\$2.90 @ 3.10
Red for seed	Nominal
Black for seed	Nominal
Recleaned Red or Black for seed	Nominal

CORN.

While the price of corn is being well maintained the market is practically dead. There is little prospect for an increase in the local demand.

California	\$3.80 @ 3.90
Egyptian, choice	Nominal
Milo	Nominal

HAY.

Receipts of hay for the past week were 2809 tons compared with 3459 the previous week. Holidays interfered with the market and this in conjunction with the shortage of cars which is becoming more stringent daily, had the effect of cutting receipts. Most of the receipts came in from the bay and river districts and have been mostly tame oat hay and alfalfa. During the week the Government received bids for about four thousand tons of hay for shipment to Manila and Honolulu. This hay has to be double compressed, and it is probable the award will be made to some San Francisco bidders.

No. 1 Wheat, or Wheat & Oat	\$15.00 @ 18.00
No. 2 Wheat, or Wheat & Oat	\$12.00 @ 15.00
Choice Tame Oat Hay	\$15.00 @ 18.00
Wild Oat Hay	\$10.00 @ 14.00
Barley Hay	\$12.00 @ 16.00
No. 1 Alfalfa Hay	\$17.00 @ 22.00
Stock Hay	\$ 8.00 @ 12.00
No. 1 Barley Straw, per bale	.50 @ .80

FEEDSTUFFS.

Some little demand for alfalfa products developed during the week and the prices were advanced from \$2 to \$3. There was no activity in any of the other varieties of feedstuffs.

Rolls Barley	\$64.00 @ 65.00
Rolls Oats	\$62.00 @ 63.00
Cocunut Meal	\$48.00
Cracked Corn	\$79.00 @ 81.00
Alfalfa Products	\$38.00 @ 40.00

POTATOES, ONIONS, ETC.

Potatoes are showing weakness on account of an excess of receipts over demands. With the week broken by a holiday, it is impossible to predict what effect this may have on next week's business. Onions are somewhat stronger and while \$2.25 was the top price in nearly every instance, there were practically none at all moved at \$2.00. The general vegetable market showed the effect of the holiday, but buying was steady on Wednesday and most prices were fairly well maintained.

String Beans	4 @ 5c
Peas	8 @ 9c
Carrots, per sack	\$1.00 @ 1.25
Rhubarb, Strawberry, box	\$1.25 @ 1.75
Cucumbers	.50 @ 70c
Eggplant, box	.50 @ 75c
Lettuce, per crate	.75c @ 1.25
Tomatoes, River, per large box	.50 @ 65c
do, Bay	.50 @ 75c
do, Stone	.75c @ 1.00
Sprouts	Nominal
Summer Squash, lugs, Alameda	.60 @ 65c
Green Corn, Alameda, sack	\$1.50 @ 2.00
Potatoes, Garnets	\$2.25 @ 2.40
do, local whites	\$2.25 @ 2.50
do, Rivers	\$2.00 @ 2.25
do, Sweet, new, lb.	.4 1/2 @ 5c
Onions, new red	Nominal
do, Browns	\$2.10 @ 2.25
do, Yellow	\$2.10 @ 2.25
do, Green, Alameda	\$1.00 @ 1.50
Garlic	.18 @ 20c

BEANS.

There were no developments in the bean market during the present week. With the exception of pink beans prices were nominally unchanged. The latter were priced down from 15 to 25 cents in an effort to effect sales. With the very few sales reported, it is evident that the stocks are pretty strongly held and prices are not expected to show any radical falling off.

Bayos, per cbl	\$6.25 @ 6.50
Blackeyes	.55 @ 50 @ 5.75
Cranberry beans	\$6.20 @ 6.50
Limas (South, recleaned)	\$12.00
Pinks	\$6.25 @ 6.50
Mexican Reds	\$5.50 @ 5.75
Tagary Beans	\$2.00 @ 2.25
Garbanzos	\$10.00 @ 10.50
Large whites	\$4.50 @ 4.90
Small whites	\$7.50 @ 7.75

POULTRY.

The poultry market is waiting on the results of the strike of pickers which developed on Monday of this week. The pickers last week made a demand of an increase of pay from 4 cents to 5 cents per fowl. This was granted temporarily as an experiment, but the advance was withdrawn the latter part of the week on the ground that the dealers could not pay it. As a consequence the men went out on Monday, and live poultry is beginning

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

to pile up on the hands of the various poultry men. If shipments continue prices are bound to tumble. Meantime accurate quotations are impossible.

Turkeys, dressed, young spring, lb.	.45 @ 50c
Broilers 1 1/2 lbs. and under	.30 @ 32c
do, 1 1/2 to 2 lbs.	.30 @ 32c
Fries, 2 to 3 lbs.	.30 @ 32c
Hens, extra, per lb., colored	.34 @ 36c
do, Leghorn	.28 @ 32c
Smooth young roosters, per lb. (8 lbs. and over)	.34 @ 36c
Old roosters, colored, per lb.	.22 @ 23c
Geese, young, per lb.	.22 @ 23c
do, old, per lb.	.22 @ 23c
Squabs, per lb.	.48 @ 50c
Ducks, young	.25 @ 28c
do, old, per lb.	.15 @ 16c
Belgian hares	.15 @ 16c
Jack rabbits	\$1.50 @ 3.00

BUTTER.

Trading has been active at advancing prices throughout the week. Firsts have been pretty well cleaned up and no quotations were made on them on either Monday or Wednesday of this week. The butter market looks very firm under the decreasing receipts and as a result of increased outside demand. During the past week the receipts of butter here were 257,189 pounds compared with 416,939 pounds the previous week and 445,009 a year ago.

Extra	.57 1/2	58	58 1/2	59 1/2	60
Prime First	.53 1/2	53 1/2	53 1/2		

EGGS.

Eggs showed an advance at the close of 1 1/2 cents over the opening for extras and 1 cent

for pullets. Receipts during the week showed a falling off of over 3,000 cases compared with the previous week.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	.61	.60 1/2	.61	.62 1/2		.62 1/2
Firsts	.49 1/2	.49 1/2	.49 1/2			
Ex. pullets	.52	.52 1/2	.52 1/2	.53		.53
Underized	.35	.33 1/2	.34	.35		.35 1/2

CHEESE.

The cheese market was somewhat quiet, notwithstanding the radical change in price for California Y. A. Fancy. This drop was due to a readjustment of price caused by the steady decline in Oregon Y. A. until the differential became so great that the California product would not move.

California Flats, fancy	.31c
do, Firsts	Nominal
Y. A. Fancy	.31 1/2c
Oregon Triple	.29 1/2c
do, Y. A.	.30 1/2c

FRESH FRUITS.

There was excellent buying on the fresh fruit market on Wednesday, as dealers stocked up after the holiday. Prices as a whole are unchanged and are maintained at last week's level. Strawberries were slightly higher. According to local commission men the rains of Sunday have not affected the quality of the berries coming in.

Apples—Gravensteins	\$1.50 @ 2.50
do, Alexanders	\$1.50 @ 2.00
Skinner Seedling	\$1.50 @ 2.25
Crabs	\$1.00 @ 1.25
Apricots, bulk, lb.	Nominal
Figs	\$1.00 @ 1.25
do, white	.60 @ 75c
Plums, box	.75c @ 1.25

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., Sept. 9, 1919.

Weather conditions being somewhat more favorable during the past week in the far Eastern markets, resulted in the stock moving more freely and with an upward tendency on practically all varieties. This was particularly noticeable on Tokays and Bartlett Pears, the pinnacle of the season being reached on Bartletts, with a top price of \$5.85.

The market on freestone peaches is somewhat easier, owing to heavy supplies from the Northwest and Colorado. There appears, however, to be a very firm, though not heavy demand for clings.

Plum shipments have practically discontinued with the exception of a few scattered lots from the mountain districts and as there is a light supply en route, the offerings were hardly in keeping with the demand, though prices showed very little advance, if any, over the week previous.

Malagas seem to be holding their own, with the situation steady. Tokays have the preference, good stock, well sugared and colored, bringing very fancy prices.

On account of a refrigerator car

shortage which developed in California about a week ago, the movement of fruit from now on will be very light and probably at no time will the shipments exceed 35 per cent of what could be moved if there was adequate equipment to handle the crop.

The light rain a few days ago did little or no damage, and growers, fearing early heavy rains, are making every effort to harvest their crops but, unfortunately, are seriously hampered by the shortage of cars.

NEW YORK: Bartlett Pears, \$3.75; B. Clairgeau, \$3.31; Malaga Grapes, \$1.76; Tokays, \$3.05; Rose Peru, \$1.61; Muscats, \$1.45; Zinfandels, \$1.70; Alicante Bouchet, \$2.05; Thompson Seedless, \$2.18.

BOSTON: Bartlett Pears, \$1.73; B. Hardy, \$3.00; B. Clairgeau, \$4.00; Malaga Grapes, \$1.73; Black Prince, \$1.77; Malvoise, \$1.70; Tokays, \$2.70; Zinfandel, \$1.65; Muscats, \$1.55; Alicante Bouchet, \$1.95; Rose Peru, \$1.75.

CHICAGO: Bartlett Pears, \$3.80; Philip Clings, \$1.30; Elbertas, \$1.25; Susquehanna, \$1.27; Lovells, \$5; Salways, \$1.16; Malaga Grapes, \$1.93; Zinfandel, \$1.91; Tokays, \$2.97.

BANNER YEAR FOR CALIFORNIA'S CITRUS INDUSTRY.

For the year ending August 31, 1919, shipments of California citrus fruits totaled 45,692 carloads and returned \$75,600,000 to California during the year, according to the annual report of G. Harold Powell, General Manager of the California Fruit Growers' Exchange, just issued. The State produced 35,778 carloads of oranges and grapefruit and 9,914 carloads of lemons and the crops of lemons and Valencia oranges were each the largest ever shipped from the State. The Exchange handled 33,082 carloads, or 72.2 per cent of the crop.

An annual yield of California lemons that will exceed the present combined domestic and foreign supply by at least 50 per cent within the next decade, and the rapid growth of the Valencia orange crop due to recent plantings are predicted in the report.

This year the big growers' organization marketed 14,816,737 boxes of oranges, lemons and grapefruit at a cost of 5.2 cents a box, or 1.04 per cent of the delivered value. There was also spent for advertising 2 1/2 cents a box for oranges and 4 cents for lemons, making the combined advertising and selling cost 1.62 per cent of the fruit delivered value. The operations are conducted at cost and everything above actual expenses is returned to the grower.

"Although somewhat reduced by the cold weather in January this year's lemon crop was 70.2 per cent larger than that of last year and 22.3 per cent larger than the biggest year on record," according to the report. "This year's shipments of lemons were 17.6 per cent more than the total supply of both foreign and California lemons in 1917-18, and only 3.0 per cent less than the average supply of foreign and domestic lemons during the last five years."

Mr. Powell says further: "The advance in prices on all citrus fruits since the beginning of the war has not kept pace with the rise of commodities in general, particularly those purchased by the producer."

"The value of citrus property in California may be said to depend very largely upon the success with which each crop is marketed. The distribution of the California citrus fruit crop, through the California Fruit Growers' Exchange, represents the most highly developed system of organized marketing, to be found in American agriculture. After an evolution of 25 years the Exchange growers, through economic necessity, have developed their own distributing and marketing service which they operate with profit, as a true industrial democracy. In the last seven years the Exchange membership has increased from approximately 6,000 to more than 10,000 growers, while the combined number of shippers, associations and District Exchanges in the organization has increased from 133 to 216."

The Exchange shippers operate two subsidiary companies for the manufacture of orange and lemon by-products.

Grapes, Seedless	\$1.00 @ 1.25
do, Malaga	.125
do, Tokay, large box	\$1.75 @ 2.00
do, Muscats	.20
Pears, No. 1	\$2.50 @ 3.00
do, No. 2	\$1.50 @ 2.00
Peaches	.75c @ 1.25
Strawberries, chest	\$11.00 @ 13.00
Raspberries	\$15.00 @ 18.00
Blackberries	\$ 8.00 @ 9.00
Cantaloupes, Standards	\$1.25
do, Pomes	.75c @ 1.00
do, flats	.50 @ .65c
do, Persian, lb.	.2 @ 2 1/2c
Watermelon, lb.	.1 @ 1 1/2c
Quinces	\$1.00 @ 1.50

CITRUS FRUITS.

The market for citrus fruits was steady and no changes in quotations are noted.

Oranges, Valencia	\$4.25 @ 5.50
Lemons, fancy	\$6.50 @ 7.50
do, choice	\$5.50 @ 6.50
do, standard	\$4.50 @ 5.50
Lemonettes	\$3.50 @ 4.50
Grapefruit	\$4.00 @ 5.00

DRIED FRUITS.

Steady buying of dried fruits is in progress, but there is nothing of the feverish haste that marked the market a month ago. Dealers believe that the world demand will want all the dried fruit that California can provide, but the realization has been hampered here that there is a limit to the price which it is safe to pay.

Apples	.20 @ 22c
Pears	.16 @ 18 1/2c
Peaches	.17 @ 18 1/2c
Apricots	.24 @ 30
Prunes	.12 @ 13 1/2c
Figs, Adriatic	.14 @ 20c
do, California	.14 @ 20c

ALMONDS.

The 1919 opening prices of the California Almond Growers' Exchange are as follows:

Nonpareils	.32 1/2c
1 X 1 1/2	.31 1/2c
Ne Plus	.30 1/2c
Drakes	.28 1/2c
These prices f. o. b. Exchange warehouses, less one per cent cash ten days. These prices apply on old business. New business is being booked at:	
Nonpareils	.33 1/2c
1 X 1 1/2	.32 1/2c
Ne Plus	.31 1/2c
Drakes	.24 1/2c
F. o. b. Exchange warehouse, less one per cent cash ten days.	

RICE.

While prices are unchanged for rice some inquiries have recently come into this market from abroad, which if they materialize into orders are likely to cause an advance in price. In addition to these inquiries it is reported that Cuba will be in the market for rice before the end of the year.

HONEY.

There have been some arrivals of honey in this market from the interior, and an increased demand is looked to develop among candy makers if the shortage of sugar continues.

Water White Orange Blossom	.18 @ 20c
White to water-white sage (subject to production)	.18 @ 20c
Amber Mountain (Sage-Buckwheat)	.18 @ 18c
Light Amber Alfalfa	.14 @ 15c

LOS ANGELES.

Los Angeles, September 9, 1919.

BUTTER.

This market shows an increase in price of 1c per pound a day since September 4th. Receipts are heavy, being above normal. Strike conditions about over and regular shipments arriving. Receipts for the week, 435,600 lbs. Demand is reported to be very good.

California extra creamery	.61c
do, prime first	.59c
do, first	.58c

Prices are up in this market. Demand is fair and fair selling reported. Receipts light for the week, 521 cases.

Fresh ranch, extra	.61c
do, case count	.57c
do, pullets	.52c

EGGS.

Prices are up in this market. Demand is fair and fair selling reported. Receipts light for the week, 521 cases.

Fresh ranch, extra	.61c
do, case count	.57c
do, pullets	.52c

FRUITS.

All good fresh stuff in demand at quotations. Poor quality stuff very dull. New crop apples again on the market. Receipts are about normal again.

Peaches	4 @ 5c
Strawberries—	
30 basket crates, fancy	\$4.50 @ 4.75
Poor to choice	\$4.00 @ 4.25
Blackberries, case 30 boxes	\$2.75 @ 3.00
Raspberries, case 30 boxes	\$5.00 @ 5.25
Plums, Tragedy	.6 @ 7c
do, Burbank, lb.	.4 @ 5c
do, Sugar, lb.	.5 @ 6c
do, Nectarines, lb.	.6 @ 7c
Apples, White and Red Astrakhan, lb	4 @ 7c
Grapes, Malaga, lb.	.7 @ 8c
do, Muscat	.5 @ 6c
do, Tokays	.7c
do, Rose Peru, lb.	.4 @ 5c
do, Hamburgs, lb.	.4 @ 5c
Crabapples	.5 @ 6c
Pears, Bartlett, lb.	.7 @ 8c
Apples, Ballfleur, 4 tier	\$1.60 @ 1.70
do, 4 1/2 tier	\$1.50 @ 1.60
do, 3 1/2 tier	\$1.65 @ 1.85
do, Alexander, 4 tier	\$2.00 @ 2.25
do, Gravenstein, 4 tier	\$2.25 @ 2.50
do, Skinner Seedlings, 4 tier	\$2.25 @ 2.40

VEGETABLES.

Melons coming in freely and the market is dull under the influence of cooler weather. Celery again on the market. Sweet potatoes reported to be dull. All fresh vegetables in good demand and prices are steady. Berries slow sale but steady under lighter receipts. Onions holding firm but market is dull. Potatoes in good demand and firm.

Potatoes, local, per cwt.	2.00 @ 2.25
do, Northern Burbank	\$2.50 @ 2.75
Sweet Potatoes	\$1.75 @ 2.00
Onions, New Red, per cwt.	\$2.25 @ 2.40
do, Stockton, yellow, per cwt	\$2.25 @ 2.40

do, White Globe, cwt.	.....\$2.30 @ 2.40
Cabbage, per 100 lbs.	.....75c @ 1.00
Lettuce, crate	.....\$1.00 @ 1.25
Rhubarb, per 30-lb. box	.....75c @ 1.25
Summer squash, lug	.....20 @ 30c
Peas, per lb.	.....8 @ 10c
Kentucky Wonders	.....3 @ 3c
String Beans, wax	.....3 @ 4c
do, Green	.....2 @ 2 1/2c
Tomatoes, lug box	.....20 @ 50c
Cucumbers local, lug box	.....30 @ 40c
Lima Beans, local, lb.	.....4 @ 5c
Cantaloupes, Stand. & Pony, crates	.....50 @ 75c
do, Pineapple, crate	.....60 @ 75c
do, Paul Rose, crate	.....75c @ 1.00
do, home-grown, pony, crate	.....50c @ 1.00
Watermelons, 100 lbs.	.....75c @ 1.00
Corn, lug box	.....40 @ 60c
Peppers, Bell, lb.	.....2 1/2 @ 3c
do, Chile, lb.	.....2 @ 3c
Casabas, lb.	.....1 @ 1 1/2c
Celery, crate	.....\$3.75 @ 4.00

POULTRY.

Broilers and friers in fair demand and higher. Light hens higher and reported to be slow sale. Heavy hens scarce and firm. Ducks dull and lower.	
Broilers, 1 to 1 1/2 lbs.	.....30c
Broilers, 1 1/2 to 1 3/4 lbs.	.....30c
Friers, 2 to 3 lbs.	.....25c
Roosters (soft bone) 3 lbs. and up	.....25c
Stags and old roosters, per lb.	.....16c
Turkeys	.....34 @ 40c
Hens	.....27 1/2 @ 30c
Ducks	.....23 @ 27c
Geese	.....27c

BEANS.

Demand is light but market is higher under the influence of a light crop. Growers insisting upon higher prices.	
Limas, per cwt.	.....\$11.00 @ 11.50
Large white, per cwt.	.....\$6.25
Small white per cwt.	.....\$6.50
Blackeyes, per cwt.	.....\$5.00 @ 5.25
Tepary, per cwt.	.....\$3.00 @ 3.25
Pink, per cwt.	.....\$6.25

HAY.

Alfalfa is in fair demand and higher. Grain higher. Grain hay is reported slow sale. Receipts fair.	
Barley hay, per ton	.....\$18.50 @ 21.50
Oat hay, per ton	.....\$22.00 @ 25.00
Alfalfa, Northern, per ton	.....\$24.00 @ 25.00
Alfalfa, local, per ton	.....\$25.00 @ 27.00
Straw, per ton	.....\$ 9.00 @ 10.00

ALFALFA.

The Alfalfa Growers of California, Inc., Los Angeles, report arrivals of carload lots to be very heavy. The demand is light with prices unchanged since last week. Heavy arrivals with light demand would indicate a decline in prices. The grower to arrive at his selling prices, f. o. b. his station, should deduct the carload rate of freight from below quotations.

ALFALFA HAY.

Choice Alfalfa	.....\$30.00
No. 1 Dairy	.....\$28.00 @ 29.00
Standard Dairy	.....\$26.00 @ 27.00
No. 1 Alfalfa	.....\$25.00 @ 27.00
Standard Alfalfa	.....\$24.00 @ 26.00
Stock Alfalfa	.....\$20.00 @ 22.00

DRIED CHILE PEPPERS.

This market remains the same as quoted last week. Very little doing.	
California	.....12 @ 14c
do, Mexican	.....20 @ 22c

COTTON CROP BOUGHT UP.

Purchase of the cotton crop of 6000 acres at Oxalis and Don Palos, Kern Co., has been announced by the California Products company of Fresno. The buyer is Ed M. Fowler company of Los Angeles. The company will put a loading station at Oxalis to unload the seed cotton from the wagons and load it on freight cars for Fresno ginning. The baled cotton will be handled in Fresno and the seeds crushed there in a mill belonging to the company. The crop was handled through San Francisco last year; this year it will go into Los Angeles.

Classified Advertisements

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MISCELLANEOUS.

WANT RESPONSIBLE AND EXPERIENCED fruit alfalfa or grain irrigation farmers to work on crop share basis. Land is river bottom tule land, plenty of water, good living conditions and good markets. Will enter into one or two years' contract with right men and might extend same into option of purchase. Party should have some implements, live stock, or money with which to buy them. Please state age, farming experience, from whom you have rented amount of livestock and implements you own, financial condition, and size and age of family. State when your services will be available and amount of land you can handle. Address: Herman Janes, San Joaquin, Fresno county, California.

EXPERIENCED SUPERINTENDENT or foreman wants to take charge of diversified ranch or group of ranches. Familiar with grain, beans, stock, alfalfa, irrigation, dairying and hogs, as well as truck farming on large scale. Agricultural school graduate, backed by several years' experience. Would consider a proposition with opportunities for a partnership. Married. Write Box X, Pacific Rural Press.

PRUNING — College graduate. University Farm experience, familiar with latest methods, would prune large deciduous orchard this winter. Can bring two good assistants. \$6 per day, board; assistants, \$4.00, board. N. C. Wilson, 205 First Savings Bank Building, Oakland.

WANTED—Steady, capable man to take charge of mountain ranch, Santa Clara county; must be experienced in fruit and stock farming. Good house. Write, stating experience and wages expected. Lock Box 7, Campbell, Cal.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weissbaum Pipe Works, 160 Eleventh street, San Francisco.

Special Livestock Market Report

San Francisco, September 10, 1919.

CATTLE—Owing to the agitation stirred up by the Kendrick bill, the cattle market has been in an erratic condition, both here and in the East. Locally, good cattle show some improvement, and the market is firm for all the better grades.

Grass Steers, No. 1, 950-1100 lbs.	10 @ 10 1/2c
do, No. 1, 1100-1300 lbs.	9 1/2 @ 10c
do, 2nd quality	8 @ 8 1/2c
do, thin	6 @ 7c
Cows and Heifers, No. 1	8 @ 8 1/2c
do, 2nd quality	6 1/2 @ 7 1/2c
do, common to thin	4 @ 5 1/2c
Bulls and Stags, good	5 @ 6c
do, fair	4 @ 5c
do, thin	3 1/2 @ 4c
Calves, lightweight	12 1/2 @ 13 1/2c
do, medium	12 @ 12 1/2c
do, heavy	10 1/2 @ 11 1/2c

SHEEP—While quotations are, nominally unchanged, buyers have to pay the top price for all good offerings. The tone of the market is strong.

Lambs, Yearling	.....10c
do, Milk	.....12 @ 13c
Sheep, Wethers	.....8 1/2 @ 9c
do, Ewes	.....6 1/2 @ 7c

HOGS—There was a slight break in the hog market this week, due to the very free offerings of hogs. There is every disposition to hammer prices down where it can be done. A fractional decline is noted.

Hard, grain-fed, 100 to 250	.....16 1/2c
do, 250 to 300	.....16c
do, 300 to 400	.....15c

Los Angeles, Sept. 9, 1919.

CATTLE—Quotations in this market are the same as last week with the exception of

ANIMALS SLAUGHTERED FOR FOOD IN BAY CITIES TO JULY 1, 1919.

The following table shows the number of animals slaughtered for food purposes during the first six months of 1919, as reported to the local office of the U. S. Bureau of Markets. Those reporting include packing plants and slaughterers located at South San Francisco, Butchertown, Emeryville, Oakland and the County Line. Calves and other animals slaughtered outside the Bay Cities and shipped in are not included in this report.

	Steers	Cows	Bulls	Total	Calves	Hogs	Ewes	Wethers	Lambs	Yearling	Mutton	Goats
1919	8451	7618	384	16452	2549	25691	7005	7146	41384	344	55879	218
January	7351	6694	375	14420	2925	24832	8042	8336	33529	27	49934	218
February	8241	6014	370	14624	2186	25893	7277	20251	32627	2659	62814	2
March	8104	4606	342	13052	2561	23828	7117	9247	52008	1257	69629	20
April	8578	6941	440	15959	3819	24680	2803	6392	60736	926	70857	9
May	9349	6876	298	16514	5321	19404	3601	5585	52438	100	61724	None
June												
Totals	50065	38748	2208	91012	19361	144328	35845	56957	272722	5313	370837	250

WANTED—A competent married man to operate small fruit ranch. Wife must be willing board extra help in harvest. Permanent place. Address, stating experience, Box 1660, Rural Press.

STOCK RANCH for sale—about four thousand acres. A good sheep ranch—plenty of water and wood. Good buildings. Most of ranch fenced. Terms, if wanted. Address Box 139, Middleton, Lake Co., Calif.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

PATENT ATTORNEYS.

WEBSTER, WEBSTER & BLEWITT, Savings and Loan Bldg., Stockton, California. Established 50 years. Send for free book on patents.

AGENTS — Mason sold 18 sprayers and Autowashers one Saturday. Profits, \$2.50 each. Square deal. Particulars FREE. RUSLER COMPANY, JOHNSTOWN, OHIO.

FOR SALE—Yuba 12-20 tractor, 1916 (double clutch) model, well kept up, good running order. A bargain. Owner has purchased larger tractor. R. Guillon, Windsor, Cal.

SWEET CLOVER SEED for sale.—Buy direct from the producer and save money. Fine, clean seed, 25 cents per pound. Write Geo. D. Forest Jr., Standish, Calif.

WANTED TO BUY.—Second-hand hog wire, 34 to 36 inches high. Enough to fence 20 acres. Must be in good shape. W. J. Cardia, Blythe, Riverside Co., Cal.

TRACTOR FOR SALE—Holt Caterpillar 30, fine running order. Engine and connecting rod bearings all new. Price very reasonable. Address B. F. Hoffman, Byron, Calif.

FOR SALE—Ranch, Contra Costa County, 22 miles southwest Brentwood. 36 acres alfalfa, 5 acres orchard. Improved. John E. Davis, 3221 Illinois Ave., Fresno, Calif.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shelter Pipe Works, 304 Howard St., San Francisco.

DAIRYMAN wants place on shares or for wages. Experienced and reliable. Have family. Address, Box Y, Pacific Rural Press.

MARRIED MAN—Hog and general farming experience required. Box 1640, Pacific Rural Press.

WANTED—A ranch in the vicinity of Modesto or Turlock. Address R. M., Box 412, Lakeport, Cal.

FOR SALE—Good dairy ranch. Humboldt county. Well improved. Write B. F. Gibson, McKinleyville, Cal.

WANTED, CARLOAD CHOICE ALFALFA. Address R. J. Roberts, 40 Mary St., San Rafael.

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Strout's Fall Farm Catalog!

You will never have seen the best until you read the 100 pages of our big illustrated Catalog, just out, of unequalled money-making farm bargains in the most prosperous States from Maine to Florida and west to Nebraska. For example, on page 74: 80-acre Middle West producer, near RR town, good buildings, 2 horses, cows, hogs, machinery crops all for \$4000 half cash. Page 12: details 170 acres, horses, 8 head registered stock, tools, crops, good buildings, silo, etc., for \$3500. See picture page 10: attractive home on 60 acres, horses, cows, hogs, implements, furniture, \$2000, easy terms. Full details page 33 of 345 acres, 75-cow dairy farm, milk checks running \$500 per month, fine 10-room house, big basement barns, 4 horses, 33 head stock, machinery, crops, all for \$7,000, part cash. Write today for your free copy showing you the farm you want, where you want it at the price you want to pay. STROUT FARM AGENCY, 831AF, New York Life Bldg., Kansas City.

ATTRACTIVE DAIRY RANCH

80 acres highly improved and equipped, located at station on main line railroad within 90 miles of Oakland; 150-ton barn, 60 stanchion milk barn, large tank house, 5-room house, family orchard, silo, cooling and separator machinery with boiler and engine, milking machine, 4 horses and all farming implements; about 70 acres in fine alfalfa, 8 acres corn; all deep, rich, sandy loam soil; checked, leveled and boxed; irrigated direct from district ditch; facing two county roads. About 60 head of very fine dairy cattle may be purchased with the place. This herd holds record for Stanislaus county on alfalfa feed alone, one producing an average of 2.83 pounds butter fat per day for 28 days. This place will pay \$1,000 per month to a good live dairyman. Write or call for further particulars and arrange to let us show you this place.

F. D. BURR CO
350 Russ Bldg., 235 Montgomery St.
San Francisco, Cal.

DAIRY AND ORCHARD RANCH for sale by owners, about 120 acres. Good location, new buildings. Will be sold on easy terms and reasonable price. \$10,000 will be accepted as first payment. Alex T. Gibson, P. O. Box 561, Chico, Cal. Residence, 216 East 1st Ave., Chico, Cal.

WANTED—By young married farmer, to rent a ranch for cash or crop share, suitable for raising hogs, cattle or sheep. One fully stocked preferred. Address E. F. Ladouceur, Concord, Cal.

FOR SALE—Alfalfa ranch of 23 1/3 acres, stanchions for 20 cows, house, separator stanchions for 20 cows, house, separator house, garage, chicken houses and other out-buildings. If interested address Box 58, Esparto, Calif.

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Do Not Be Deceived

There is only one GENUINE O. M. Franklin Blackleg Aggressin (commonly called Vaccine).

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Descanso, San Diego Co., Calif.

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THE PACIFIC RURAL PRESS

SAN FRANCISCO

SEPTEMBER 20, 1919

LOS ANGELES

Standardizing the Humboldt Apple Crop

Written for Pacific Rural Press by J. A. Robson, Eureka.

THE ORCHARDISTS OF HUMBOLDT COUNTY, Northern California, are looking forward to an especially prosperous year through the benefits to be derived from the organization of two co-operative organizations—the Humboldt County Apple Growers' Association and the Northern California Apple Show Association. While Humboldt county is generally regarded as a lumbering and dairying district, it nevertheless has many sections adapted to the production of a fine quality of apples. Apple-raising has been engaged in for many years in the southern part of the county especially, but, owing to the small acreages, diversity of fruit and the difficulties of marketing, the business has been retarded. It was not until an apple show, held last

Losses from Improperly Packed and Ungraded Apples.

This was one of the important things to be brought to the attention of the Humboldt growers. Another was the depreciation in the market price of improperly packed and ungraded apples. The displays at the apple show not only showed an excellent quality of fruit, but it was of a standard grade and properly packed. The boxes sold at an average of \$2.50 per 48-pound box, while the same fruit, ungraded and improperly packed, sold in the local markets for less than half this price. A professional grader and packer also gave demonstrations for the benefit of the apple-growers, both in the exhibit rooms and in the close-by orchard, which thoroughly convinced the orchardists of the desirability of establishing a standard pack



The above picture shows a group of enthusiastic workers taking lessons in grading and packing apples in a Humboldt county apple orchard.

October in Eureka under the supervision of the Board of Supervisors of Humboldt county, brought home the full possibilities of the apple-growing industry to residents of widely separated districts that an effort was made to pool the interests of these northern orchardists for the mutual benefit.

The Get-Together Movement.

As results have already shown, the apple show was something more than an exhibit of a heterogeneous assortment of fruit; it was a clearing house of apple problems. For the first time the apple growers from all sections of the county met together and were able to discuss the difficulties which each encountered in his own particular district. It was found that all were sufferers from a few common obstacles, which annually robbed them of the profits that should have been theirs. First, there was the apple output itself. While nearly every district was represented by a handsome display of fruit, not only were there many different varieties for each section, but nearly every exhibitor showed several kinds of excellent apples. The inference was plain. In place of having fruit of a single variety that could be offered in wholesale lots to buyers in any given district, the orchards were annually producing many excellent kinds of apples, but in such small lots that they were difficult to market at any price. This was the result of the individualistic tendencies of the average orchard-farmer, each man planting the kind of fruit he happened to favor with small regard to what his neighbors were doing. The consequence was what is popularly termed the "family" orchard—small orchards that supplied more than the family needed, leaving a surplus to seek a market—in contradistinction to the large commercial tracts. The diversity of variety in most cases prevented the orchardists combining their surplus and remoteness of location or difficulties of transportation made it impossible for each to seek his own market.

under a standard label if the Humboldt fruit were to find its proper place in the market. Among other benefits of which the growers felt themselves in need was instruction in proper pruning and spraying.

The Humboldt Apple Growers' Association, which was subsequently formed, is designed to care for all these difficulties. Working under the general supervision of the Horticultural Commissioner, a definite plan of planting and culture for each section will be worked out with the best possible market as the ultimate object. Many new acreages are being planted this season, and these will be of a few standard varieties of fruit that will permit selling the output of each district in carload lots. Power sprays are being purchased on the co-operative plan. The Humboldt apple output will be put on the market this year under a standard label and pack. Each member will derive the advantages of a profitable market which he, alone, could not secure for himself.

The Northern California Apple Show Association, also organized as a direct result of the apple show, has for its aim the furtherance of the interest in apple growing by holding an annual apple show, to which exhibitors from other sections of the State will be invited to send exhibits. It is arranged to hold the first show under his organization next December, when exhibits in carload lots will be sent from all sections of the county.

Naturally Adapted to Fine Apple Production.

Humboldt county is a natural apple country, having the broken topography that provides an excellent air as well as soil drainage essential to the production of fine-flavored as well as good-keeping apples. It is to the air currents from Mount Hood that the apples of Rogue River Valley, Oregon, owe much of their flavor and quality. The mountain pockets of Humboldt and the areas along the river bottoms have the same climatic conditions and the soil is wonderfully suited to this sort of fruit-raising.

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EDITORIAL.

THE COMING OF A GOOD YEAR.

THE time has arrived for our annual set-to with the weather prophets. It requires some courage to strike out in this line, it is true, for there is always some highly esteemed old friend and subscriber whose feelings are hurt by our inadvertence toward these self-anointed seers, and there is a commercial prophecy-joint in the Middle West, drawing its income from popular credulity, which holds us up to public scorn. They say we are not on the Lord's side because we refuse to go beyond the attainments of science—claiming that science is of the devil and that the Lord loves unscience, while the fact really is that the Lord made all the science in the world and could not make anything else, except as he gave man free-will to dig it up if he wished to. It is fortunate, of course, that many times men who go out in their perversity to dig up unscience turn up the real article—just as going out to dig fish-worms a man may find nuggets on the grass-roots—and may continue to proclaim the discovery unscience when it is really about all the true science we have on the subject. Such is the case with S. V. Rehart, the Oregon weather prophet, who glories in unscience, and has just made his prophecy for the coming year as follows:

"Owing to the early spring months being cool, we may not expect much rainfall during the early months of autumn.

"Basing my predictions concerning the amount of probable precipitation upon the duration and intensity of the heat period during the summer months, I calculate that the unusually hot weather that prevailed throughout the Pacific coast from the latter part of May until September indicates two things, viz.:

- "1. Unusual heavy storms, and
- "2. Considerably more than normal precipitation for the Pacific coast during the ensuing season, with plenty of snow on the plateau and mountain regions."

Good for Rehart: as a weather prophet he takes the right stride!

THE PHILOSOPHY AND THE FACT OF IT.

Of course, we are not approving Mr. Rehart's philosophy, which is that because it was hot in the summer it will be cold in the winter. He works upon the doctrine of the opposites as he conceives it, and it is old as the Chaldeans. This doctrine teaches that if a man has a stomach-ache one day he will have a backache the next day—that is, if he is thick enough to tell them apart—whereas the fact of common experience is that if he has one today he is more likely to have the recurrence of the same tomorrow than of the opposite. We have, therefore, to discard Mr. Rehart's philosophy, but still retain the likelihood that his prophecy is true. And why is it probably true? Because that is the way it usually or normally is. The summer is usually hot and the winter is usually cold, not because one influences the other, but because both are caused by the relation of the sun to our earth-surface—not by a spot on the sun, but by the whole red-hot cheese thereof—and by the air-movements

which are connected therewith, though not wholly caused thereby. There is no evidence that a summer meteorological performance influences a following winter performance, nor that it is even followed thereby, either by the opposite, as Mr. Rehart believes, or by recurrence of the same—with one reservation, viz.: that there is always a tendency toward whatever is normal in the particular region under consideration. And that is the reason why we accept Mr. Rehart's prophecy as more likely to be true than any other. It is usual or normal for us to have a good rainfall in most parts of California. It is only about once in two decades that we have a very bad one. It is usual or normal for us to have very light early rains. It is rational for us "not to expect much rain during the early months of autumn." It is rational for us to expect a good rainfall afterwards. And so with the wild geese flying southward overhead and the ground-hog burrowing high underneath, and with Mr. Rehart coming through the middle, we are in for a good year!

THE DANGER OF FALL RAINS.

A little September rain hurts nothing and helps many things. A heavy September rain and a succession of dark, damp days hurt everything and help nothing except a little late gardensass perhaps. Never since rainfall records began with American occupation, seventy years ago, has there been a September rain in our coast valleys like that of last year, and, applying to the situation Rehart's prophecy and our reasoning, last year's experience is not likely to be repeated. Last year's loss of about half the prune crop in some regions scared the growers into more respect for drying houses, which they would not have acknowledged before the rains came. Adding to this desire for safety from too early rains comes the interest in drying grapes in places where the autumn is not trustworthy for late ripening kinds. The result is that more attention is being paid to house and machine drying than for nearly forty years past, and a general question is, do we need discount the estimate of the desirability of sunshine drying, which we have lived and built upon ever since we turned our backs upon evaporators for cut-fruits, when the virtues of sulphuring were demonstrated in the early '80s, and gave Oregon and Washington the sole rights to stack and tunnel driers for prunes about the same years. We are reciting in our columns from week to week many facts about the current passion for providing artificial driers, because we desire readers to give the matter full consideration, and, if their judgment favors it, to provide themselves with safety devices against waste and loss as becomes efficient producers of cured fruits. Many individuals are designing and constructing driers, and the University Experiment Station is conducting important experiments to demonstrate the advantage of making such devices available. Two things occur to us as very promising in the design, construction and operation of artificial evaporators or dehydrators, as they are now being presented to the public. First, they have capacity beyond all the arrangements proposed forty years ago, and they are therefore much more in harmony with California conditions and requirements. Second, there has become available since the abandonment of artificial driers forty years ago the whole recourse to oil-fuel and devices to get and distribute heat from it. These two new things may be almost said to have put a new face upon machine evaporating in California and constituted it more reasonable and practicable, and encourage the Rural Press to give more attention to it than we have for more than half a lifetime. And yet, while we are doing this, we would caution readers against getting wild over artificial drying of fruits or losing sight of the natural advantages which he have in sun-curing as one of our most distinctive resources in fruit production. There was much money lost in building driers forty years ago, because after buying or building they went unused. A few acres of trays and open ground to spread them on; a few sacks of sulphur and a sky-full of free sunshine made the grower look upon his machine-drier as a plaything, which he had no time for when he was really busy. And when his product sold as "evaporated," though it had never entered an "evaporator," he really began

the movement which made California cured fruit great. Now we have the same sun overhead, the same earth underneath, the same sulphur in the mountain, and though drying machinery and oil-heat may supplement our product with new forms of much importance, our natural curing advantages must remain our chief agencies in production. It is, of course, true, and very fortunate also, that the driers which we are now contemplating have much higher claims as safety against losses by bad weather, because of their superior capacity, and yet it is only reasonable to calculate rather closely whether there is a chance of losing more in interest and insurance on their cost as a safety recourse alone, than would be lost by the wetting down of a crop or a part of one once in a while—less the labor and fuel cost of saving it. There really is, sometimes, such a thing as saving a product by losing it!

IS BUSINESS WRONG BECAUSE BIG?

When Mr. Heintz, the pickle man, went to heaven a few weeks ago, he left a record of dealing largely in "57 kinds" of foods in all public places. There seems to be no doubt as to his destination, for he not only made good things and dealt in them fairly, but all testimony which we have seen indicates that both by faith and works he departed this life in the right direction. And as we think over what we know about Mr. Heintz, we wonder why it is wrong to deal in any number of kinds of food and other products useful to man. Our wonder arises from the fact that about all we get from the investigation of packers' operations from the government, investigators consists in the extent and variety of their doings. For instance, this comes from Chicago under date of September 13:

Attorney Isidor Kresel, special Federal prosecutor, appointed to handle the investigation of the packers, outlined the main points in his compilation of statistics concerning the "big five" today.

The investigation conducted by Kresel and his associates showed, he stated, that the packers are financially interested in at least 675 lines of food production in the United States, both from the standpoint of manufacture and distribution. The web of subsidiary industries growing out of the stockyards spreads all over the United States, and extends into branches that seem at first remotely connected with the packing industry, but which investigation shows are direct outgrowths of business, the prosecutor said.

"The five Chicago concerns practically control the necessities of life for the people of the United States. They have a complete grip on the price to the producer of the foodstuffs and like products, and they control the price the consumer must pay in the end. Their control of production and market costs makes their hold on the food situation an extremely strong one.

"Economically this creates a situation that is dangerous to the country. This is evidenced by what I learned from the small tanners, who said they lived at the direction of the large concerns. This is no doubt true of other industries besides the tanning industry."

Of this matter of packers' operations we know nothing. We are in the same boat with most other people, we presume, and we are trying to get ashore on some solid ground of conviction as to whether the packers who put up these 675 kinds of food in attractive packages, no doubt, easy to buy and carry home, are doing wrong. The government investigator says they deal largely; that they are in position to control prices; that it may be dangerous to have anybody in such a position; that small tanners have been tanned themselves, and "probably the same is true" of other small handlers of all of these 675 articles of food. The statement of the official prosecutor is probable and his inferences perhaps reasonable, but neither furnish any evidence upon which the packers can be convicted nor upon which one can reach conviction in his own mind as to whether the packers are doing good or ill in the position of control which they seem to have acquired. The press dispatches state that the investigators have the packers' books. Why is it that we are given only facts about the extent of their operations and tempted to conclude that because they are so large and various they must be wrong? We are also tempted to conclude that because food prices are high the packers make them so, but on that line any one who knows anything about the cost of production of foods also knows that the prices the food producers get are not high enough to cover

their extra costs of producing what they have to sell. If the packers are really getting more than their share in the business of feeding the people why are we not told that, and not filled up with mere suspicions that they may be 675 kinds of scalawags?

HUMBOLDT ADVANCING.

It is gratifying to note that Humboldt county is advancing to a much more prominent position in the public eye. Humboldt has always played an important part in California development, but it has not been spectacular and has been taken rather as a matter of course than otherwise. It seemed natural enough that half a century ago San Francisco should have largely depended upon the moist lands around Humboldt Bay for her potato supply and that "Humboldt reds" were the spuds which caused travelers to wonder—for who ever saw so red a jacket buttoned so tightly over so white a breast! And then it also seemed perfectly natural that the cool, moist summer air of the lower Eel River Valley should give us nearly all the peas and oats which were grown forty years ago, and that the same conditions par excellence for forage should have led to dairy development which made Humboldt our leading dairy county twenty years ago, first county to build large creameries, first county to make export butter and to get the valuable by-products out of skim-milk, and first to organize dairy producers in an effective, co-operative way. All these things were easy for Humboldt because her natural conditions were so favorable—in a way as easy as it was for her to lead in lumbering, using the trees which had been growing for centuries toward that achievement.

And now upon so solid a foundation of historical achievement Humboldt county is building a super-structure of current development, which cannot be taken for granted and overlooked. We are using this issue to prominently announce that Humboldt county will hold a great apple show at Eureka. Sebastopol is getting rather lazily contented with the shows she has made of her Gravensteins and Watsonville with her Bellflowers and Yellow Newtowns. Eureka sings to them: "Take a rest, old girls. I will undo a few smiles and tresses, just to show that you are not the only ones who can win the trophies of Helen and Aphrodite." And so apple lovers will be going to Eureka by motor and trainload to see the show and to lead the bashful beauty of the northern coast into the fuller light of California advancement.

A FOREST-FRINGED HIGHWAY.

But while Humboldt is doing such things largely to make her own glories known, she also has an enterprise in hand which will make for the glory of the whole State. The new State Highway northward to Humboldt Bay runs through something like forty miles of primeval forest on its course. Local citizens under the leadership of Mr. Robson, who strikes us as a whole cable of live wires, are determined to preserve for all time a beautiful forest fringe to this highway, and not allow it to run for decades through a waste of stumpage which would accompany the gradual commercial destruction of these grand old trees. And so the proposition is to purchase and dedicate to public use forever, a sufficient strip of land on both sides of the State Highway, not only to preserve great trees, but to impart the impression of traversing a continuous forest in its natural condition. Such an exhibit of natural beauty will draw visitors from all parts of the world and will constitute one of the most unique attractions of California. And what it will do for the world it will achieve, first for the joy and elevation of our own people. One of the best things about this proposition, which is really only a few weeks old, is that the realization of it is already practically assured. A sum of \$60,000 was required to stop the cutting of the red-woods on such a strip of land. Former Congressman William Kent, who gave the beautiful Muir woods on Mt. Tamalpais for a public park, hearing of the need of immediate action to save the trees, made a contribution of \$15,000, which was duplicated by Stephen T. Mather, director of the National Park Service, who telegraphed his pledge

from New York on September 9th, and on the next day the Humboldt County Board of Supervisors appropriated the \$30,000 necessary to insure the safety of the trees until the enterprise can be fully financed! That is the way we do things in California—even if we do have to call upon New York to help! It is going to be a good year—for Humboldt county at least, and perhaps the rest of us can catch on!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Dwarf Fruit Trees.

To the Editor: Will the dwarf fruit tree raised in the eastern nurseries do well fairly, or otherwise replanted in California? Can such trees be obtained in California nurseries?—A. D., San Gabriel.

Probably as a rule they will do better than they do at the East, but when you get that you have not gained much. The most satisfactory dwarf tree is pear on a quince root, and that you can get at California nurseries. Other dwarf trees are interesting playthings for an amateur who will take pains to learn how to grow them, or is rich enough to hire a gardener who knows how. They will cost much more to get and to care for than standard trees and will yield, inversely, as much less.

Why Is Formosa Shy?

To the Editor: Why does not the Formosa plum bear well on most trees? I have 1,000 large apricot trees grafted to Formosa, and I get about 350 to 400 crates, when I should get at least 3,000. The grafts are over 7 years old, and the trees are fine to look at, but they will not bear. The plum was advertised at first as a fine bearer.—H. B. N., Vacaville.

Just why some varieties bear well at first and not afterwards has never been explained so far as we know. Very many apricot seedlings, which secured some distribution, have had to be abandoned for that reason, and some almonds have gone the same way. The Formosa is a bad offender and is being dropped by propagators for that reason. They are working on plum bearing at the University Farm and Formosa surely needs help.

Selling Fruit to Cannerys.

To the Editor: I sold one ton of peaches to a cannery through a fruit buyer on a certain contract. I sent first-class peaches. After 10 days they sent me a check for half the price and said the peaches were not fit to can. Shouldn't they have notified me at the time of receiving them of the condition of the fruit, before they canned them. I think it is just a skin game. Two other ranchers sent some and got the same letter. We sent a carload in all. Cannot the cannery be made to pay for the full amount the contract calls for?—Grower, Antioch.

Only a smart lawyer could do it and the operation would cost you more than the peaches were worth before the cannery stopped fighting. Besides, the smartest lawyer could not do much without unimpeachable evidence that the peaches arrived in good condition, and we presume it is not possible to get such evidence now. Whenever a shipment is made to a cannery which you are not sure is handling fruit on the square, you ought to send a bright man or woman along to see in exactly what condition it arrives and how it grades with the conditions of the contract and secure a fair acceptance.

Off With Their Heads!

To the Editor: Some weeks ago you advised an Oregon enquirer to graft over a few apple trees, which were not bearing as others planted at the same time were bearing. It occurs to me that the trees might not be seedlings as you suggested, but were Northern Spies, as this apple is 16 or 17 years in coming into bearing in the North Pacific country. In this country the Spy does not bear until 12 or 13 years old. Ours had 2 apples on last year, but this year (13th) has a fair crop. It did not bloom till last year, and then only about a dozen showed up. The woolly aphid does not attack the Spy.—Samuel Haigh, San Jose.

You are quite right; they are possibly Spies, but we should graft them over just the same, for the Spy is not only too slow at beginning, but it is too shy in sticking to it. It is a good idea to keep a Spy tree to get cuttings for starting other apples

with roots, which the woolly aphid will not injure, but on the whole it is perhaps better for the grower to take a hint from the aphid and let the tree alone. We partly grew up beside a row of Northern Spies in western New York, and the way we talked to those trees three score years ago was unfit to print. It is quite possible they deserve it still.

Fruits for Alkali.

To the Editor: I have about five acres of land that is strong with black alkali. I am putting the balance of my farm to trees and would like to know what kind of fruit you would suggest to plant on it. I have been told that figs or pomegranates will grow on strong alkali. If you know of any kind of fruit that will grow an alkali, I wish you would let me know what to plant. The piece of ground is not low or swampy; it is high and dry, and there is good land all around it. I have raised good crops of grain on this land, but only on certain years.—Planter, Porterville.

The fruits which have best reputation for enduring alkali are dates, pomegranates and pears. Figs do not like it much better than other fruits. There is little doubt that date palms have a great future in your valley, but many things in profitability have still to be determined and the conclusion is remote. Pomegranates endure considerable alkali, but the markets have never indicated that they would take many pomegranates, although they do pay well for a few. Pears tolerate more alkali than other orchard fruits, though they are considerably depressed while doing it. It is very doubtful whether the investment which a pear orchard requires should be made on such a doubtful foundation. It is in fact very doubtful whether land "strong in black alkali" should be considered for fruit at all. If you can get good grain crops on the land when there is rain enough to keep the alkali down, it is probable that you cannot do any better with it until you undertake the considerable expenditure which is required to under-drain and wash the alkali out of it.

Basins or Sprinklers?

To the Editor: My land is rolling and will hardly permit the furrow system of irrigation. I therefore basin them, let the water soak in till I can ram a hoe handle down to the blade. This makes lots of work as I get in and cultivate the basins with a tined hoe after it is dry enough to be in shape. My neighbor is trying to avoid all this work by using lawn sprinklers to water his trees. He lets water run on them an hour through a 3/4-inch pipe, about 200 gallons to a tree. They are about 5 feet high and the same distance through. In this way he waters a space about 10 feet in diameter. I asked him how deep the water went, and he said about two feet. Now I think this system would encourage the roots to come to the top of the ground. When the ground is plowed I think it would cut lots of roots. Moisture here from underground water comes up to within 15 or 20 feet of the surface. Would not my plan of coaxing the roots down to this moisture be the better one? As President Wilson says: "May I" see an early answer in your valuable paper?—R. G. M., Sherman.

Your way is more rational and your trees will be large and productive while his are petering out. Without considering the loss of the roots by cultivation, it is a fact that, losing the upper six inches by cultivation, he will be trying to grow a crop of fruit on a foot and a half of soil—which will require a power of sprinkling and of fertilizers also, and we doubt if the trees will stand for it for long. On the other hand you will be disappointed if you expect to get many roots down to the bottom water, or to get much moisture from that source for your trees. Your crop will come from the length of your hoe-handle and the water and plant food you make available to about that depth probably—and that will give your trees two or three times the resources your neighbors will have.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending September 16, 1919.

Stations—	Rainfall			Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest	Lowest
Eureka .....	.36	.81	.64	66	50
Red Bluff .....	.00	.48	.18	94	56
Sacramento .....	.00	.40	.13	90	54
San Francisco .....	.00	.12	.01	76	54
San Jose .....	.00	.01	.13	86	46
Fresno .....	.00	.00	.00	92	54
San Luis Obispo ..	.00	.00	.10	92	48
Los Angeles .....	.00	.00	.00	92	58
San Diego .....	.00	.01	.00	78	58
Winnemucca .....	.08	.08	.40	88	42
Reno .....	.00	.08	.52	86	38
Tonopah .....	.00	.35	.93	82	52

For Profit's Sake Wipe Out Tuberculosis

Written for Pacific Rural Press by George T. Swaim, Davis.

Infection.

An animal is infected by acquiring the bacillus tuberculosis which causes the formation of the characteristic tubercles of the disease. The bacillus may be acquired by inhaling live organisms into the lungs, by eating or drinking materials containing the bacteria, by coition through infected sexual organs, or (rarely) by direct transmission of the disease from the mother to her foetus. An infected animal may become a menace to the rest of the herd and is quite certain to do so sooner or later, for if an animal develops an open case the disease is very certain to spread through the herd. A herd may thus become infected through the introduction of an animal carrying the disease.

Calves may be fed tuberculous milk from infected cows. Cattle shown at fairs and the like may contract the disease from other while being shown.

Because of the many ways in which tuberculosis is spread, the owner can never be too particular in watching out for and combating the infection of his herd. Some animals take the disease easier than others, just as some persons seem to be ill with all the diseases that go the rounds. This special susceptibility is due in large amount to the inability of that particular animal's tissues to resist the tubercle bacillus. Any of the following causes, however, may reduce the vitality of an animal to the extent that it falls a ready victim whenever the chance arises: insufficient feed, exposure to extremes of temperature, unsanitary surroundings, piles of manure, drain of extremely heavy milk production. Thus it behooves the livestock owner to furnish clean, healthful surroundings for his herd and to see that they are not placed in such a position that they can not resist infection.

Symptoms.

Physical examination by a qualified veterinarian may, if the diseases is far enough along, make it fairly certain that the trouble is tuberculosis. The symptoms are generally some or all of the following, according to the place of infection and the stage of the disease: unthriftiness, loss of flesh, lowering of milk yield, a cough, nasal discharge, diarrhoea, enlargement of the glands, hard lumps in the udder, chronic bloating, or shortwindedness. A postmortem examination of the carcass will, except in the case of very slight infections, reveal the exact nature of the disease and the location of the tubercles. But a physical examination will not determine the presence of a diseased condition until that condition has progressed so far that it may have in the meantime become dangerous to the rest of the herd and to the consumers of the milk produced. Tuberculin test, however, discovers nearly all cases, and at any stage of development. Hence it is the one reliable method of determination.

The Tuberculin Test.

Tuberculin is a drug prepared by sterilizing, filtering and concentrating the liquids in which the tubercle bacillus has been allowed to vegetate, but because of its sterilization it is not capable of transmitting tuberculosis or causing any disease of that sort. It was discovered by the scientist Koch, who made it in an attempt to find a cure for the disease. His trials with it soon proved that it would not cure, but that when injected into animals that were suffering with tuberculosis a reaction would occur and the animal's temperature would rise. This has proved to be a wonderfully certain means of detecting the presence of tuberculosis.

The first method to be used was that of injecting a small quantity under the skin and taking the temperature to determine the reaction. This method is the subcutaneous, and is very reliable, but an animal reacting to this test will not react to the same test until the effect of the first one has been lost, and "plugging" has sometimes been done by dishonest

Tuberculosis annually causes losses estimated at upwards of \$25,000,000, and this amount is gradually on the increase. The disease is readily transmissible among animals, and even human beings may become infected from cattle. This is especially true in the case of babies, whose only means of sustenance often is cow's milk, and they are exposed to the action of the bacteria at the most easily infected period of their lives. For this reason the presence of tubercle bacteria in milk has aroused the people to the danger of spreading the disease through dairy products, and they are protected in this State by a law which provides for pasteurization of milk or removal of infected cows.

owners so that the animals would not react. The ophthalmic test consists in putting some concentrated tuberculin into the eye at intervals of three to ten days. There is a formation of puss and often watering of the eye in case of a positive reaction. This test can be repeated as often as desired, as it does not render the animal insensitive to another test. The animal must be put in a stable and stanchioned so that it cannot wipe off the exudate before its presence is noticed by the tester. This method is comparatively reliable, but the animal has to be watched more closely than by other methods.

The Intradermal test consists in injecting a small quantity of concentrated tuberculin into the folds of the skin and producing a swelling in case of a positive reaction. The test is very accurate, is easily applied, and its reading is quite positive. The injection is usually at the base of the tail. All three tests may be used together if applied in the proper order: the ophthalmic first; three days later the second dose of the ophthalmic and the injection of the intradermal; then in about six weeks the subcuta-

tions, but it does prove that tuberculosis cannot be cured by a rest and fresh-air method as is often done in humans.

After the introduction of the tuberculin test there were many enthusiasts who came out for the utter destruction of all cattle that reacted to the test. Some laws were passed to bring this about, but with the trial it was found that the method was not economical. It is a great waste of food to bury the carcasses of all reactors without an inspection by a qualified meat inspector, to see that all fit for human consumption is saved and used. This is practicable and safe, as meat from tuberculous cattle is good food except when the disease has reached a generalized condition. A farmer does not want to see his whole herd sent to the slaughter house if the cattle are badly infected. Such a course is too big a loss at one time. The community does not want to see all the cattle put out of the milking business, for it would result in a shortage of milk. The man who has built up a good producing herd does not want to lose the results of his efforts at good breeding,



Every animal in this picture was proved to have tuberculosis. How does the herd compare with yours in appearance as regards health?

neous test, and from the three practically all the tuberculous cattle will react. The main objection to any of the tests is not that it calls well cattle reactors, but that it misses some that are really infected. This is largely overcome by the use of all the tests together, as some animals will only react to one of them, but on slaughter may prove to be tuberculous.

A modification of the subcutaneous test is the so-called sensitizing subcutaneous test and is the application of the regular subcutaneous test followed in three to ten days, or as soon as the reactions for the previous test are over, with another subcutaneous injection three to five times the strength of the first dose. This method will produce a second reaction in those that reacted to the first test and will produce a definite one in some that were in doubt at the first test, while at the same time producing a reaction in some that did not react to the first test at all. This method is claimed to be very accurate and the best so far discovered.

Methods of Control.

Several processes of immunization by the use of the live germ have been tried and while they have been partly successful in calves, the results are of very short duration and the danger of spreading the disease is so great that the California Experiment Station can find no good to be gotten out of it. Some experiment stations tried the use of ideal housing and feeding conditions as a cure for the disease, but the results were negative in all cases. Animals with the disease did not get better, but died as rapidly as those in poorer surroundings. This does not prove that poor conditions are as good for cattle as good condi-

and so taken all together other systems than slaughter are liable to find favor.

One of the first of other systems worked out was that of Bangs of Denmark. It consists chiefly in the strict adherence to the following points: (1) Test every animal with tuberculin. (2) Isolate the reactors entirely. (3) Use a new stable for the healthy animals, or thoroughly clean, disinfect and whitewash the old one. (4) Remove all calves at birth and raise on milk from healthy cows, or on carefully pasteurized milk from their own dams. (5) Test the healthy herd regularly, removing reactors and disinfecting each time. This method will, in the course of a few years, build up a new herd of tuberculosis free animals.

The system of Ostertag has essentially the same principles, but instead of testing the whole herd and isolating the reactors, he isolates the young stock from the whole herd and raises them to milking age as a separate herd and on pasteurized milk. They are tested regularly. Any animals showing signs of tuberculosis is removed at once. This system is not as expensive at the first one, but it is a slower way to get rid of the disease.

Because of the expense and the fact that the thing is new, also that it requires a veterinarian to make the tests, there has been some hesitancy on the part of farmers in undertaking to free their herds from tuberculosis. To help out in this period of hesitancy there has been much educational propaganda carried on by the U. S. Bureau of Animal Industry and by the various experiment stations to show the reason, the value, the methods, and the lasting value of the work. The

Bureau recommends that the loss be stood one-fourth by the Federal government, one-fourth by the State government, one-fourth by the county, and one-fourth by the owner of the animals that react and have to be slaughtered or removed at an actual loss over their real value for producing purposes. This seems fair. The Bureau has taken up the work of testing herds when the service is requested, and then, after cleaning up a herd it issues a certificate of accrediting good for one year. This is a good method if it can be followed throughout the country, and will give a definite basis on which to buy and sell animals for breeding purposes. In some sections the Department has undertaken with the help of all the people to eradicate the disease from a given area, as a county, and has been very successful.

The proposition of herd control should be considered from two angles: the value of the herd, and the amount of infection in the herd. If a herd is made up of valuable purebreds or of high-class grades, it is not likely to be profitable to slaughter all the reactors. The Bangs system, or some modification of it, may be used to the best advantage. Where the herd is a common milking herd and the value of the cows is about as great for beef as for milking, the slaughter method will get the quickest results and is the best to use.

In a herd that is not badly infected, say up to 15 per cent reactors; it is a good practice to sell for slaughter all that react unless they are valuable. Where the herd is infected from 15 to 50 per cent, the Bangs system is probably the best. If the infection is over 50 per cent, the Ostertag system may work best. The result can best be worked out on each farm under the supervision of a good veterinarian, taking the value of the animals, the amount of extra or available equipment, the market, and the capacity of the farmer into account.

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Seeding Time for Cover Crops Coming

(Written for Pacific Rural Press by Jno. J. Fox.)

Numbers of orchardists are now asking themselves, "What shall I plant in my orchard or vineyard as a cover crop this year?" "Can I obtain the seed I want; if so, when?" "What shall I have to pay for it?" An innocent-looking bunch of questions, so easily answered by the novice but not so easily disposed of each year by the grower concerned. For it is an ever-recurring problem. We have no voluminous data of specific results to refer to. Moreover, conditions of soil climate and moisture vary in California to such a degree that it will always be impossible to generalize for the State.

In the North, at least, we can definitely conclude that the earlier a cover crop is started the better. This is especially true of legumes, such as clovers and vetches. If these are established with a good strong root system before the cold rains and long nights chill the ground, they may generally be expected to make a steady growth, run away rapidly with the first encouragement of warm weather, and produce a heavy enough crop to turn under early—before the increasing ardor of the sun makes evaporation of moisture greater than we can afford to lose.

What Fertilizing Value Have Weeds?

Every year, without exception, we are asked the question, "Are weeds any good as a cover crop? Burr clover, flarree, miners' lettuce, grain and mullein are coming up thick. Shall I run the cultivator through these weed seedlings and plant vetch?" The answer is, "No." If there is a good stand of weeds they will generally produce a good crop to turn under. If the weeds only produce a dwindling growth under good weather conditions, a legume crop would be just as poor probably and the seed would be wasted to some extent. A crop of barley or rye turned under early will help to correct this lack of condition and put the ground in shape to produce a legume crop the following year with reasonable hopes of success.

Many orchardists who plow late in the spring do so with the double reason of getting the heaviest possible amount of material to turn under and to leave seed in the ground for succeeding cover crops. One sees many instances of good success with this practice where plenty of irrigation water is available and it is scientifically applied. To quote one notable instance of this, the James Mills Orchard Company's lemon orchard west of Maxwell (Colusa county) has been managed in this way for seven years. It still produces a heavy overgrowth without seeding and the trees show no lack of nutrition. The soil is certainly in excellent condition—much better than when the orchard was set out, as one can see from the adjoining unimproved tracts.

We mentioned this spring instances of a narrow strip being left in the center of every alternate tree row for the purpose of furnishing seed for next year. On the hillside it also served to check erosion. The two-foot unplowed strip is not left in the same row two years in succession.

Does "Sweet Corn" (Melilotus) Continue in favor?

More melilotus is being used today as a cover crop than ever before. Where conditions suit, this legume is hard to beat, if it is handled right. We saw some this spring, though, four or five feet tall, headed out and woody stemmed. There may have been birds' nest in it. It was finally cut and carted off onto the headland before plowing could be carried out, proving a useless expenditure of labor, a serious loss in moisture, and an aggravation to the workman who had his ground and headlands messed up. And as adequate return, nobody wants such a wad of stuff as that.

Melilotus does well in the South, especially where citrus men can choose their own time. It does well in those parts of the Santa Clara valley, where irrigation is practised, and, with early rains and a favorable fall even where no irrigation is pos-

sible. It has proven itself in the San Joaquin valley and the Sacramento. Of course, it will grow well enough clear up to the Oregon line and at practically any altitude—give it time. We have seen it four feet high round Klamath Lake. But in the northern coast counties it is no use. It germinates all right and makes a little start, but does not begin growing in good earnest till plow time.

How to Plant Melilotus.

In sections where water is available it pays to give the orchard an irrigation as soon as the crop is off in the fall. Run over it with the spring tooth or double disk with light harrow attached, then sow right on top of the ground. Brush it over with a very light harrow or some tree branches. If a harrow is used the teeth should lie back nearly flat, or some of the tiny seeds will be buried too deeply. If no water is available a common practice is to run drag harrows through the orchard and then sow the seed without any subsequent brushing at all. Sow it right on the dry ground ready for the first good rain. This is as good a plan as any apparently, except in the "blow-sand" districts. These must have moisture to settle the surface firmly till the seed is fairly started, and even then it is a pretty hard job to establish a cover crop on light sand. On strong silty loam soils twelve pounds of seed is often found enough; on sandy loam and bench lands it is safer to use 20 pounds. For it is better to have a proportion of plants choked out by overcrowding than to have an insufficient plant.

Vetches and Rye or Barley.

Vetches do well almost anywhere where the ground is in good heart. On thin sandy soil a manuring may sometimes be necessary to get them started in making a good cover crop, or perhaps a crop of roughage turned under. The second year of sowing they generally make a better showing than the first because of the improved condition of the soil from the previous year's crop. This crop has (probably temporarily) fallen from favor in some citrus districts because of injury from aphids where continuous planting of this legume without change has taken place. Its mechanical action on the soil, especially through its fine root action, together with its high manurial value, gives the vetch a very high standing though.

The cost of the seed at present constitutes some drawback. Yet all the available seed finds a market each season. The amount sown varies with the quality of the land. On strong silty, well-drained loams, 40 pounds of vetch seed and 10 pounds of barley or rye will often give a good stand. On poor ground, from 60 to 80 or 90 pounds is needed and 20 to 30 pounds of barley or rye. The grain is used to help hold the crop from "lodging," and rye is often given the preference, because it has a deeper root system and a stiffer stalk. Also it does not stool so much as barley, which under good soil conditions and with plenty of room, may stool into such large crowns as to choke out a lot of vetches. These do better in the drill than broadcasted.

To Plant Vetches and Rye; Also Peas.

With the average dust mulch left at the end of the summer, a good cultivation ought to put the orchard in shape to drill or broadcast. If a plowing is given it should be shallow—say, four inches, especially in sections of light rainfall and on adobe soil. The roots of both vetch and rye will penetrate the firm seed-bed left and are less likely to dry out if a long dry spell follows the first rains. The drill rows can be left without subsequent harrowing if the ground is right to drill. If broadcasted, heavy-drag harrows should be used so as to get the seed under at one operation and not harrow twice.

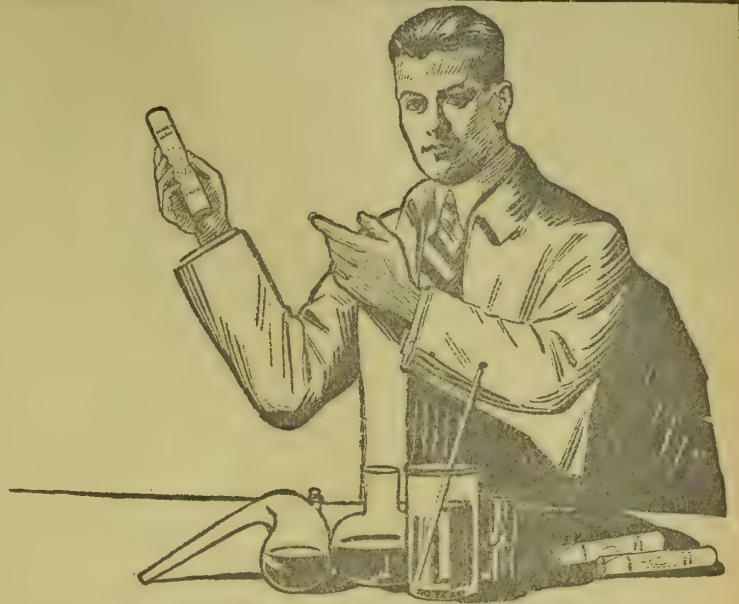
Canadian Field Peas.

Peas should always be drilled and

plenty of seed used—say 100 pounds. Like vetches they thrive better with close companionship. They should be drilled in pretty well, for the birds and mice will take toll of them to some extent. They stand the winter well generally if the ground doesn't

get waterlogged. There are always a few new men who think cow-pea and Canadian field pea the same thing. A cow-pea is a bean and cannot be planted till spring opens up: the frost gets it.

(Continued on page 385.)



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The Outlook for Marketing Fresh Grapes

(Written for Pacific Rural Press.)

In 1915 only 750 carloads of wine grapes were shipped out of California. Last year 6,000 cars were shipped. This year, if cars can be obtained, 16,000 carloads will be sent East. This, together with 16,000 carloads of table grapes, means 32,000 cars for grapes alone without counting apples and other fruits and perishable imported commodities, and we are lamentably short of cars to move it all. This is what leaves growers up in the air. They don't know what to do. Five hundred cars a day are needed for 60 days on grapes alone.

"There has been a tremendous demand from Eastern buyers for fresh wine grapes," says Frank T. Swett, President of the California Grape Protective Association. "The key to the situation is the number of refrigerator cars that will be available for this purpose during September and October. A committee of the Association, together with the State Market Director held a conference with Mr. Cowen—in charge of the Pacific Fruit Express refrigerator service of California. Their deductions as a result of the interview were as follows:

"Apparently the refrigerator service is not going to be equal to the demands throughout the State during the next two months. The proportion of the demands that may possibly be met were roughly approximated at two-thirds of the requirements. This estimate is made, however, with reservations and emergency conditions which may seriously affect the result.

"Mr. Cowen estimated that possibly 250 refrigerator cars of the Pacific Fruit Express would be available daily for all purposes. If this were all of the supply, then there would indeed be a great shortage of cars, but the Santa Fe will make every effort to supply as many cars as possible and also a limited number of Great Northern, Illinois Central and Armour cars may also be available.

"The apple movement out of Watsonville and out of the northwest section of the country will require a great many cars and an abnormally large crop of table grapes in California awaits movement during the next sixty days. If 16,000 cars of table grapes are to be moved out of the State, and if the same number of wine grapes in fresh form should also be demanded for Eastern shipment, we would be up against a condition with which we could not cope successfully with refrigerator cars, and it will be only guessing if we endeavor to estimate what proportion of such a tonnage might be moved in fresh form.

"The committee spoke with Mr. Cowen about shipments of fresh grapes late in the Fall in stock cars and in ventilated cars, thinking, if possible, that these cars might be used in case the weather became cold. It developed that there is also a great shortage of these particular classes of ordinary cars and apparently there is no considerable amount of relief to be expected from that angle of transportation facilities.

"The question was asked particularly what the position of the small grower was in the matter of ability to get cars as against the extensive shipper, whose requirements might be 1,000 cars in a season. The committee was assured that the individual shipper, whose demands might be as little as 10 cars during a season, would get his proportion of available cars during the shipping period, no matter how remotely situated he might be from main line terminals and junctions. However, there can be no definite promise given to anybody and the shipper who contemplates moving his grapes East, whether he be moving table grapes or wine grapes, is confronted with a situation of much uncertainty.

"To this statement we should add that in making application for refrigerator car service, the growers should specify that they wish cars for fresh grapes. It is not necessary to state, nor is it desirable, that the cars are wanted for either table or wine varieties. The request should be made

merely for GRAPES."

In reply to a telegram from Col. Harris Weinstock, State Market Commissioner, to W. L. Barnes, Railroad Administrator, the following message was received:

"Replying your telegram fourth, indications are, will be able to maintain movement refrigerators into California, average 300 per day, during September and October. Under favorable conditions may be able to increase this number. Assure you every possible effort will be made to increase supply consistent with requirements refrigerator cars into other territory. Please understand this is only estimate and carries with it no definite promise."

This is the situation as it stands.

MONTEREY COUNTY FAIR.

For the first time in fifteen years, Monterey county is to have a county fair, October 10 and 11, at Salinas. The movement is being pushed by the Farm Bureau through Farm Advisor T. C. Mayhew, and has the support of farmers in all parts of the county. Each Farm Bureau center will have a community exhibit here. It is strictly a co-operative affair, carried on in co-ordination with the women's clubs, the business men, and the schools and will therefore be an agricultural, industrial, and educational concentration representing the entire county. Livestock will be shown on the Rodeo grounds, and other products will be housed in a new garage, which will be ready by that time.

It is estimated that 1,000,000 acres are available for rice planting in the Sacramento valley.



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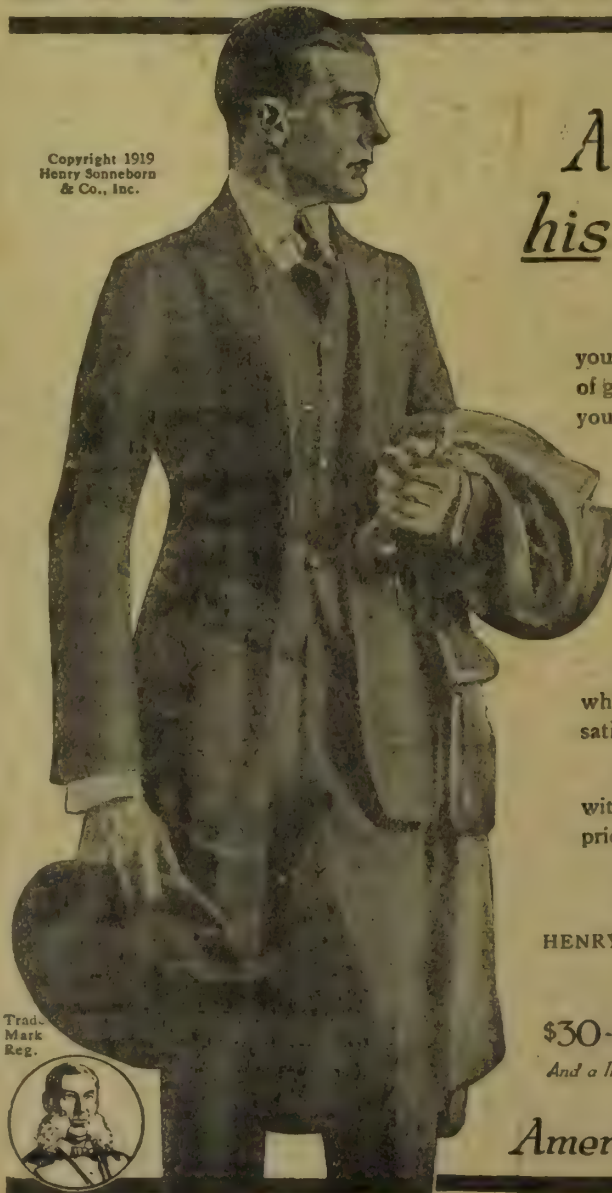
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HOW SHALL I LAY OUT A VINEYARD?

To the Editor: I am contemplating planting 40 acres to grapes, and wish your advice. Would you plant more than one variety? If so, what would you plant and why? I am figuring on Thompsons if I plant only one variety, so you can use them as a base. I have my land leveled and ditched, electric motor $7\frac{1}{2}$ H. P. and 4-inch pump. Land lies oblong—half a mile long by a furlong wide. Practical vineyardists in this section say the land is good for grapes. Give me your ideas as to spacing. I have been advised 6x12, 8x12 and 10x12 for Thompsons.

Now, as to a method of financing planting, Japanese here offer to put in vines, cultivate and harvest for crop in that period—allowing them to intercrop the first year and maybe the second year. I am to furnish all tools, horses, water, stakes and wire—they to furnish vines and labor. What is your knowledge of contracts of this nature? Can you refer me to any contracts in this line?—A. S. M., Tulare.

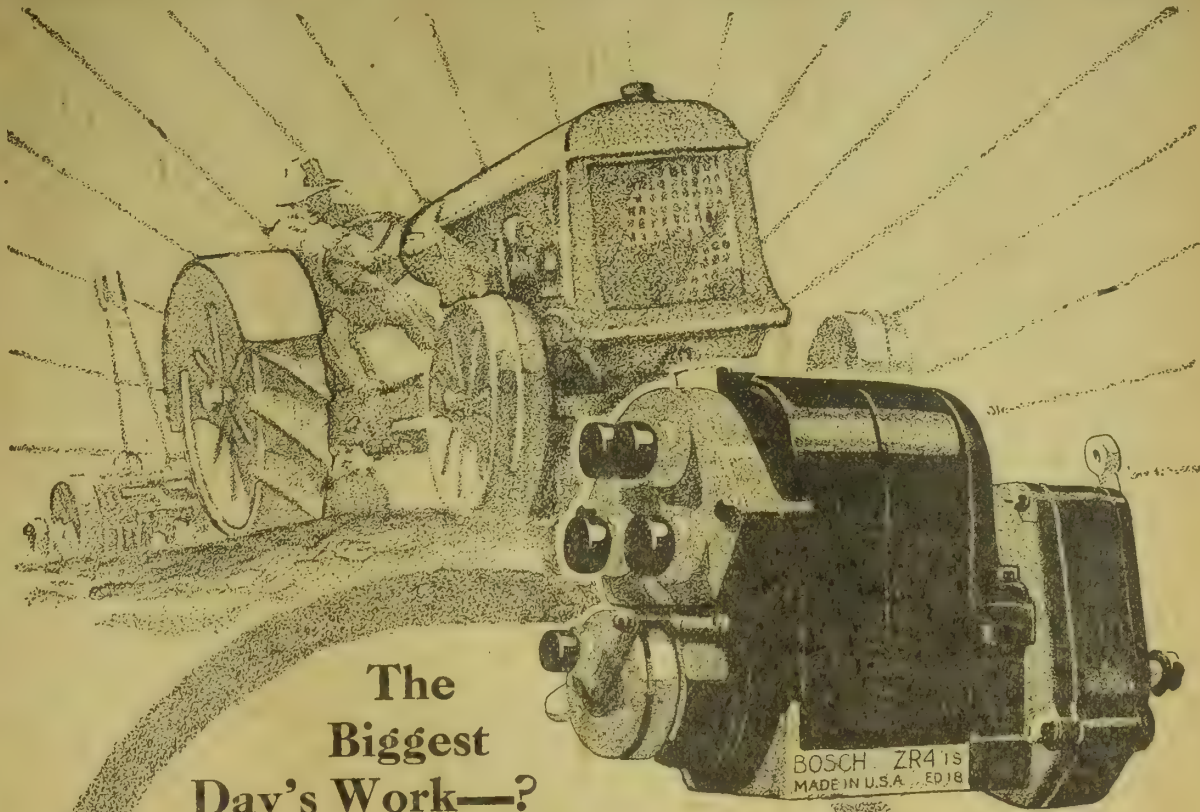
It is taking rather a long chance to advise, especially at this distance and without knowing your location, character of the soil and water supply. You are figuring on Thompsons as a base. That seems wise, for you will have a good crop in three years to keep the pot boiling. Put them on your sandiest soil. As I consider Muscats will always be the backbone of the raisin business, I should want to plant the balance to Muscats and put them on your strongest ground. The present prices being obtained for Emperors, Malagas, Feherzagas and Almieras might tempt you, however, to put in a few acres of one of these varieties. Not more than one or you will mess up your shipments on small lots. On good ground you can plant your Thompsons 8x12 and still have room to work your rows with a small tractor by careful driving. 10x12 is needed for a larger tractor. If teams only are used 8x12 is enough. Your most economical way of working for picking and irrigation would be to cut in two in the middle rather than work long ways. Half a mile, however, is too far to run pumped water profitably.

With regard to your last question about working and financing the project, the Japanese offer is out of all conscience. Let us take the planting. The cost of your young vines, planting and all, should not exceed \$30 an acre, i. e., allowing 558 plants to the acre. As a farmer you yourself know the cost of working the land. By the third year your Thompsons will give you heavy returns, if properly cared for. Except under your own supervision the Thompsons would receive all the care and the Muscats would be neglected except in so far as it paid the tenant to care for his intercrop. I would advise you to see Chas. F. Collins, Horticultural Commissioner at Visalia, who may help you out and have personal knowledge of trustworthy men. But in any event you must reserve in your own hands the right to supervise and insist on correct management. It is the only way to insure against failure.

LUMBER FOR BOX SHOOK.

Millions of feet of lumber are going into box shook each year for transporting fruit to market. The boxes are destined to be split up for kindling, for transportation of returned empties would be impossible. If definite plans are not perfected and carried out for reforestation of cut over areas, the grower will awake some day to find himself shy on material in which to ship his fruit. The Fruit Growers' Supply Company are "wise in time" and have made the first step in the right direction in the purchase of 41,000 acres of timberland in Lassen county. State and Federal laws are needed to provide the power and machinery for enforcing the replanting of cut over land on a safe and scientific basis, with adequate supervision. We could learn something from Germany in this respect.

Beet sugar production in the United States is estimated at 1,750,000,000 pounds this year as compared with 1,025,000,000 in 1910. The cane sugar crop is unusually low—perhaps one-fifth of the total output of the country.



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Here and There in the Fruit Business

Light Yield of Melons.

Cantaloupes, Honey Dews and Casabas are about cleaned up for the State. There was a very large acreage, but a light yield.

Wine Grapes Wanted.

There is an unprecedented demand for wine grapes, according to the Lodi Sentinel, at least 60 outside buyers of Zinfandels being on the job in one week. The price seems to stand at \$30 and at present there is no indication of a car shortage. Growers have nothing else definite in view as a general thing, still a certain number are waiting for something better to turn up.

Forestry Needs Backing.

We have had an abnormal number of forest fires this year and our timber supply is rapidly decreasing, much faster than is realized. The forestry booth at the State Fair had models showing how disastrous losses took place from fires started by cigarettes thrown from a passing auto or unattended camp fires. A complete county fire outfit was shown as used by local organizations. This instructive exhibit leaves a deep impression and impresses the onlooker with the importance of definite steps being taken for reforesting cut over areas and safeguarding

our natural growth of timber.

California's Peach Crop.

"The peach crop of America will not be more than 30,000,000 bushels," according to Homer B. Fairchild, Pomologist, U. S. Department of Agriculture, "and of that amount California will produce 16,000,000 bushels. California is more nearly free from peach tree diseases than any other State in the Union. In ten years Georgia's crop has fallen from 4,200,000 bushels to 2,700,000 because of 'peach yellows'."

Raisin Grape Harvest Is On.

Muscat grape picking is now in full swing in the raisin districts, and every picker is needed. There is a nice yield and the crop is of fine quality—up to earlier expectations it is reported. Picking will be done as fast as possible. The Associated Raisin Co. is helping growers in determining the quality of their grapes before picking. A hot spell reduced the crop to some extent, but the harvesting weather is excellent.

Pears on Quince Root.

George Payne of the Moorland district in Santa Clara county has 1500 pear trees from one to four years old—all Beurre Hardy on quince. Half of them he will keep in a block as they are and the other half he will work over to other shipping pears. They are headed low and will be kept low on the dwarf system. We mentioned a very successful orchard of this type some months ago owned by Frank T. Swett of Martinez, which carried a twelve-ton-to-the-acre crop this year on eleven-year-old trees—mostly picked without a ladder.

Plant Injury from Impure Potash.

The United States Department of Agriculture has received complaints regarding injury to crops apparently resulting from the use of imperfectly prepared domestic potash. At least one company operating at Searles Lake permitted a considerable amount of potash to go out in 1918 with a high percentage of borax, averaging probably 10 per cent, some samples going as high as 23 per cent. The Department has been conducting careful investigations of the matter in the field, which indicate the substantial correctness of many of the complaints.

The Turlock Canteloup Season.

Approximately 4,000 cars of cantaloupes, honey dews and Casaba melons were shipped from Turlock this season, to say nothing of watermelons, according to the Turlock Tribune. Yet the season was not a successful one. The melons this year had not the carrying quality of former years. This condition, coupled with delays in transportation, brought the fruit to market often in poor condition. Some cars took 21 days to make the trip East to New York, and from 12 to 14 days to Chicago, which should have been done in 7 or 8.

Rules for Loganberries.

Clean up Logans as soon as the crop is off—prune out the old canes. Anthracnose is detected by spots on the stems having a pale center with irregular brown or black margins. These spots vary in size and color. Spots on the leaves have a pale center with reddish or purple borders. If fruit is attacked it dries up when half green. New growth will be affected if the old vines are left on till spring. According to experiments already published, spraying with lime sulphur or Bordeaux should take place in February and then again six weeks later. Lime-sulphur, 5 gallons to 100 gallons of water or Bordeaux 4-4-50. Summer strength lime sulphur, three gallons to 100 of water, or even 2½.

Lime and Legumes.

It is about time to get that lime and get it on the ground. If the land needs lime about one ton of hydrated, or up to two tons of carbonate of lime to the acre, is enough. About once in three or four years is often

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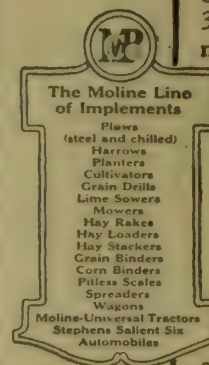
It is low down, easy to load, strongly constructed, light in draft, and the second beater thoroughly pulverizes the manure, spreading it in a wide, even sheet beyond the wheel tracks. One lever operates the entire spreader.

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enough to lime the ground with a good dressing unless very heavy applications of manure are applied. A dressing of lime every year would wear out the soil too quickly. That is why the old adage started, "Lime makes the father rich and the son poor." Use discretion along with the lime and father and son both profit. An old guy who lived over 2,000 years ago said, "The abuse of God's bounties does not forbid their use by reasonable men." This is a very free translation of his actual words.

Glenn County's Young Orchards.

One thousand acres of almonds came into bearing this year in Glenn county, according to Hugh C. Wren, County Horticultural Commissioner. An average of eight pounds of nuts per tree has been obtained from four-year-old orchards. There are 500 acres of prunes coming into bearing this year. Many five-year-old orchards averaged five and a half green tons to the acre. The total plantings of almonds and prunes in this county comprise about 3,500 acres for each.

Jujube trees obtained from the U. S. D. A. Plant Introduction Gardens at Chico, and grown at Hamilton City by the Mills Orchard Co., also in the Cadara district, furnished 35 pounds of fruit this year. Fair-sized commercial plantings are to be made in the near future, said Mr. Wren. The fruit is of good size and quality and cures like a date.

SEEDING TIME FOR COVER CROPS APPROACHES.

(Continued from page 381.)

Barley and Burr Clover.

Burr-clover seed is very scarce this year. This is a pity for it is California's natural cover-crop of the legume family and one of the best. A good way to seed this crop is to harrow in from 15 to 30 pounds of barley—right in the dry ground, and then sow from 15 to 20 pounds of hulled burr clover seed on top and let it go at that—no more harrowing. If you have some unhulled burr clover that you have swept up—use about 75 pounds of it to the acre, if possible, as there will be a lot of trash in it.

Horse Beans.

The large horse beans we have make it necessary to put on plenty of seed for a good stand—even 200 pounds. They may be drilled if you have the right tool, or plowed in—dropped in every third furrow, say four inches deep. They need a strong soil—it is a waste to put them in poor ground and expect much. On the right soil they are wonderfully good. They have a deep, strong, penetrating top root, which aerates the soil and large plants will carry nodules the size of a small hazel nut. The drawback is their liability to black aphids which attack the terminals. These aphids look like the black cherry aphids. It is possible that we are within distance of control—if so, this crop is a "comer" in the future when we can get the right bean, and we can.

Cost Per Acre.

Melilotus indica (sweet clover) can be bought at \$11.50 per 100 pounds—(a poorer grade at one cent less). Thus the seed would cost \$1.70 to \$2.15, an acre, and a man can seed pretty well two acres an hour without hurting himself. This is alike the prime favorite over the largest area and the cheapest in point of application.

Spring vetches are \$12 per 100 pounds (\$11 in ton lots). They will be lower in price in November, but nobody would willingly waste a valuable growing period for a dollar. Rye is \$5.25 per 100 pounds (5 cents in half-ton lots), which brings the seeding to from \$4.90 to \$10.30 per acre. Hairy vetch is not so suitable for cover crops as it does not start so well till the warm weather comes. Canadian field peas will cost probably six to seven cents a pound, or, say around \$6 an acre.

Burr clover is not quoted, and we don't yet know who has any. It may cost \$3 or \$4 an acre for seed, but men who value it probably would not switch for a dollar. Horse beans might cost \$10 an acre to seed, but the seed companies may have some good for "cover" at a bargain.

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The K-W Magneto gives a spark so hot, that instant and complete combustion and full power is assured from every drop of fuel, regardless of how poor the grade. This added power makes deep plowing in

hard ground easy, and because leaner mixtures can be fired without loss of power, greater acreage is plowed **at less fuel cost.**

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WHAT WILL THE HARVEST BE—OF 1919 PRUNES?

(Written for Pacific Rural Press by Jno. J. Fox.)

Although this year produced unusually large prunes in all prune-growing sections, especially those on almond root, the fruit has been drying light, and results are disappointing. Prunes that looked like 60s on the tray have panned out 80s or smaller. Some men claim their fruit dried away pretty well 3-1 in the valley sections. The Richmond Dried Fruit Company put their drying at 2.68-1 and 2.50-1 is common. The early pick did not sugar up well and is of poor quality, though the main crop is good. There was a very large number of muddy-colored prunes and bloaters and hand-picking the trays led to a tremendous expense.

The first two weeks of the prune harvest first-class drying weather helped us out and kept us going with plenty of trays. Then the prunes dropped very rapidly everywhere—in many orchards it was impossible to keep up with them either in regard to trays or pickers.

A shower of rain in some sections made drying slow for about a week as the atmosphere was heavily charged with moisture. By the time this article appears most of the fruit will be on the trays and shaking for the clean-up will be general. Trees have been holding their foliage well right up to now except where moisture was lacking or red spider had been prevalent. We were in a number of orchards during the week ending September 13—just one year after last season's visitation—and found everybody busy and good-natured.

The Sorosis vineyard at Saratoga has about the same crop as last year. Frank Abernathy, the manager of the company, says his own crop and the company's will total about 600 tons of dried prunes. Last year he only saved 75 tons—the rain took the rest, so there is one year's loss to make up. He is paying \$6 a ton (green) to have the fruit picked up and contracts to have them dried by a gang of Japs at \$4 a green ton, doing the hauling and handling in bins and attending dipper with his own men. This will equal about \$30 a dry ton in the warehouse. He has 15,000 8-foot trays. Mr. Abernathy sold his prunes at 15 cents and will have the greater part of the fruit cured in another week.

Is the Grower a Real Profiteer?

(Written for Pacific Rural Press.)

To the Editor: Who is responsible for the high price of our daily bread? The consumer in the city has been told it is the producer or farmer. The farmer knows that the cost of operations has doubled and even tripled, but the net returns on his produce has in many cases increased but little. Traveling in the country a great deal, I have had occasion to observe that in many orchards fruit is going to waste that ought to be made available to the city worker for food. I had often speculated on the whys and wherefores of the high prices of fruit in the city when I saw fruit going to waste on the tree in the country. I bought a small orchard on which are fruits of many varieties, all of them

good for food. I have a few trees of apples, cherries, plums, peaches, figs, walnuts, and some berries—all bear profusely. I thought this fruit would be worth money. So I sprayed the trees, cultivated the ground, and took what I considered good care of the place and began to make my plans to dispose of the crop. But when the fruit began to ripen and I had to sell I began to learn something.

The early peaches came first. These I sold to some friends at a fair price, so I was happy. Next came the cherries; for these the canners paid nine cents per pound. I didn't have very many, so the cost of picking and hauling did away with my hopes of a profit. Next came the Early Crawford and then the Elberta peaches. To dispose of these I called a local dealer by telephone, told him that I had peaches which I would like to sell; but was advised that he was overstocked, and suggested that perhaps he could use them a week later, but my peaches were ripe and had to be made use of, so I sent 10 Los Angeles lug boxes full to a San Francisco commission house. Here are the returns those peaches brought:

10 Los Angeles Lugs Peaches—	
Price, 75c	\$7.50
Express	1.71
Commission	1.13
Boxes furnished .....	.35
Net	\$4.31

These peaches were carefully packed and culled, so that the consumer might get something good for his money. He paid \$1 per box for these. Here are the returns on the next shipment—38 lugs, of which 36, reached destination (two were broken by expressmen):

36 Los Angeles Boxes Peaches ..	\$27.00
Express	11.03
Boxes Furnished	1.26
Commission	4.05
Net	\$10.66

On this last shipment the local express office made an overcharge of about 1000 lbs. I have taken this matter up and filed a claim to have the Express company reimburse me, but they are taking their "sweet" time about making a settlement.

But why go into all this detail? I have done it to show you, Mr. Consumer, in the city, that it is not the farmer who is getting the "lion's share." Where I, as the producer, got a fraction over one cent per pound for my fruit, you paid five. Who got the four cents? Study the foregoing statement; it will tell you.

What are we going to do about it? I shall graft all my trees so far as practical to one variety of fruit, preferably prunes, and dig up those that can't be so grafted. You will have to continue to pay the high prices, not

to the farmer, but to him who handles this fruit after it leaves the farm. If the small producers could form some kind of co-operative marketing association that would efficiently take the farm produce and place it at the consumers door, it would help to eliminate the feeling of discontent in both the city and country. But my final appeal to you, Mr. Consumer, living you do in the city of crowded, dust-swept streets, don't blame me as a farmer for the high price of the fruit that you eat.—H. J. B., Napa.

Hop pickers are being paid from \$5 to \$6 a day.

NEW TIRES FOR OLD ONES

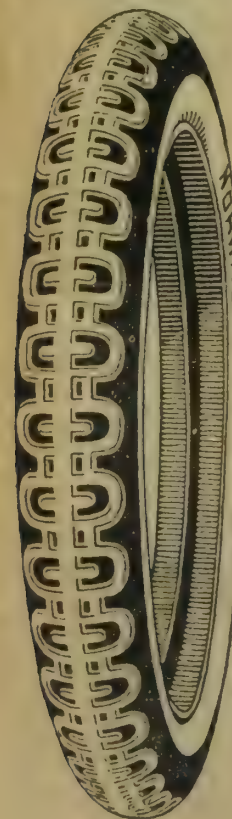
You can make new puncture-proof tires from old worn ones. We give you a written guarantee of 1,000 miles against puncture. You can save half your tire costs.

DO IT YOURSELF IN 30 MINUTES

Over one-quarter million users in America today of this NEW IDEA in tire construction. Demonstrator agents wanted. **JOHNS CONSOLIDATED RUBBER CO.** 201 Second St., San Francisco

FREE OFFER DEMONSTRATION

WHY NORWALK TIRES WEAR LONGER



1. Non-skid covers 80% of the tire's wearing surface.
2. The rubber by actual test is tougher than any other.
3. 529 rubber rivets to each square inch of fabric.
4. Norwalk deckle splice prevents air pockets.
5. Hand-made construction.

Factory Distributors:
Lichtenberger-Ferguson Co.

Los Angeles San Francisco Fresno

Get Him
with a
Savage, Boys!

CROWS are causing a lot of damage to crops throughout the United States and are the greatest pests among birds.

Take a Savage Junior Rifle and one or two of your friends, or better still, organize a Boy's Shooting Club in your town and help exterminate the Crows. Some counties are paying a bounty for them.

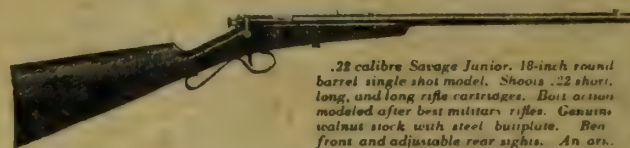
Be sure to get behind a straight-shooting .22 Savage Junior single-shot Rifle and you'll be the best shot in your neighborhood.

Remember, "you'll always find a Savage where the service is the hardest."

Ask your dealer to show you one or write us for particulars.

SAVAGE ARMS CORPORATION
UTICA, N. Y.

Sharon, Pa. Philadelphia, Pa. Detroit, Mich. New York, N. Y.



.22 calibre Savage Junior. 18-inch round barrel single shot model. Shoots .22 short, long, and long rifle cartridges. Built according to model after best military rifles. Genuine walnut stock with steel buttplate. Removable front and adjustable rear sights. An arm which wins the respect of experts.

The Famous Hardie Junior Is a Real Power Sprayer



It has sufficient capacity for two lines of hose. It has plenty of power for high pressure effective spraying. It is little in first cost, weight, and upkeep. It is big in real value, engine power, pump capacity and ability to do successful spraying. We believe this is the greatest small power sprayer ever manufactured, and placed on

the market with phenomenal success in every fruit section in United States and vouched by thousands who own the Famous Hardie Junior. Equipped with 1½ horsepower engine, battery ignition, 150-gallon tank with mechanical agitator, capacity of four gallons per minute with a steady working pressure of 200 pounds, and two 25-foot of the best spray hose, fitted with spray rods and nozzles; 4-inch tire truck with pole or shaft.

ALL FOR \$315. Delivered Anywhere In This State.

If truck is not needed, deduct \$55.00. These prices are subject to change without notice. The wise buyer will place his order now.

This low price is made possible by big production. If you are interested in other types and sizes of the **HARDIE POWER SPRAYER**, write us for the big spray catalog, and learn why we can offer more spray pump value than any other spray pump manufacturer.

The **HARDIE ORCHARD GUN** is \$12.00, none better. Every one is guaranteed to give satisfaction to the user, or his money refunded. The Hardie Spray Hose is the safest hose to buy.

THE HARDIE MANUFACTURING COMPANY

224 N. Los Angeles St., Los Angeles.
H. V. Carter Motor Co. Hardie Agt. San Francisco, Cal.

HORTICULTURAL JOTTINGS.

A sixty-three acre vineyard at Fresno has just been sold for \$32,100.

As a result of high prices on labor and fruit, it is predicted that canned peaches will bring 60 cents a can this winter.

A girl named Margaret Myers of Marysville is said to have earned from \$14 to \$20 a day pitting peaches—a peach of a pitter!

The grape growers of Placer County are now busy shipping. One firm of lumbermen sold ten carloads of lug box shook the last two weeks in August.

"No appreciable loss of green fruit" is reported from Clovis, Fresno Co., due to the railroad strike, and all hands are busy again picking and packing.

Miss Etta Corey of Visalia has been making \$15 a day as a peach packer. Her record for this season is 82 boxes in 9 hours, which at 20 cents a box amounted to \$16.40.

Twenty acres of Valencia Oranges have just been sold near Anaheim for \$50,000. Charles Latimer, proprietor of the San Antonio Orchards of Ontario, is the purchaser.

The Associated Raisin Company shipped a car of new crop Thompson Seedless Raisins to Chicago Sept. 2—the earliest shipment on record. The car contained 2200 cases.

In Napa and Sonoma counties the prune crop is all on the trays, except a number of stick-tights that refuse to leave the stem. The amount of

these totals up to some tons of fruit is a number of orchards. They seem to lack sugar and a good many will never be recovered.

Apple-packing demonstrations will be held in Santa Cruz county on September 22 and 23rd, under the auspices of the County Farm Bureau. Good stuff!

Good weather has prevailed for the raisin harvest in the south, which is some relief to the general shortage of labor. Growers will feel uneasy until the season is over.

The American Fruit Growers, Inc., a \$50,000,000 corporation, is in process of absorbing the American Fruit Distributors of California—a San Francisco corporation.

Tuscan peach trees are practically off the market and the supply of other commercial cling peach trees is very limited, it is reported. Some planters are likely to be disappointed this year.

At the meeting of grape growers and prune growers at the University Farm at Davis, September 13, a large number of visitors were present to see the new experimental grape dehydrator.

The car shortage seems to be likely to continue for awhile though ameliorating conditions may be looked for in another week we understand. But still, another week will see an increased demand.

Shortage of cars is so serious that Governor Stephens is taking a hand in trying to give relief by applying to the head of the Railroad Administration. Only about 25 per cent of the

grapes in the San Joaquin, Placer and Fresno county grape centers were being served September 12th, it was said.

Fifty carloads of wine grapes were purchased in one week at Oakley (Contra Costa county) by E. B. Sellars at \$45 a ton—a record for this district.

The Almond Growers' Exchange has increased its membership from 2,400 to 3,000 in the past year. Seventeen per cent of the members are in the Chico district.

Nearly 9,000,000 pounds of evaporated fruits from the army's surplus supply were available September 6th for purchase by municipalities, etc., for distribution.

Government prunes are being sold in San Francisco and Portland at 11 cents a pound—the average price paid by the government. Five hundred and one thousand pounds were released in San Francisco alone.

First prize for best exhibit of counties of county products at the State Fair went to Yolo county; second prize to Fresno; third prize to San Joaquin; fourth to Kings; fifth to Solano; sixth to Alameda; seventh to Placer, and eighth to Humboldt.

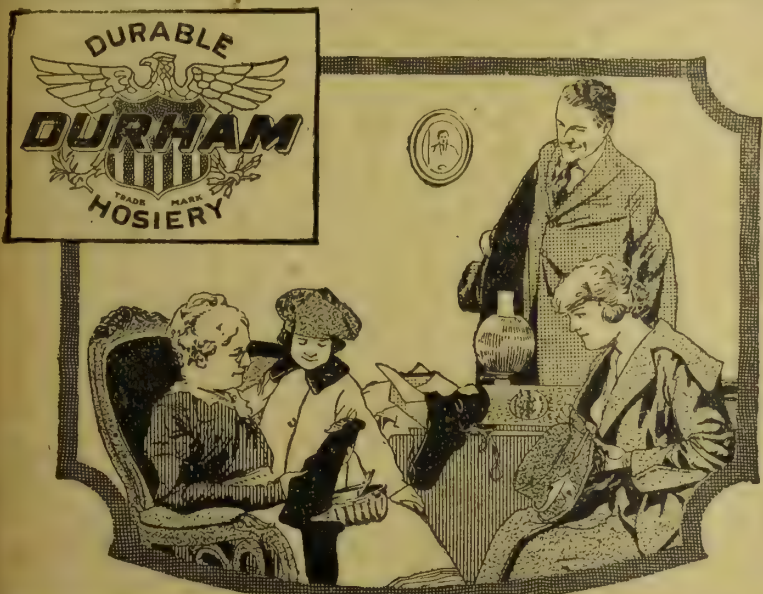
In a recent issue of one of the large dailies the public was informed the raisin growers would make a profit up to \$2,500 an acre gross this year. The latest estimate of the raisin crop is 180,000 tons from 180,000 acres. With raisins at 10 cents a pound we cannot follow these figures. It looks as if \$50 were added and then the typist gave the 0 an extra tap for luck.

PRUNE-GROWERS' ASSOCIATION ADVERTISING CAMPAIGN.

(Written for Pacific Rural Press.)

The California Prune and Apricot Growers' Association has prepared its plan of campaign for the coming season's advertising. Like the other great growers' organizations, the advertising department is getting ready to push California prunes and apricots by publishing full-page colored advertisements in the national magazines. The persistent quest for new markets and ever-widening consumption is one of the most important functions of our growers' organizations—that and their ability to safeguard the consuming distributor against loss due to speculative dealing. For it is only by uniting that we are able to guarantee a price against decline and it is only by united efforts that we can advertise and extend our fields of consumption. "It pays to advertise" is no idle proverb, but the true word.

Greater consideration is paid in the setting of prices by our Boards than we wot of. They can be adjusted but not until the guaranteed period is passed. If the price set is too low the association might "get one below the belt" by sharp buying on the part of the independent packers from "outside" growers. If the price set is too high, consumption falls off, certain consumers will get out of the habit of eating the too-high-priced stuff, and the main selling period slides by. As it is, sales of all our dried fruits are reported as proceeding very nicely, showing "Advertising Pays."



True Value in Hosiery is Measured by the Extra Wear it Gives

It is one thing to get good looking hosiery—and quite another to get hosiery with long-wearing value. You get both when you buy Durable-DURHAM. To know the true value of this hosiery is to save on your stocking expense. Money is saved with fewer new pairs to buy—and the trouble of darning is avoided.

Durable-DURHAM wears longer because it is made stronger. The Durham dyes do not fade and the stockings keep a long lasting good appearance. Best of all, it is reasonably priced. And meets every stocking need. Styles for men and women include all fashionable colors and come in all weights from the lightest hosiery to the thick, warm, fleecy lined hosiery for winter wear.

DURABLE DURHAM HOSIERY
FOR MEN, WOMEN AND CHILDREN
Made Strongest Where the Wear is Hardest

Every pair of Durable-DURHAM Hosiery is extra strongly reinforced. The legs are full length, tops wide and elastic, soles and toes are smooth, seamless and even. Sizes are accurately marked.

Look for the trade mark ticket attached to each pair. You should be able to buy Durable-DURHAM Hosiery at any dealer's. If you do not find it, please write our sales office, 88 Leonard Street, New York, giving us the name of your dealer.

DURHAM HOSIERY MILLS, Durham, N. C.
Sales Office: 88 Leonard Street New York

GLORIANA (Banner)

All year wearing stocking. Softcombed yarn, fine finish. Extra fine gauge. Wide elastic tops. Strongly double reinforced heels and toes. Black, white, cordovan.



Bethlehem

SPARK PLUGS

Specialists

BETHLEHEM Tractor Spark Plugs are expressly built to meet the unusual requirements of tractor service. They are specialists.

Our engineers have carefully studied these requirements.

They have made extensive tests, both here in our own shops—and in the tractor motors themselves, out in the fields, under the most difficult working conditions.

They have developed a line of tractor plugs—for no one plug will meet the requirements of all tractors.

Consequently there is a type of Bethlehem tractor plug for every type of tractor motor—each plug more efficient in its particular field than any other we know of.

Get Bethlehem tractor plugs from your dealer. He knows which model is best suited to your particular make of tractor. He also carries Bethlehem plugs for motor cars, motor trucks and stationary engines of all types.

The Silve Company BETHLEHEM PRODUCTS

E. H. Schwab, President
Bethlehem, Penna., U. S. A.

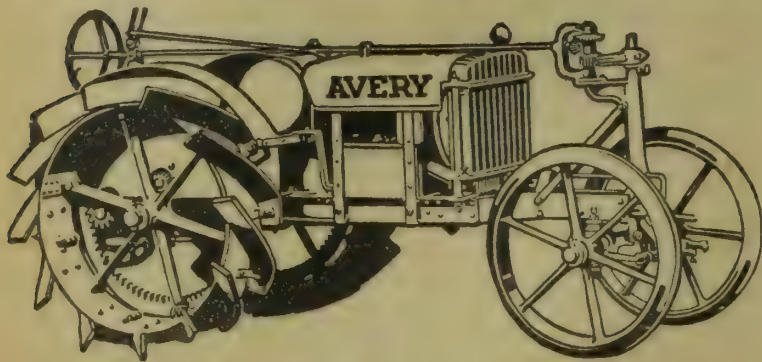


Don't use an automobile plug in your tractor.

3/4-inch long mica tractor plug. Used as standard equipment on International Harvester Tractors and others.



AVERY TRACTORS



\$775 COMPLETE

Avery Tractors do in Hours Work that takes Days with Horses

- They** represent the greatest dollar for dollar value on the American market.
- They** are built complete in the AVERY Company's own big plant.
- They** are made in eight sizes—a size to meet the requirements of any size ranch, orchard or field.
- They** are simple in design and construction and cost less to operate and keep up.
- Avery** Tractors are built by a company that backs its products with a reputation and experience of over forty years' standing.

AVERY COMPANY

of the Pacific Coast.

67-69 Beale Street,
SAN FRANCISCO.

237 So. Los Angeles St.,
LOS ANGELES

AVERY Tractors satisfy and stay sold.

The LAUSON Wins Again

at Grand Forks, N. D.



All gears, including the final drive, are fully enclosed in a dust proof housing on the Lauson.

The city council at Grand Forks needed a tractor for road work. In order to determine the tractor best suited they had a competitive demonstration of the leading makes of tractors.

The LAUSON was selected as the tractor most perfectly qualified for the hard service entailed in the work of road-making. The important feature of the LAUSON in this connection is that all the working parts are completely enclosed. This keeps out the dust, dirt and grit which are ever present whether the tractor is working on the road or on the farm. By keeping the dust and dirt from the gears there is no loss of power through friction. There is no grinding of gears by emerylike dust and the possibility of breakdown and wear is thus minimized.

This is one of the features which has helped to make the LAUSON the "Pattern Tractor." If you would like to know the others we will be glad to send you full particulars on request.

Distributors for Oregon, California, Arizona and Nevada
DE LAVAL DAIRY SUPPLY CO., 63 Beale St., San Francisco, Cal.
THE JOHN LAUSON MFG. CO., New Holstein, Wis.

Write for interesting Tractor Bulletin No. 45



Practical Pointers on Farm Irrigation

(Written for Pacific Rural Press by D. J. Whitney.)

THERE ARE TWO WAYS of getting water for irrigation. The first is to take it from rivers and streams and to bring it to the land in canals and ditches, using reservoirs and all possible means to obtain everything in the way of water that nature can supply. This ought to have a high place in public policy, state, national, and local.

The second system is to take water from wells by pumps. This is an affair of the individual farmer, but there is much of public importance to the matter also. The more water that can be brought to land by canals, the higher the ground water will be and the less difficulty and expense in pumping. Also, in districts supplied with water from the mountains pumping plants are going in by the hundreds to take care of the periods when canal water gives out. Canal water helps the wells; wells help the land when the canals are dry. Ditch water raises the level of the ground water; wells lower it. The two plans fit together to perfection and even in irrigation districts the pumping problem should be well understood.

Most writing about pumping has been done by agricultural engineers, who seem to have left out the important little matters that a farmer ought to know. The facts which are set down here are based upon experience and observation in the Fresno and Tulare sections, where everything is irrigated and where the only ditch is a small, privately-owned one.

As to the Well.

A very common mistake seems to be to sink too shallow a well. Well-borers have disliked to work too deep; they figure it is easier to quit while working is easy and move to another job than to toil along a few feet a day, even if they are paid well for deep work. Therefore, they have stopped often when the well showed sufficient water for conditions at the time. Afterwards, along came some dry years, other wells drew down the water, the wells did poorly, and everything had to be dismantled in order to sink the wells deeper. So, as to the first point, in putting down a well, leave a comfortable surplus of depth for use when some future dry spell comes. Furthermore, the quicker and easier water can pour into the well, the less the water will drop when you are pumping and the greater the flow from the pump and the less power used per gallon.

Rigs for Well-Boring.

Well-boring is an interesting proposition. Three kinds of rigs are found in this vicinity. First are hand rigs, operated by two or three men, using derrick, windlass and rods on an overgrown soil auger. This is simple and inexpensive. For shallow wells these rigs are hard to beat for economy. Holes 150 feet or more can be put down with them, but the operators seem to like to quit before they get down that far. There is a horse rig used in the vicinity, with rods and augur, like the hand rigs. It is a gold mine to the owner, who lets his horses do all the hard work and makes fast time at it.

One flaw in the boring system is that a cobblestone will quickly get the auger going to one side and before long the well is frequently "as crooked as a dog's hind leg," as the operators of the third kind of rig say. Whether this crookedness is a serious matter or not, depends upon the diameter of the well and the size and depth of the suction pipe going into it.

Power Machinery for Well-Drilling.

Finally there is the steam and gas rigs for drilling wells—big, expensive machines, making a hole as straight as a stone will drop and as deep as a cable will reach. They remove the dirt by churning it to a paste, then pulling it up in a sand pump; a slow process in comparison with the boring equipment, which cuts off slices of dirt and shoves them into the auger. Even a hand rig will run away from a big expensive power outfit in the speed of digging a shallow hole, and the cost will be insignificant in comparison. However, when it comes to deep work, the boring equipment is out of the running and a drill has to be used, so if any one is doubtful about the kind of a rig to hire, this summary may help them. The drill can pass by small stones that will make lots of trouble for a boring rig; they can even go through granite, but when a man strikes granite he had better quit. He will be poorer in

pocket and about as poor in water below the granite as above it.

Underground Water.

As to depth of wells, there seems to be little advantage in sinking them too deep. This all depends upon the streaks of sand struck. Wells with only thirty to forty feet of standing water seem to be giving a big flow of water in this vicinity for three-inch centrifugal pumps, when there is a good thickness of water gravel at the bottom. If the sand streaks were poor and thin and the formation mostly clay, from 60 to 150 feet of standing water might be advisable.

Old wells in this vicinity, and in many other places, continue to send up fine sand continually. Each particle of sand removed creates a reservoir beneath the surface and opens up channels between the gravel through which the water seeps on its way to the well. This is one reason why a streak of thick water gravel, 30 to 40 feet below the natural water level in the soil, will give a wonderful stream. Say that the water sucks down 12 feet in pumping, there is then in the water gravel a pressure of about 12 feet from all sides, forcing the water through the channels in the gravel toward the perforations in the casing and into the well.

Too Much Sand.

When the sand strata are too thick, and some wells go through nothing but sand, wells are ruined or badly injured by the casing giving away under the pressure of the sand. Recently the writer was on a ranch where apparently this trouble had occurred and advised the owner in getting the damage repaired to look up the matter of redwood casing for the wells. Redwood will not decay when kept permanently moist, while metal casing in time will be weakened by the water and hard pressure will cave it in.

There is one other point about a well in connection with sand and depth. The thicker the sand stratum the quicker will sand find its way into the well and sink to the bottom. It even may block up a sand stratum, particularly when this is at the extreme bottom of the well. If it fills up to the bottom of the suction pipe it will check the flow of water. Consequently, and from personal experience, the writer would always advise having sufficient depth between the bottom of the pump (or suction pipe) and the bottom of the well, to permit the deposit of lots of sand without reaching the pump intake.

Cleaning Out Wells.

If wells have to be cleaned, sand pumping is a simple proposition, but may be expensive and troublesome to clear things away for sand pumping and to get the plant in working order again. The longer a well will go without being interfered with the better. There is no use getting a well too deep, but lots of use in getting it fully deep enough.

The grain fields around Stratford are being plowed day and night, preparing the ground for early fall seeding. The congestion at the warehouses is relieved, as for some weeks the train of teams has extended a half-mile out from each warehouse. The Gyp corn planted along the edge of the Tulare Lake as it dried up, is looking fine.

"One Good Investment is Worth a
Lifetime of Labor."---Milburne.

IN LESS THAN SIXTY DAYS OFFICERS OF THE Virden Packing Company

Feel confident they will have complied with the Permit issued by the State Commissioner of Corporations (which requires the sale of the first two million of its authorized capital before the company will be allowed to commence construction of its Packing Plant and Stock Yards), then the actual location of its plant will be announced and full and complete plans will be published.

Construction Will Start as Quickly Thereafter as Possible.

ARE you going over the top with our *Fourteen Hundred* loyal stockholders? Included in this number are stockmen, fruit growers, farmers, bankers, business and professional men. They all agree that management and location are the prime factors necessary for the success of any institution.—**WE HAVE BOTH.**

DO you realize what this Five Million Dollar Plant means to the producers of live stock, fruits and vegetables of the Pacific Coast?

THE Virden Packing Company makes no promise of enormous dividends but calls your attention to figures taken from pages 3373 and 3374 of the Congressional Record of July 26, 1919, as follows:

One Thousand Dollars invested in
Armour & Co. five years ago is now
worth \$33,000.

One Thousand Dollars invested in
Swift & Co. six years ago is now
worth \$20,000.

One Thousand Dollars invested in
Morris & Co. three years ago is now
worth \$23,000.

One Thousand Dollars invested in
Cudahy & Co. six years ago is now
worth \$26,000.

One Thousand Dollars invested in
Wilson & Co. two years ago is now
worth \$7,000.

VIRDEN PACKING COMPANY

WILL PACK AND CAN MEATS, FRUITS AND VEGETABLES AT

SACRAMENTO - - CALIFORNIA

SIGN AND MAIL TODAY.

Virden Packing Co.,
Sacramento.

I want to see this big California
enterprise succeed. Without obligat-
ing myself in any way, please tell me
more about your organization.

Name

Address

PROBABLE WHEAT SHORTAGE IN 1920.

The American wheat crop, including the United States and Canada, will be about 400,000,000 bushels less than was expected in the Spring, according to Julius H. Barnes, Director of the U. S. Grain Corporation. The shrinkage, amounting to about one-third of the crop, is due to weather and plant diseases. European production of wheat and rye will be short 300,000,000 bushels. Argentine wheat costs 50 cents a bushel more to deliver in Europe than ours. Russia, Rumania and India, formerly our greatest competitors in wheat, will have probably none to spare, though they ordinarily furnish Europe about 300,000,000 bushels a year. Australia's stored surplus is now being consumed. So, although the crop in the United States is 25 per cent above normal, there will still be a wheat shortage in 1920. (Manley Champlin, S. Dakota State College.)

Quest for Earlier Rice Varieties

(Written for Pacific Rural Press.)

This fall will have to be dry more than usually late or a great acreage of rice will be too immature to harvest. It was a continual wonder to the writer last May as he drove through the rice sections on both sides of the Sacramento Valley to see so many fields just then being checked when the rice should have been planted and up. It seemed like more than usual optimism was being shown by the growers. Many of them were still planting Wataribune May 15. The writer felt that one of the best known rice growers put it well when he said, "It costs a bunch of money to grow rice, and many a man has gone broke by taking unnecessary chances. I prefer to follow well-known successful measures with the main crop and do my experimenting in a small way on the side."

But many of the growers were taking long chances with late planting and relatively untried varieties. In at least one case the water supply proved disastrous by failing in mid-summer. There is always too much chance of wet weather at harvest under the best growing conditions we can hope for; and the planting should be done earlier than many did last spring in order to give a longer growing season.

Aside from preparation for planting, the time of getting it done, and the certainty of water, the question of varieties is probably most important. The proper variety may cover a multitude of omissions in culture.

Need Early Maturity with Good Yield.

The U. S. Rice Experiment Station at Biggs and a large number of progressive rice-growers have been trying out many varieties since the industry began in California a few years ago. Several of these varieties have been dragging along with about the same acreage year after year, but two or three have sprung into considerable favor. The chief object in trying out new varieties is to find one that matures earlier and yields and mills as well as the Wataribune, which is by long odds the standard here; but which matures so late that harvest and threshing are generally prolonged into the rainy season. That is awful in some districts. The adobe mud and the wet rice make a bad combination for the temper of harvesting crews, and wet rice is bad stuff to store after threshing. The matter of which variety to plant is an important one, but a variety that does well in one locality may be poor in another.

Characteristics of New Varieties.

One of the most popular new varieties is the "1600," one of those developed at the rice experiment station. It is a selection from a Japanese type, very similar to Wataribune, mills about the same, and heads about the same, but is two to three weeks earlier in maturing. It does not tiller so freely and makes shorter straw, but approximately the same yield of rice. Being less exuberant than Wataribune, it is better adapted to virgin land or on soil that is very rich where Wataribune makes too much straw and matures too slowly. Many people on both sides of the river planted this variety on half of their acreage, since it permits harvesting to begin sooner and helps avoid the rush. The rancher who puts a crew to work early stands a better chance to get the men and get his late crop in promptly.

Early Prolific proved early maturing in Louisiana, but it seems later in California. One season, when weather was hot at heading time it proved highly satisfactory in Butte county. Next year, however, with cool weather during the heading season, it took 30 days to get all plants headed out and it ripened unevenly. Since the Early Prolific grower must be a weather prophet, this variety is not generally planted, though fair success attended several years of commercial growing. It is a long-grained rice and does not yield as heavy as Wataribune, but the price is better. The straw stands up well. This variety is quite popular in Glenn county. Aikoku rice, after an eight years' struggle for popularity on the west

side sediment loams, is beginning to be recognized and the demand for seed last spring far exceeded the supply. Christensen & Burmeister of Glenn county had 110 acres of this last year, which yielded 60 sacks per

acre besides a lot lost in threshing. The quarter section on which this was grown cost \$10,000. The first crop on the 110 acres sold for about \$27,000, yielding the owners one-third as rent, or nearly the price of the entire 160

"Test Special"

The Best Rubber Belt Made
USE THIS COUPON—MAIL TODAY

New York Belting and Packing Co.
519 Mission St., San Francisco.

Send me samples of Belting that you will guarantee to give satisfactory service on my work, and quote prices delivered at

.....	Station
Horse Power	Diameter in Inches
Elec. Motor	Driven Pulley
Steam Engine	Driving Pulley
Gas Engine	Kind of Drive
Cross	Straight
Width of Belt	Ply
Distance between centers of Pulleys	
Rev. per minute of Driving Pulley	
Kind of Machinery Driven	
My dealer's name	
My name	
Address	

Economical Fertilization

THE BEET SUGAR LIME FERTILIZER.

costs \$7.00 to \$8.50 per 2,000 lbs. in bulk, f. o. b. cars points north of Rialto, south of Red Bluff. It is most readily available form of lime, being burnt, hydrated and composted in perfectly precipitated form, quick acting, immediately effective. Further, contains percentage of moist organic matter, analyzing a little nitrogen, potash, phosphoric acid, also trace of sulphur.

Stockyard Manure Mixture

SHEEP MANURE

largely from cottonseed, alfalfa meal and other rich feeding. The plant food values of manures depend upon the feed. At present cost of labor, teaming, trucking and freight, above highly concentrated manures from such rich feeding are most economical, unsurpassed plant food values.

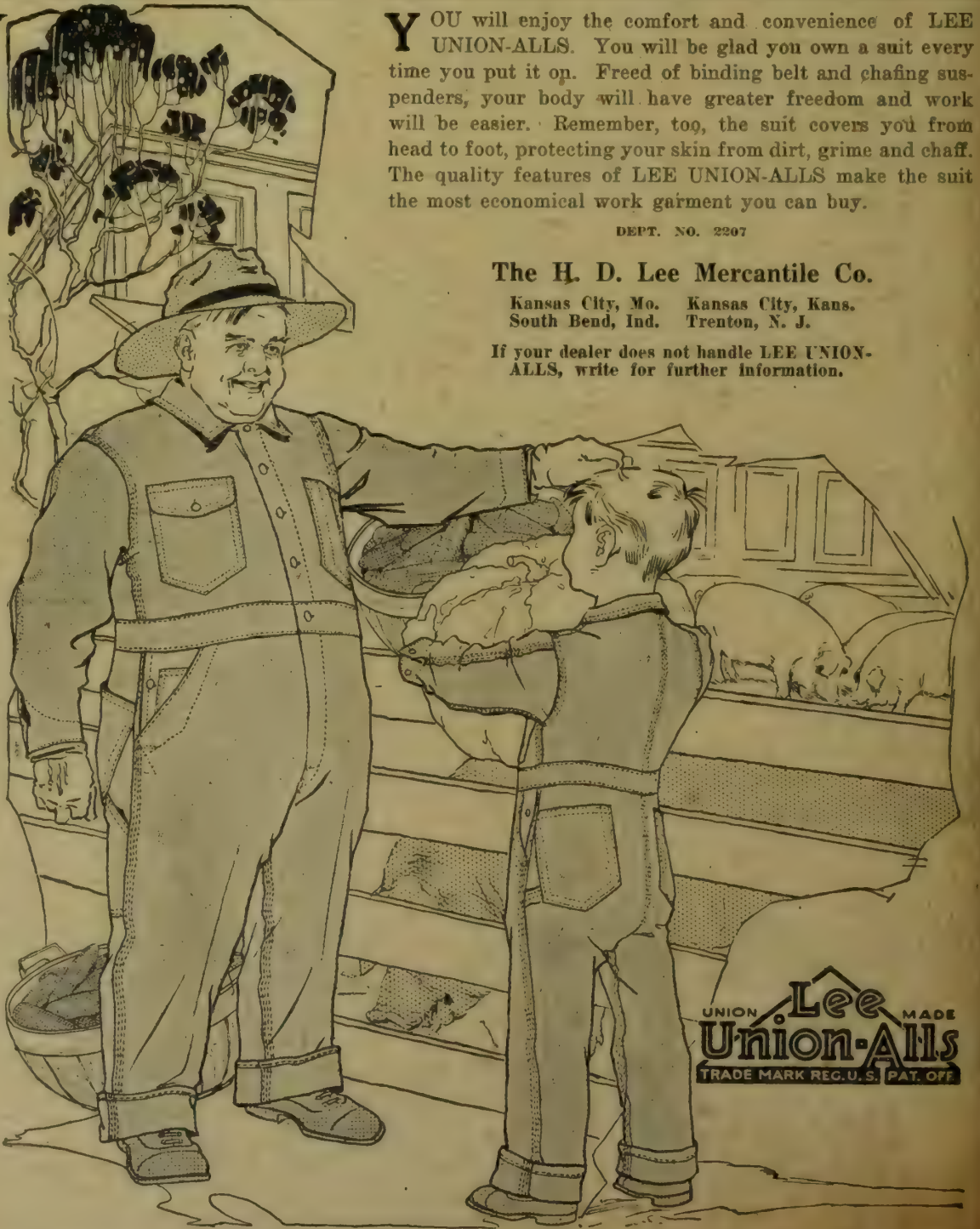
SHEEP WOOL SCOURINGS FERTILIZER

A. M. Blumer

SOLE DISTRIBUTOR,

U. S. Dept. of Agriculture,
License No. 5, 784.

438 California St., San Francisco



YOU will enjoy the comfort and convenience of LEE UNION-ALLS. You will be glad you own a suit every time you put it on. Freed of binding belt and chafing suspenders, your body will have greater freedom and work will be easier. Remember, too, the suit covers you from head to foot, protecting your skin from dirt, grime and chaff. The quality features of LEE UNION-ALLS make the suit the most economical work garment you can buy.

DEPT. NO. 2267

The H. D. Lee Mercantile Co.
Kansas City, Mo. Kansas City, Kans.
South Bend, Ind. Trenton, N. J.

If your dealer does not handle LEE UNION-ALLS, write for further information.

UNION **Lee** MADE
Union-ALLS
TRADE MARK REG. U. S. PAT. OFF.

acres. Five thousand sacks were sold for milling, but would have been saved for seed if this spring's demand had been foreseen. These parties have 600 acres of Aikoku this season.

It ripens about three weeks earlier than Wataribune. The kernels are smaller and round, but it brought the top milling price. The straw is very tough and does not fall down. Its beards are red. The rice never shatters in harvesting, but can be threshed without loss if kept dry. Last fall the early rains caused five or ten per cent of it to run through the thresher. On the adobe lands of

the east side, this same variety has a reputation for lodging, low yield, weak straw and difficulty in threshing. Probably the contradictory difference is due to the different conditions. A carload was planted on 400 acres in Placer county this season, but water shortage has probably spoiled the crop.

The "1564" is another Experiment Station variety that has found favor on the east side, where it yields heavily and is earlier than Wataribune. It grows faster than most varieties during the first six weeks, and therefore gets ahead of the watergrass. The grain is hard to thresh out of the head, and some is lost through the thresher, but this variety has no loss from shattering. It mills exceptionally well and yields the highest percentage of head rice.

Edith is a long-grained rice, much desired by millers, but grown only to a limited extent in California on account of low yield and late maturity. It was introduced from Louisiana last year in a commercial way, though it has been on experiment two or three years. It yielded about 20 sacks per acre last year and the entire crop was sold for seed. An experienced grower recommends that not over 10 per cent of any man's crop should be of the Edith variety. Another experienced Butte county rice grower disclaims all sympathy with any long-grained rice so far introduced into California, and believes that early strains of Wataribune will prove most satisfactory to California pocketbooks. The west side acreage of this variety is about the same as last year.

Tokio rice is claimed by a big west side grower to be two weeks earlier than Wataribune and to have bigger kernels than Aikoku. He likes the variety and has sold some for seed to the east side. Several people around Willows have grown it three or four years, but the yield is not so satisfactory as other varieties.

Suehero is another that has lost favor on the west side, on account of weak straw and low yield. It matures about the same time as the "1600," but threshes hard and is not considered so good for milling.

One Glenn county grower is trying 200 acres of Onsen rice, which is said to have done well there last year.

Several other promising varieties are in the last stages of experimental study at the Experiment Station, and some of them will soon be on the market.

Many Varieties, Two Types.

H. O. Jacobsen, who spent four years with the Government in the Philippines, classified over 1,000 varieties and collected a total of about 2,500 different varieties.

It may thus be seen that each variety has probably been developed by picking the most satisfactory plants in each locality and adopting their seed by many generations of selection. Not a great deal of cross pollination can take place because the flowers are self-pollinated except in rare instances.

But there are two generally recognized classes, the Japanese or Oriental and the Honduras or Italian. The latter class is of the long-grained type, which must still be considered in the experimental stage in California. Wataribune is of the Oriental type, and is the best in general where it can be planted early.

Beans need to be cooked with lots of fat and then they make a complete ration that a man can work on and keep as strong as if he were beefing it three times a day. Beans are one dish that a man can relish every day in the week. Lots of fat, remember, or they are unappetizing.

Tomato growers at Martinez are having a hard time getting rid of their stuff, as they had expected the local cannery to operate this season and were disappointed. One man sent 50 boxes to a commission merchant in San Francisco for which he received a check for \$9.50.

Fourteen hundred vacant jobs are listed in Sacramento by the State Employment Bureau at present. There is a particularly strong demand for farm labor.



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Here you see one of the shredding machines preparing rags for making into the tough, long-fibre felt which is the "base" or body of Malthoid and Ru-ber-oid Roofings.

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All the felt that goes into Malthoid and Ru-ber-oid Roofings is manufactured in our own mill. And because we are large consumers, we have the pick of the rag market. From this we carefully select the rags we need to make quality felt.

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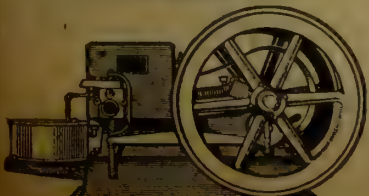
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Small Tractor Handles Big Cover Crop

(Written for Pacific Rural Press by John J. Fox.)

G. L. Savage of Sunnyvale has cut out the horse entirely and works his 30-acre orchard with a light wheel tractor. He has 20 acres of prunes running alternately four rows of Imperials and four rows of French and ten acres of peaches (Nichols, Runyon and Phillips Clings) interplanted with Wilson's Wonder Walnuts. This ranch was formerly owned by F. C. Wilson of Sunnyvale — the originator of the Wilson's Wonder Walnut.

With the tractor, Mr. Savage was able to turn under a very heavy cover crop last spring as late as the end of April, and then irrigated the whole place in May, using 2-12s, disk plow. The peaches received another irrigation the last of July and we saw no small peaches, though a little brown rot was evident. The use of one disk on the plow is enough to throw up checks for irrigation. The ground is in fine shape and the method of working it is worth recounting.

For cultivating, a six-foot double-disk is used, and it is followed, at a separate operation, with a home-made pointed-toothed harrow cultivator or heavy "drag" on a very heavy frame of 4x6 lumber. The teeth are set close and at an acute angle. They are $\frac{5}{8}$ inches square with about six inches exposed. A six-foot clod-masher of heavy logs finishes the operation and is very effective. The logs are as large as the old-fashioned hewn railroad tie and are firmly braced. Such a clodmasher would be a good load for four horses by the look of it. Mr. Savage said the work was no

trouble to the tractor. So late in the season it would have been a heart-breaker for a man and team. Both French and Robe trees are loaded with fruit and the foliage is a good color, though there is not much new wood, especially on the Imperial. The late plowing and the heavy crop would, however, account for this.

There are no props in the orchard, for the trees are wired. And there are no broken limbs. The cultivation with the tractor has been possible right up to the time the prunes began to fall. Mr. Savage will irrigate the whole place, lightly cultivate with his home-made cultivator and sow melilotus for a cover crop as soon as the fruit crop is off. He will thus have a good, firm seedbed beneath a light mulch, and should have a well-established cover crop before the cold weather sets in to check it. This will also enable him to plow earlier in the spring.

Tractor vs. Teams.

The problem of taking care of teams and over-Sunday chores is gradually

resolving itself by the use of tractors. We find also the small light truck up to 1500-pound capacity is being largely used in the orchard. It stands without hitching, is so much quicker, and is easier on fruit to be packed.

Does It Pay on a Small Farm?

Well, let us size it up. Mr. Savage has 30 acres of orchard. His tractor would take care of 60 acres and then some. But he would need four horses to do the work he has done with his little tractor, or else take an awful long time doing the work, thereby losing moisture and condition. A man has to have a pretty good team to take care of only 15 acres of real strong land, and then the team is idle two-thirds of the year and has to be cared for each day. And four real



This cut shows a wheel tractor cultivating a walnut orchard with a double disk and doing good work.

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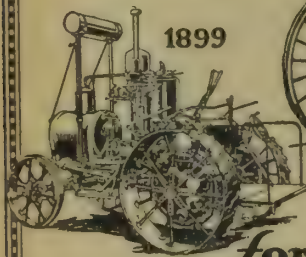
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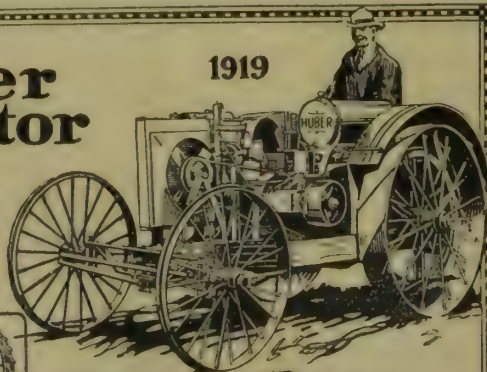
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The direct spur-gear drive of the Huber by which the transmission system is reduced to the greatest simplicity is a big factor in Huber dependability. There are no bevel gears—nothing but a clutch and spur-gear reduction. Huber high wheels roll easier and afford "more traction grip"; center draft conserves power by avoiding side pull; extra strong materials reduce weight. An exceptionally large portion of the power of the motor is delivered to the draw-bar.

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It tells the history of tractor development.

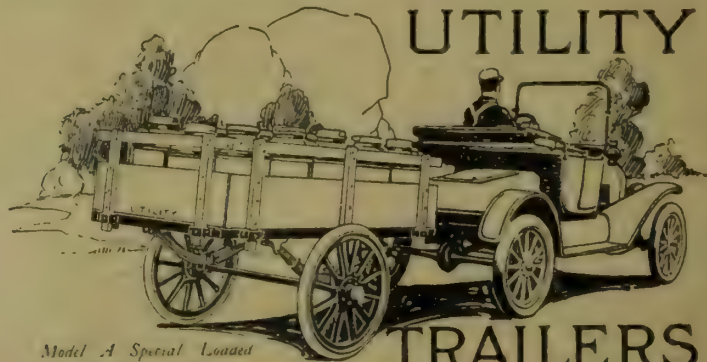
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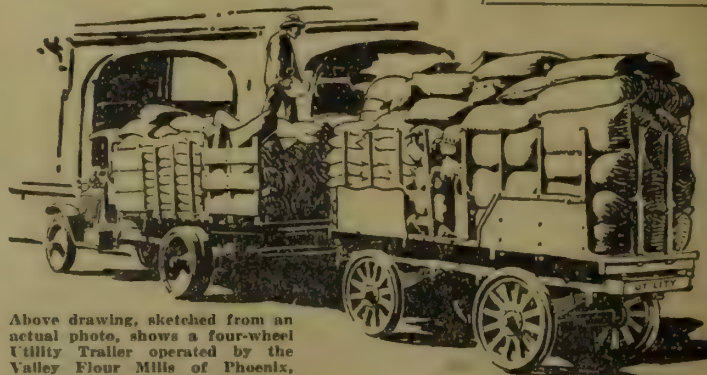
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"TRAILERIZED
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Above drawing, sketched from an actual photo, shows a four-wheel Utility Trailer operated by the Valley Flour Mills of Phoenix, Arizona. The trailer carries a load equal to that of a truck.

Los Angeles Trailer Company

1328 Palmetto Street, Los Angeles, Cal.

good horses and gear cost as much to buy as a small tractor while the machine does the work in half the time and doesn't need to rest every round on a hot day.

The quality of the work as well as the time expended must be noted, and you can't work that out by keeping tab on the money spent—not by dollars. The time has come in some sections where it is easier to find a good machine man than it is to find a really first-class teamster. A good man can drive very close to the trees without injury. For the tractor doesn't weave out of line like a four-horse team does. It goes where it is steered on the level and eats nothing when it is idle. But every owner should take the time to make himself thoroughly familiar with its requirements and then faithfully carry them out. To halt for any small adjustment and send to the shop for a trained man won't do—even a cracked plug porcelain has sometimes been responsible for this. We have to locate any little trouble (should it occur), correct it and drive on. If Bill can do it, Sam can learn to in short order.

TRACTOR IMPLEMENT EXHIBITS.

The tractor tents at the State Fair contained a great deal besides tractors. The man who wanted to learn all the fine points about plows had at least a full day's work in store. It was more than the writer could undertake this time, except to chronicle the number of makes in another article. There was every shape of mold board from the augers built to lay any sod strictly upside down to the big gangs built to plow the hardest soil a foot deep. Disk plows of several sizes and in multiple gangs introduced some new features of attachment and adjustment. Disk cultivators, single, double, automatic, and power-lift, were next most prominent. Killefer deep tillage cultivators, chisels, and subsoilers illustrated the whole gamut of subsoil farming. Land levelers occupied a prominence never before attained.

The Schmeiser Manufacturing Company and Holt Manufacturing Company, who always exhibit their standard giant levelers, had some of them at the State Fair. Three new land levelers appeared this year. The Sandstrom leveler for operation by the driver of a small tractor was a great attraction. The blade of this machine is raised and lowered between sled runners by means of a counterbalanced lever. A cable from the upper end of the lever is wound up on a windlass beside the tractor driver's seat at will to work the lever.

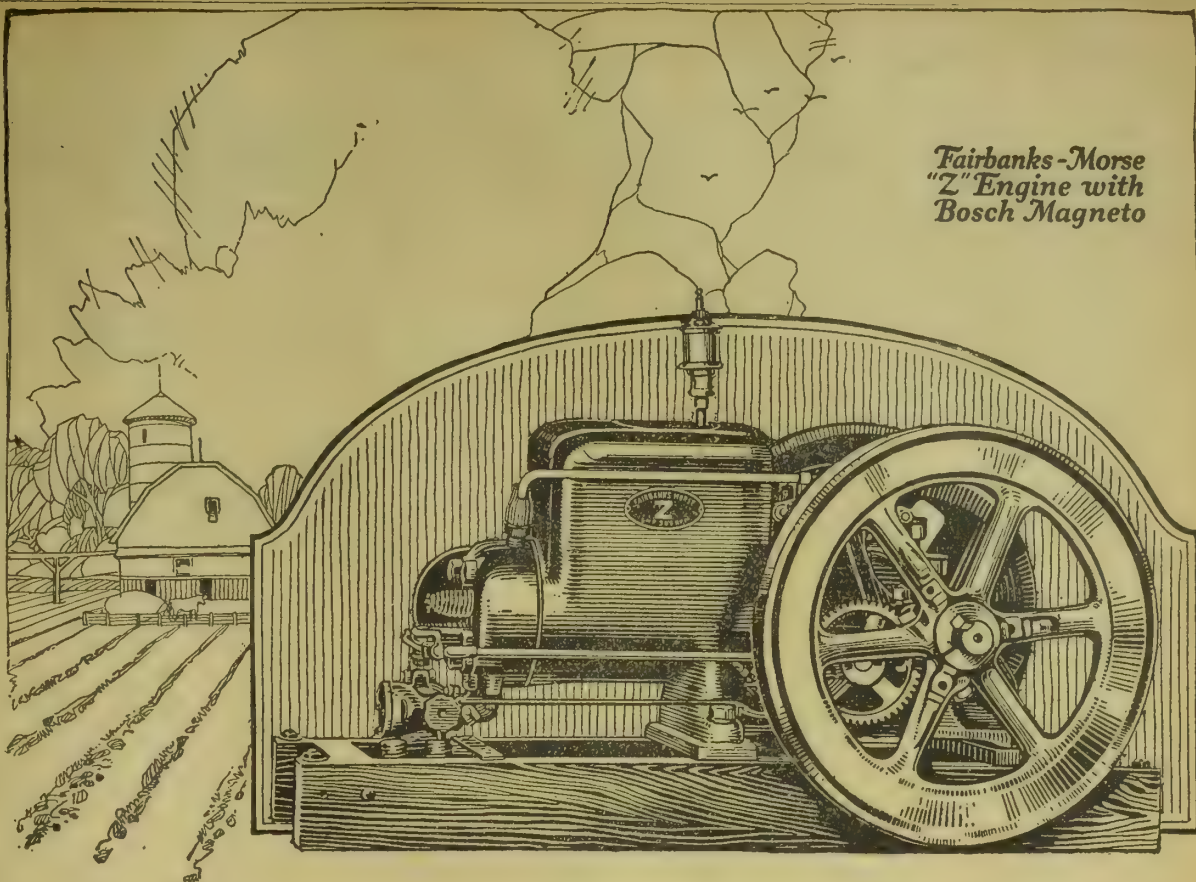
The Purviance levelers, also built to be manipulated by the drivers of small tractors, were there for examination. These were described in a recent issue.

The San Jose scraper built for two horses found its way into the tractor tent. A five-foot blade with forward-reaching wings hangs from a platform which is balanced on two wheels. Ingenious but simple levers worked by foot through the platform, lock the leveler blade at any height. It is raised and lowered by the operator stepping back or forward on the platform whenever it is not locked by the foot ratchet.

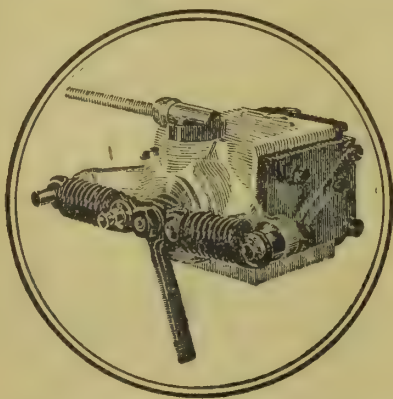
The G. M. C. factory recently ordered 180,000 tons of steel, all to be delivered at their Janesville, Wis., factory. This will be used in automobiles, motor trucks, and Samson tractors. Their Sieve-grip tractors are all made in the East now for economy's sake, but are assembled in California, also for economy's sake.

It cost F. C. Critchett of San Joaquin county 41 cents per acre besides labor to plow 300 acres using an 18-36 tractor plowing 96 inches and using distillate, which cost 12½ cents per gallon. The 41 cents included oil, plow sharpening, repairs, etc.

The New York Belting Company notified its San Francisco office August 25 of a ten per cent advance on Test Special belting, the advance to take effect immediately.



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Reflections--"After the Battle"

(Written for Pacific Rural Press.)

Holsteins-Friesians.

Sometimes when a prize is offered for competition there is a qualification attached saying that it shall be won three times in succession before the prize becomes the actual property of the winning contestant, and when so won becomes indeed a guerdon of high honor. Of course, winning the grand championship the third time in succession at the State Fair this year with their wonderful show and breeding bull, King Segis Alcartra Prilly, the Bridgford Holstein Co. of Patterson does not have any mortgage on that prize in the future, but it is certainly a very high honor, especially when won in a class with such strong competition.

The honor, however, is not altogether in this bull simply winning in his class, but his get won almost all the way down the line. His daughter, Empress Pontiac Prilly, was junior champion heifer and grand champion female; his get, first in calf herd, first in breeder's young herd; in the senior heifer class first and second, and same in junior heifer class; first senior and junior yearling heifers; second, third, fourth and fifth places in senior bull calf class, only losing first place in this class to that great youngster, Sir Aaggie Korndyke Mead, bred by the A. W. Morris & Sons Corporation and owned by Dolcini of Davis.

The showing made by the other great herds of California was only slightly less in merit, as the W. J. Higdon herd of Tulare, the Henderson Co. of Sacramento, the J. S. Gibson Co. of Williams, and H. E. Cornwell of Modesto were right along a close second where they were not winners. Surely a great Holstein show probably not excelled anywhere.

Ayrshires.

The Ayrshires were a goodly lot of Scotch "coos," both to look at and in performance. Wonderful in quality and substance, the herd of J. Henry Meyer of San Francisco had the best of it, but was closely followed throughout by the McFarland herd and Preston School of Industry.

Jerseys.

The beautiful Jersey was exceptionally well represented, both in quality and numbers to Holsteins. J. E. Thorpe of Lockeford and Dr. H. W. Hand of Orland carried off the largest number of prizes, although Guy Miller of Modesto and S. F. Williams of Chico were close in the running all the time. Sunshine Farm of Modesto also made a very creditable showing. Last but not least is the showing made by M. Fortini of Orland with the senior heifer calf, Jewel of Trintagel, winning first in class and made junior champion. Mr. Fortini only showed the one animal but certainly made a great "killing" for the number shown.

Guernseys.

Honors in the Guernsey classes were divided principally between A. B. Humphreys of Escalon and Elliott-Brant Rancho of Owensmouth, although L. D. Smith of Berkeley had a good herd on exhibition and won in

some classes. The railroad strike in southern California prevented one great herd from showing in this department.

Shorthorns.

The "reds, whites and roans" were surely in evidence as far as quality was concerned, although in numbers they were lacking. The herds of San Julian Rancho, Hillcrest Stock Farm and Pacheco Cattle Co., carried off the most of the honors, although Wm. Bond of Newark had a very good herd on exhibition.

The grand champion bull, Basham Augusta, owned by Thos. B. Dibblee Estate, was somewhat deeper and better filled in the front than his closest competitor, Pacheco Marshall. The aged bull, Hallwood Flash, owned by the Dibblee Estate, is a great bull, but was alone in his class. Wm. Bond had a good youngster in the junior yearling bull that may be heard from later.

In the females, T. S. Glide's Little Sweetheart was first in class and grand champion. She is a wonderfully thick, straight, deep animal, with a very typical Shorthorn head and about the only fault she has is a slight gauness about the tailhead.

Herefords.

Again we have to fault the numbers rather than the quality. Bunting's Mission Chief, a junior bull calf, was first in class and grand champion bull of the breed. A very straight, typey youngster that surely ought to be heard from in the future. Barn-grover's Patrician 5th was first in aged bulls, but had no competitor.

Alamo Reuben, shown by Riverside Hereford Ranch of Nevada, was first in two-year-old bull class, winning over G. W. Emmons' two entries with more scale and substance.

The females were headed by the polled cow, Pearl, shown by J. D. Brunton of Aspen, Col., who was first in the aged cow class and made grand champion. She is a very stylish, straight animal and worthy of the place she won.

The Dairy Shorthorns.

Very few, if any, fairs or livestock shows of the country will have as good an exhibit of this great class of dual-purpose cattle. Two of the greatest herds on the Pacific Coast and two smaller ones were represented. Foothills Pioneer, owned by Thos. Harrison, was grand champion bull, although he had strong competition. Harrison also had junior champion bull in a very classy youngster, Count Tickford. Harrison won in the male line, but Alexander & Kellogg had a great showing in the aged cows, winning grand champion cow with Lady Beatrice and first in the herds, but Harrison winning firsts in heifer and calf classes with a beautiful lot of heifers. Glen Dorothy, a senior yearling heifer, will be heard from both in the showing and at the fall in the future.

Berkshires.

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Registered Holstein Friesians.

YOUNG SERVICE BULL FOR SALE

Prince Abbecker Aralla Walker, No. 204267—Three-quarters white. Write for pedigree and price. Inspection invited and satisfaction guaranteed

this great breed? The judge, Wyman N. Lovejoy, said they were better as a whole than the showing at Illinois. Sandercock won grand champion boar with Natomas Baron Duke, a son of Baron Duke 201st, a great son of his father, smooth, long and thick, with a strong back and standing fine on his feet. A. B. Humphrey won grand champion sow and champion barrow. Muddox & Son won first in the aged boar class on Rincon Leader, an excellent type and well worthy of the prize.

Western Berkshire Congress prizes for new exhibitors winning the greatest amounts went first, to Muddox & Son; second, to J. A. Parker; third, Italian Vineyard Co.; fourth, S. A. Brittain; fifth, Fair Oaks Ranch.

Duroc-Jerseys.

Strong in numbers as well as quality, the big type hog was much in evidence. Exhibitors from all parts of the state defying all difficulties, made the greatest show of the breed this state has ever staged. Aged sow and junior yearling classes were very hotly contested, and Judge Putnam surely had his work cut out for him, but he placed them to the general satisfaction. The differences were so slight that it was no disgrace to be placed down in the line. Model Defender Lady was first in class and grand champion sow of the breed. Truly a wonderful backed sow, with good feet and lots of quality. Sensation Wonder 1st, shown by Slocum & Son, was the grand champion of the show and is a grand example of the big-type hog. Slocum also had junior champion boar in Uneeda Invincible Col. The Diamond Bar Ranch had a boar of great bone and substance in Mammoth Sensation 2nd that was first in class, and they also won in three of the young sow classes. J. E. Thorpe of Lockeford had an exhibit of greater worth than many, in that it was all of his own breeding. His boar, Freddy You'll Do, is a good one, although placed fourth in his class. H. M. Berglund, Witherow & Stafford, Jack Borge, W. J. Fulgham & Sons and others, all were there with good ones and won their share of the ribbons.

Poland-Chinas.

"Many are called and but few are chosen." Numbers, yes, and quality of the highest. Perhaps not all of them of the extreme type, although that was the type with which Judge Shattuck started and to which he consistently adhered throughout. In the boars, Chas. Gatewood of Fresno won the grand championship with the junior yearling, Giant Bob, a very strong, smooth, upstanding fellow of great size for his age and a promise almost sure of filletment that he will grow into one of the largest boars in the United States. McCarty & Starkweather won grand championship on sows with Big Model Mary 3rd, a very deep, smooth, upstanding sow that is about as near what the fashionable breeders are looking for as one could wish. J. E. Lehman won more prizes than any other one breeder, including the beautiful silver loving cup given for the best futurity litter. W. A. Young was in the running all the time and had many prizes to his credit when the show was over. M. Bassett & Son were there with a lot of good ones and had the grand champion barrow over all breeds, as well as first prize pen of three barrows. Many other breeders were there and won their share of the prizes and helped make the largest and best Poland-China show ever held at a California State Fair.

Chester Whites.

The number of herds was greater than at previous fairs, with quite a number of new breeders showing. C. B. Cunningham of Mills had rather the best of it in the number of prizes won. He received both grand championships and firsts on herds, get of sire, and produce of dam, with nearly all firsts in classes. Mrs. L. M. Yore had a great exhibit, but did not have quite the quality and type of Mr. Cunningham's herd.

Altogether the swine show was a great one and one that will be hard to excel from point of quality, although from the way California is taking to swine we may expect a larger one next year.

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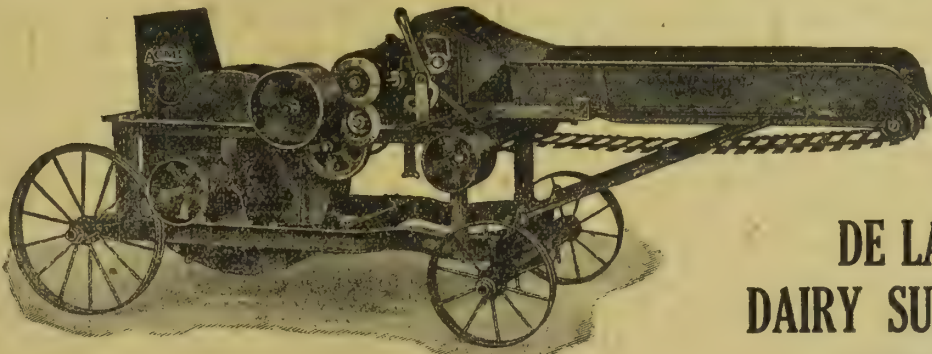
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One three-year-old bull bred by H. R. Clay.
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Along the Livestock Trail

(Written for Pacific Rural Press.)

Happenings at Hillcrest Farm.

On a recent visit to Hillcrest Farm, Davis, some of the men happened to be hauling wheat straw from the fields and running it through a feed-cutter with blower attached. One lone man had arrived with a load some distance ahead of the rest, and instead of waiting for more help he immediately started the electric motor by which the feed cutter was operated and proceeded to "cut" his load alone, and store it with the assistance of the blower in the far end of a barn 108 feet long. "The world certainly do move" in agricultural and livestock circles, as well as elsewhere, as forty years ago it would have taken at least 5 men to accomplish what one was doing alone. Another man usually "fed" the cutter, as it would expedite operations somewhat, although one man alone was doing very well.

This visit mentioned above was not for the purpose of getting notes on mechanical devices for expediting farm labor, but rather to inspect some of the Shorthorns that are always found at their best at this place. While it is possible to apply labor-saving machinery to preparing bedding (for which the straw was being cut), grinding feed and cutting ensilage, it is not possible to prepare feed and fit the "reds, whites and roans" in any except the methods that have been employed for years and for which only the few, of whom Wm. Robertson, herdsman for Mr. Glide, is surely one, are really fitted.

Mr. Glide's Shorthorns certainly have been coming along in great shape and show emphatically the results of excellent care and fitting that no machinery could ever be made to do. Nothing but the watchful eye and careful hand can ever produce the results attained in Spicy Lady and Little Sweetheart and many others. They certainly ought to give a good account of themselves in the show ring this fall.

Greenwood Farm Durocs.

Witherow and Stafford of Live Oak certainly have a great start in Duroc-Jersey swine breeding and when they get in full swing with all the Durocs that 80 acres of alfalfa and 160 acres of barley will carry they certainly will have "some hog ranch." If they continue with as good stock as they have started, and they will, again we will say, "Some ranch!" Johnson's Defender, Jr., their senior herd boar, is a very promising boar, both as an individual and as a breeder. His pigs are a very uniform, smooth lot, with plenty of stretch and quality.

Herefords at the Diamond G Ranch.

This article will seemingly deal more directly with grades of Hereford breeding than with the purebred ani-

mals. It must not be inferred from this that Mr. Gable, owner of the Diamond G, has nothing but grades, as he has one of the most noted herds of that famous breed in California. It will show, however, that great skill and judgment have been displayed in the management of his herd on the range.

Fifteen years ago Mr. Gable purchased a bunch of three-quarter bred Hereford cows and heifers, and placed them on his range in the Western part of Yolo county. Since that time he has used purebred sires continuously, sparing no pains to procure such bulls as he thought would improve his herd most rapidly. He was also careful not to overstock his range so that plenty of feed would always be in evidence not only to the eye, but in the condition of the cattle. Not only was Mr. Gable careful about the range feed, but plenty of water, pure and clean, was furnished first from springs, but when that became inadequate by power pump. In this way the cows nourished the embryo calves properly, furnished plenty of milk for the youngsters after they were born, and there was sure to be plenty of grass after they were weaned to continue their growth.

It is a common thing among good sheep and hog men to provide "creeps" for the lambs and pigs so they may have access to grain feed at all times to supplement the dam's milk, but Mr. Gable arranged a water trough so that the calves had access to pure, clean drinking water, undisturbed by the older cattle. We all know the "dog in the manger" attitude of the larger, stronger, more aggressive cattle toward the younger and weaker, causing actual suffering at times if some such provision is not made.

The results obtained by the above-mentioned careful supervision and management, combined with the use of first-class purebred sires, certainly are an object lesson well worth the inspection of those who are doubtful as to the value of such methods. This range herd is to all intents, and for all feeding and market purposes seemingly the equal of a purebred herd. The cattle have size, uniformity, both in conformation and color and the quality and disposition that makes for economical feeding. Fifty cows could be selected from this grade herd that would pass inspection as purebreds anywhere. Does any one think that Mr. Gable could be convinced that he could have accomplished like results or "made as much money" by using scrub bulls? Or is there any one who would have the temerity to suggest to him that he had better turn in some scrub bulls with these cows now?

The San Francisco Livestock Show

(Written for Pacific Rural Press.)

Entries are beginning to arrive at headquarters for the California International Livestock Show for the big exposition of purebred livestock to be held in the California Building at the Panama-Pacific grounds, San Francisco, November 1 to 8. Manager Gordon H. True says that strong competition will be the rule in every class as the State Fair and a number of county fairs will serve the purpose of eliminating some of the plainer animals and leave only the best for the San Francisco show.

It has been the custom in the Middle West that the early shows, while strong in numbers, are sometimes lacking in quality, whereas the later shows are confined to the prize-winners of the earlier fairs. This will be the first time that California has had such a stock and poultry show, because many exhibitors heretofore have been satisfied to make their only display at the State Fair and rest upon the honors won by one showing.

Coming at a time of the year particularly desirable for beef cattle men,

the honors won by one showing. the classes in this section will be much stronger than at any other exhibition of livestock in the State. Dairy cattle classes have been given the same treatment as beef cattle in the apportionment of premiums as every class of farm animal is sought to make this a complete livestock show. Swine exhibitors will also find that they have been liberally taken care of in the premium list, as have the sheep, poultry and rabbit exhibitors.

Work has been started on the arena built inside of the California Building in which will be held a nightly horse show and the livestock parades. Four inches of tan bark on a layer of clay will furnish the foundation for the ring.

The Senior Boar Pig and Junior Champion at the Iowa State Fair was Ames Rival 199th, a son of Mayfield Champion, who was bred by Wm. Carruthers and bought by Dean C. F. Curtiss at Carruthers Farms' auction sale two years ago.

Pork Production

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will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

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80 Bred Sows, Gilts and Boars

To be sold without reserve from the best herds in Kings County.

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(Concluded.)

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Steers, any breed, pure bred or grade.—Exhibitors: C. Swanson & Sons, Sacramento; J. D. Brunton, Aspen, Colo.; J. A. Bunting, Mission San Jose; T. S. Glide, Davis; Kern County Land Company, Bakersfield; Pacheco Cattle Company, Hollister.
Steers, two years and under three.—First and second: Kern County Land Co.
Steers, one year and under two.—First: Glide. Second: Pacheco Cattle Co.
Junior steer.—First: Bunting. Second: Brunton.
Champion steer, any age.—Kern County Land Co.
Car lot steers.—First: Kern County Land Co. Second: C. Swanson & Sons.

SWINE.

Chester Whites.—Exhibitors: C. B. Cunningham, Mills; J. Dorsey, Jr., Applegate; E. E. Fulton, Fair Oaks; Hiram Hendern, Fair Oaks; Mrs. L. M. Yore, East Auburn.
Senior champion boar, one year old or over.—Champion: Wildwood Boy, Cunningham. Reserve champion: Ursa, Yore.
Junior champion boar under one year.—Junior champion: The Gambler, Cunningham. Reserve junior champion: Silver Top, Cunningham.
Senior champion sow, one year or over.—Champion: Billiken Belle, Cunningham. Reserve champion: Wonder Betsey, Hendern.
Junior champion sow.—Champion: Echo, Cunningham. Reserve Champion: Victoria, Fulton.
Grand champion boar: Wildwood Boy, Cunningham.
Reserve grand champion: Silver Top, Cunningham.
Grand champion sow: Billiken Belle, Cunningham. Reserve grand champion sow: Echo, Cunningham.
Boar, two years or over.—First: Wildwood Boy, Cunningham. Second: White Coronado, Carlson.
Boar, senior yearling.—First: Uren, Yore. Model, Cunningham.
Boar, junior yearling.—First: Uren, Yore. Second: Royal Wonder, Dorsey.
Boar, senior pig.—First: The Gambler, Cunningham. Second: Crescent Dick, Cunningham. Third: Merak, Yore.
Boar, junior pig.—First: Silver Top, Cunningham. Second: Silver Heart, Cunningham. Third: Victor, Fulton. Fourth: Placer Boy, Dorsey. Fifth: Unnamed, Yore.
Sow, two years or over.—First: Billiken Belle, Cunningham. Second: Wonder Bernice, Hendern. Third: Lady Lenora, Cunningham. Fourth: Mary Lou, Yore.
Sow, senior yearling.—First: Emily Wing 2nd, Cunningham. Second: Myra 2nd, Yore. Third: Myra's Girl, Dorsey.
Sow, junior yearling.—First: Wonder Betsey, Hendern. Second: White Queen 2nd, Cunningham. Third: Molly O, Yore.
Sow, senior pig.—First: Echo, Cunningham. Second: Miss Creation, Cunningham. Third: Irma, Cunningham. Fourth: Grace, Cunningham. Fifth: Tania, Yore.
Sow, junior pig.—First: Victoria, Fulton. Second: Silver Patria, Cunningham. Third: Silver Paula, Cunningham. Fourth: Victory Queen, Fulton. Fifth: Victory Bess, Fulton.
Herd, over one year.—First: Cunningham. Second: Yore.
Herd, under one year.—First: Cunningham. Second: Fulton. Third: Cunningham.
Herd, bred by exhibitor.—First: Cunningham. Second: Cunningham. Third: Yore.
Get of sire.—First: Get of Wildwood Boy, Cunningham. Second: Get of Wildwood Boy, Cunningham. Third: Get of Billiken Modeler, Fulton.
Produce of Dam.—First: Produce of Silver Maid, Cunningham. Second: Fulton. Third: Produce of Colleen Bawn, Yore.
Yorkshires.—Exhibitor: All entries made by and all awards made to H. C. Muddox & Son, Sacramento.
Hampshires.—Exhibitors: William Bond, Newark; Calla Grove Farm, Manteca; Spencer Ranch Company, Cranmore; Harvey S. Vanvlear, Lodi.
Ram, two years old or over.—First: Harkness 10, Calla Grove Farm. Second: Inverne Robertson, Vanvlear.
Ram, one year and under two.—First:

Unnamed, Spencer Ranch Company. Second: Unnamed, Spencer Ranch Company.
Ram, under one year.—First: Calla Grove 22, Calla Grove Farm. Second: Vanvlear 1, Vanvlear. Third: Calla Grove 24, Calla Grove. Fourth: Vanvlear 22, Vanvlear.
Ewe, two years old or over.—First: Harkness 47, Vanvlear. Second: Harkness 108, Vanvlear. Third: Harkness 112, Vanvlear.
Ewes, one year and under two.—First: U. of California 578, Calla Grove Farm. Second: U. of C. 595, Calla Grove Farm. Third: Wray 13, Vanvlear.
Ewes, under one year.—First: Vanvlear 4, Vanvlear. Second: Calla Grove 22, Calla Grove Farm. Third: Vanvlear 8, Vanvlear. Fourth: Calla Grove 19, Calla Grove Farm. Fifth: Vanvlear 11, Vanvlear.
Flock.—First: One entry, Calla Grove Farm. Second: One entry, Vanvlear.
Pen, to consist of four lambs, either sex, bred by and owned by exhibitor.—First: Calla Grove Farm.
Merino Type.—Exhibitor: 2 Bullard Brothers, Woodland. All awards in the five classes to Bullard Bros., Woodland.
Long Wool Type.—Exhibitors: I. A. Burrows, Newville; Ellenwood & Ramsay, Red Bluff; Spencer Ranch Co., Cranmore.
Pen of three rams, two years old or over.—First: One entry, Spencer Ranch Co. Second: One entry, Burrows.
Pen of three rams, one year and under two.—One entry, Ellenwood & Ramsay.
Grades and Crosses.—Exhibitor: Calla Farm, Manteca.
Wether, under one year.—First: One entry, Calla Grove Farm.
Rambouillet.—Exhibitors: Bullard Brothers, Woodland. All awards in this section made to Bullard Bros., Woodland, the only exhibitor.
Romneys.—Exhibitor: Spencer Ranch Co., Cranmore. All awards in this section made to Spencer Ranch Co., Cranmore, the only exhibitor.
Corriedales.—Exhibitors: Ellenwood & Ramsay, Red Bluff, Calif. All awards in this section made to Ellenwood & Ramsay, Red Bluff, the only exhibitor.
Cotswolds.—Ram.—First: Unnamed, I. A. Burrows, Newville.

HORSES.

Percherons.—Open class.—Exhibitors: M. Bassett, Hanford; H. G. Learned, Stockton; James Marwick, Santa Barbara; Merritt-Bowers Co., Tulare; N. W. Thompson, Patterson.
Stallions, four years old or over.—First: Ithos, Bassett. Second: Kerry, Thompson. Third: Palo Alto Prince, Thompson.
Stallions, three years and under four.—First: Sensation, Thompson. Second: Rover, Thompson. Third: Woodland, Merritt-Bowers Co.
Stallions, two years and under three.—First: Major, Marwick. Second: Pedro, Thompson. Third: Kingston, Bassett.
Stallion, one year and under two.—First: San Gabriel, Thompson.
Champion Stallion: Ithos, Bassett.
Champion mare: Fredora, Marwick.
Shires, Open Class.—Exhibitors: Easton & Ward, Diablo; Merritt-Powers Co., Tulare; N. W. Thompson, Patterson.
Champion stallion and champion mare: Easton & Ward.
Stallion, four years old or over.—First: Easton & Ward. Second: Easton & Ward. Third: Easton & Ward.
Stallions, three years and under four.—First: Easton & Ward. Second: Easton & Ward. Third: Thompson.
All entries under mares made by and awards made to Easton & Ward.
Clydesdale, Open Class.—Exhibitor: All entries made by and all awards made to O. H. Brandt, Shellville, Cal.
Belgian.—Exhibitors: Fred G. Harrows, Madison; Merritt-Powers Co., Tulare; N. W. Thompson, Patterson.
Champion stallion: Labaurer, Thompson.
Champion mare: Raby, Merritt-Bowers Co.
Belgian Stallions, four years old or over.—First: Merritt-Bowers Co. Second: Merritt-Bowers Co. Third: Merritt-Bowers Co.
Stallions, three years old or over.—First: Labaurer, Thompson. Second: Oab, Thompson.
Stallions, two years and under three.—First: Merritt-Bowers Co.
All entries of Belgian mares made by and awards made to Merritt-Bowers Co.

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is California's greatest representative of Defenders, the greatest Duroc family. At the State Fair he was the smoothest boar shown, weighing 700 pounds at 17 months and carrying it on a perfect set of feet and legs. He won second in the strongest class of boars ever shown on the Coast and was a popular favorite. Three of his brothers won ribbons in the same class, showing the strength of this line of breeding.

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LOS ANGELES

Livestock and Dairy Notes

LIVESTOCK SALES DATES.

September 30—Dimmick Bros. and De Raad, Hanford. Disposal sale of Poland-Chinas.

October 4—H. I. Marsh and Les McCracken, Modesto. Poland-China bred sows and gilts.

October 7—M. & A. L. Bassett, J. A. Crawshaw and F. D. Ross, Hanford. 75 head of Poland-Chinas.

October 11—Kings County Poland-China Breeders' Association, Hanford. Consignment sale.

October 16—H. M. Elberg, Roselawn Stock Farms, Woodland. 45 head of Shorthorns.

October 18—Trewitt and Vaughan, Hanford. Poland-China bred sows and gilts.

October 21—Tulare County Poland-China Breeders' Association, Tulare. First consignment sale.

November 6—California Shorthorn Breeders' Association, San Francisco. Consignment sale.

November 7—Pacific Coast Hereford Breeders' Association, San Francisco. Third sale of Herefords.

January 14th.—By the State Duroc-Jersey Breeders' Association, Davis. A consignment sale.

January 31—Ireland Ranch, Owensmouth. 50 bred Duroc sows and gilts.

February 12—San Joaquin County Poland-China Breeders' Association. 60 bred sows and gilts at Lodi.

February 14—Castleview Ranch, Santa Rosa. Sale of 50 Bred Berkshire sows and gilts.

April 17—Butte City Ranch. Semi-annual sale of Shorthorns, Berkshires, Shropshires and Shetlands at Butte City.

FALL FAIRS AND SHOWS.

September 22-27—Kings County Fair, Hanford.

September 24-27—San Diego County Farm Bureau Fair, San Diego.

September 22-27—Glenn County Fair, Orland.

September 30-October 4—Fresno County Fair, Fresno.

October 2-5—Napa County Fair, Napa.

October 4—Contra Costa County Farm Bureau Fair, Brentwood.

October 4-19—California Industries and Land Show, San Francisco.

October 6-8—San Joaquin County Fair and Livestock Show, Stockton.

October 6-11—Land Show, Martinez.

October 6-11—Tulare Livestock Show, Tulare.

October 7-11—Southern California Fair, Riverside.

October 13-18—Northern California Apple Show, Second Annual, Eureka.

October 15—Kings' County Pork Producers' Contest, Hanford.

October 13-18—Tulare County Fair, Visalia.

October 18-26—Los Angeles Livestock Show.

October 25—Shasta County Farm Bureau Fair, Anderson.

November 1-8—California International Livestock Show, San Francisco.

November 3-7—Western Royal Livestock Show, Spokane.

November 9-14—Northwest Livestock Association, Lewiston.

November 17-22—Pacific International Livestock Exposition, Portland.

The Dairy.

Officers of the California Jersey Cattle Breeders' Association for the ensuing years are: J. E. Thorpe, Lockeford, president; J. E. Wherrell, Riverside, vice-president; Prof. V. C. Bryant, Berkeley, secretary; N. H. Locke, Lockeford, treasurer; Guy H. Miller, Modesto, Dr. H. W. Hand, Orland, Mrs. Hardie and C. G. Marrin, Escondido, directors.

The members of the Ferndale Jersey Breeders' Association are intending to make a large exhibit at the Northern Humboldt Fair at Arcata, September 25-27. They expect to exhibit enough cattle to fill two cars and have spoken for 25 stalls for them. These breeders say that if Arcata is public-spirited enough to hold a fair, they should be supported and they intend to help them all they can.



FINANCIAL WONDER PACIFIC HERD OF POLAND-CHINAS

Prolificacy, quick maturity and easy-feeding qualities.

MRS. NETTIE E. ANDREWS,
Modesto, Calif.

Ranch 2 miles east on Dry Creek Rd.

The big merger of co-operative creameries in and about Fresno is practically complete, according to a statement issued by Fred W. Hansen, president of the San Joaquin County Milk Producers' Association. The value of the twelve plants included is approximately \$690,000, and the final result will be a great saving to the producer by concentration of labor and elimination of duplication of milk route hauling and other labor.

Swine.

The Western Berkshire Congress will hold a bred sow sale on Wednesday, October 22, at the Los Angeles Live Stock Show. The offerings are to be of the highest quality and will give the stockmen of Southern California an excellent opportunity to procure some of the best Berkshires in the United States.

H. P. Slocum & Son, while at the State Fair, sold three junior yearling sows for \$2,000 to Witherow & Stafford of Live Oak and H. S. White of Chino. Two of these sows were granddaughters of King's Col. and out of a Golden Model dam. The other was sired by High Orion and out of Modelepa, the \$1,000 sow.

Tulare Market hog auction sales fell off last week from \$2.60 for the tops and \$3.60 for inferior grades. This drop is said to be due to the investigations by the government into the H. C. L. The top prices at the last sale and also at the one a month ago were brought by hogs averaging around 225 pounds.

Harvey M. Berglund sold a service boar out of his herd of Duroc-Jerseys to Dr. O. A. Hoffman of Walnut Grove. This young boar was sired by California Orion King, the boar that was second in class this year to the Grand Champion. Also the boar that defeated California O. K. last year was made Grand Champion then, but was in turn defeated by California O. K. this year in class. This gives Mr. Berglund's boar a very high rating and he may well feel proud of him.

The annual meeting of the California Duroc-Jersey Association was held on Monday evening, September 1st, at the Travelers' Hotel, commencing with an elaborate banquet. After the banquet Pres. Johnson called the members to order for the transaction of the regular business. Election of officers for the ensuing year resulted in the unanimous choice of R. K. Walker of the Winsor Ranch, Bonita, as President; Dolcini, Davis, Vice-President; S. E. Whiting, Sacramento, Secretary-Treasurer, and R. E. Braley, H. C. Witherow, Donald Graham and Harvey M. Berglund, Directors. A fund of approximately \$1,200 was raised in a few minutes by subscription for publicity and breed promotion. It was also decided to hold a January bred gilt and sow sale at Davis, the exact date of which will be announced later.

Sheep.

D. E. Kelliher of Eugene writes that he recently brought out from the East a carload of Hampshire sheep. Included were fine selections from the English flocks of Judd Ismay and Williams, selected for him by Robert S. Blastock, together with selections from the Butterfield, Detweiler, Howland and other leading American flocks. In the same shipment were 12 yearling ewes, sired by the \$1,600 Detweiler ram purchased at the Salt Lake Sale in 1917. A finer bunch of Hampshires never came over the Sierras, it is said.

Any one at all familiar with Merino sheep of the "large type," if we may borrow a term from our friends, the swine breeders, cannot help but be favorably impressed with the Rambouillet-Merino, or Bullard Merino, bred and exhibited by the Bullard Bros. of Woodland. These sheep are very large, blocky mutton type of Merino, with exceptionally long, fine wool of strong stylish fibre. They are really a breed by themselves and should be bred as such. The foundation of the flock was the American Merino brought from Vermont almost

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MERIT JERSEYS
A limited number of bulls for sale.

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Young Jersey bulls from Register of Merit dams with records up to 621.2 lbs. butter fat. Financial King breeding.
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We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

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MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

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Sired by Baron Duke 201st
Weight 780 pounds
Grand National Champion
Dammed by Rookwood Lady 100th
Weight 712 pounds
Grand National Champion

One and one-half years old. Big-boned, vigorous boar. Half-brother to 1919 Grand Champion that sold for \$1,000. I do not need this great breeder and he is being offered at a very low price. Sandercock Land Co., 23 Montgomery St., San Francisco. In charge of Natomas Land Sales.

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BERKSHIRES—Fair Oaks Ranch, Willits, California.

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FIVE MARCH GILTS—Good enough for anyone on earth. Sire, Big-Bone Bob. Dam, Mollie H. Blood lines, I. B. A. Wonder, Lady Wonder, A. A. Quackenbush, West View Ranch, R. F. D. 2, Acampo, Cal.

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CHESTER WHITES—BILLIKEN TYPE—The big winners at the State Fair. 15 extra choice spring boars, sired by the Grand Champion boar and out of Billiken sired sows. A few spring sow pigs; three bred Billiken sows and two gilts; all to farrow in October. Priced to sell; a chance to get the best type in the West at farmers' prices. Write for special catalogue and price list. C. B. Cunningham, Mills, Calif.

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BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale. Shorthorns; Shropshires; Berkshires; Ponies. Next sale April 17, 1920. All breeds.

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FOR IMMEDIATE SALE 6,000 SHEEP

Fine Shropshire and Rambouillet cross-bred lot.

All Ewes and bred by the Stanford Ranch at Vina. From yearlings up.

Will sell in big or small lots.

These sheep can be seen near Woodland.

They have not been sheared since last April; have heavy fleece of wool.

For further particulars, write, phone, or see

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PHONE 349

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150 purebred Shropshire rams.

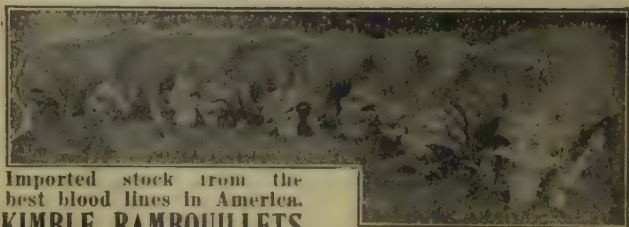
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Also 100 head ewes, ages 2 to 4 years old.

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Take electric cars at either Petaluma or Santa Rosa for Live Oak Station.



Imported stock from the best blood lines in America.
KIMBLE RAMBOUILLETS

will make money on any farm. Pure bred, large and smooth, with heavy fleece of fine, long staple white wool. Yearling and older rams. Breeding ewes. Any quantity. Prices attractive.

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Breeder and Importer

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For 23 cents per animal you can insure your calves against loss from Blackleg by having them vaccinated with PURITY BLACKLEG AGGRESSIN (Germ-Free Vaccine made by the Kansas process). ONE TREATMENT immunizes calves for LIFE, and there is no danger of introducing blackleg into healthy herds. We also have PURITY ANTI-HOG CHOLERA SERUM, PURITY MIXED VACCINE for swine, and PURITY HEMORRHAGE SEPTICEMIA VACCINES for cattle and for sheep. For service that counts and does not end with selling, write, phone, or wire

PURITY SERUM CO., J. L. Thatcher, Manager (Successor to Thatcher Serum Co.)
Riverside, Calif. Sacramento, Calif.

Cream and Milk Protection in Transport

(Written for Pacific Rural Press.)

The transportation of milk and especially cream for long distances is a necessary condition imposed upon dairymen in most parts of California. For a large part of the year, temperature conditions are unfavorable and some means of protection from the sun and heat is absolutely necessary.

While doing inspection work in Mendocino county this summer, I had ample opportunities to observe transportation methods, as there is quite a quantity of cream shipped to creameries at Petaluma and San Francisco. On many occasions, I have seen cream in 5 and 10-gallon cans setting out in the sun for an hour or more awaiting the arrival of the train, temperatures ranging during this time of day from 90 to 105 degrees. On arrival of the train, which is often late, the cans of cream are put into stuffy baggage cars, where the temperature is nearly always high. Cream may be delivered sweet at the express office and turn sour in less than one hour under these conditions. Imagine the shape of this cream when it arrives at Petaluma and San Francisco, after traveling from 4 to 7 hours on hot days.

Cream of this type is not fit to use in making butter, and quite often the

dairymen suffers a cut in the price of his butterfat, due to the conditions I have mentioned above. It is outrageous to allow transportation companies to handle milk and cream in this manner. There is no food product that I know of that decreases in quality so rapidly in hot weather as milk and cream and is handled so careless in its transportation.

Milk and cream should always be kept at a temperature of not over 50 degrees F. to insure it remaining sweet. This is a reasonable and necessary requirement, but is difficult to maintain unless transportation companies are required to keep milk and cream below 50 degrees F. while in their care, if it is received in that condition. To do this the companies should provide proper shelter for milk and cream on their trucks, platforms, and refrigeration during transit. They should make an effort to deliver milk and cream at its destination within a reasonable time.

Our legislature should pass adequate laws which would insure this protection to the producer, creamerymen, distributor, and consumer by assigning proper penalties for failure to meet these demands.

Result of State Butterfat Contest

(Written for Pacific Rural Press.)

The results of the three days' butterfat production contest of the State Fair, September 4 to 6, 1919, under the personal supervision of F. W. Woll, Professor of Animal Nutrition, University Farm, Davis, are given below. Such a contest, while not ex-

tending over a period long enough to show the real ability of an animal in the production line, still gives quite definite information. It is contests along these lines that are really worth while, and it would seem best that they be continued.

Name of Cow.	Owner	Days from	Total Production		
		Calving	Lbs. Milk	% Fat	Lbs. Fat
Sec. 1104—Cows 4 years old or over—					
St. Mawes Susy Olga.....	H. W. Hand, Orland.....	180	143.5	5.31	7.613
Floa Princess Walker.....	Jane Garden Farm, Sac'to.	9	257.5	2.70	6.986
Sunnyslope Duane Fr. W.....	Henderson Co., Galt.....	15	213.8	3.20	6.846
Model Bonnis Echo.....	W. J. Higdon, Tulare.....	3	182.6	3.50	6.391
Gladys of Venadera.....	Guy H. Miller, Modesto...	33	120.2	4.70	5.650
Coloma Beauty Buttermaid...	W. J. Higdon, Tulare.....	142	174.2	3.03	5.285
Carpeby Dairy Maid.....	Alexander & Kellogg, Suisun	46	113.3	2.87	3.255
Sec. 1105—Cows 30 mos. and under 4 years.					
Brilliant Jersey Queen....	H. W. Hand, Orland.....	88	113.2	4.58	5.186
Alta La Foss.....	S. F. Williams, Orland....	15	95.1	4.45	4.231
Nomie of Mossdale.....	J. E. Thorpe, Lockford....	20	97.7	3.97	3.881
Goldie of Sunshine Farm.....	E. E. Greenough, Merced..	13	97.0	3.92	3.800
Carol.....	Alexander & Kellogg, Suisun	132	95.3	3.50	3.335
Sec. 1106—Cows under 30 mos.					
Luma's Lola.....	H. W. Hand, Orland.....	33	108.9	4.81	5.236
Sterling Colantha.....	Jane Garden Farm, Sac'to.	11	108.7	4.42	4.804
Beauty of Sunshine Farm.....	E. E. Greenough, Merced..	15	94.7	4.08	3.867
Lady Lettie of Claremont.....	L. Dee Smith, Berkeley...	7	95.7	3.79	3.624
Cantata of Venadera.....	Guy H. Miller, Modesto...	170	57.7	6.13	3.538
Goldie Nehalem.....	J. E. Thorpe, Lockford....	51	80.3	4.25	3.409
Bonnie of Mossdale.....	J. E. Thorpe, Lockford....	76	52.0	5.91	3.072

LIVESTOCK SHOWS AND LAND VALUES.

Mr. Hugh G. Van Pelt, Jersey and Holstein-Friesian judge at the State Fair, gave in one of his speeches before the dairymen of the State during Fair week, a concrete example of the benefits any district or State obtains from having a stock or dairy show such as California is to have in San Francisco in October.

Several years ago Waterloo, Iowa, was the site of a district dairy show. Soon after this show had disbanded some local bankers went to New York in person to dispose of some Waterloo farm mortgages, which had been worrying them for a long while. To their surprise these mortgages were snapped up. Mr. Van Pelt heard of this rather unusual thing and upon inquiring, he was informed by the

Wall street bankers who purchased the mortgages that they had known of this dairy show and considered it to be the best indication as to the fertility and industry of the community. Therefore, the Iowa farm loan values for 100 miles around Waterloo jumped \$50 per acre on Wall street.

The Pacific International Live Stock Show at San Francisco will not only increase loan values for all of California, but will increase land values. The advertising this show will give on Wall street will aid us all in the future, just as it has at Waterloo.

Also, the local capital will act toward communities where the prize winners and outstanding exhibits hale from, just as Wall street will act toward all of California.

HAVE SOME NICE YOUNG BULLS

Sired by SIR VEEMAN KORNDYKE PONTIAC

and from A. R. O. dams for sale.

ALSO A FEW CHOICE POLAND-CHINA BOARS.

R. F. GUERIN,

Visalia, Calif.

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

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One mile east of town.

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Remco
Redwood
Pipe=Silos=Tanks
Made *Only*
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Redwood Manufacturers Co.

1608 Hobart Bldg., San Francisco
822 East Third St., Los Angeles

Poultry and Rabbits for Profit

FUR-BEARING RABBITS TO SHOW.

The California Rabbit Breeders' Association has announced California will soon rival Australia, Great Britain and Ireland, the great rabbit-producing countries of the world.

The modest rabbit has come into its own as a fur-bearer. The desirability of its meat has long been known to the gourmand. It is more delicate than chicken and enjoys an unusual flavor. But it is the fur-bearing bunny that California breeders are largely interested in.

The rabbit today parades under many furry disguises. Those who know, according to Mrs. Leroy Hackett, president of the California Association, declare that the costly mole, some grades of so-called foxes, chinchilla, ermine, electric seal, Baltic seal and other pretentious coats found their origin in the humble pelt of the bunny.

"The wild fur-bearing animals are decreasing," declares the president, Mrs. Hackett, and the demand for furs is becoming greater, the natural supply is becoming smaller. This condition must be met."

As for the rabbit, California produces the finest fur-bearing rabbits in the world. Texas is a close second; Utah and Oklahoma are great producing States. But conditions in this State are ideal. The rabbit thrives in all season out-of-door life and upon alfalfa hay and barley. All of these may be had in California 365 days in the year.

One hundred fur-bearing rabbits, for which California is becoming famous, are to be exhibited by the California Rabbit Breeders' Association at the California Industries and Land Show, to be held October 4 to 19 at the Exposition Auditorium, under the auspices of the Home Industry League of California.

LICE ON CHICKENS.

To the Editor: Please tell me the best method to get rid of lice on chickens about three months old; also hens? We have been told to give them a bath in sheep dip solution, but others tell us that if we have it strong enough to kill the lice it will injure or kill the chickens. We have been farming one year and your valuable paper had been a great help to us in many ways.—Mrs. B. J. Porterville.

The quickest way to rid chicks and fowls of the large body lice is to dust each one with insect powder, and repeat in about one week. If the young and old fowls are supplied with an earth-bath they will rid themselves of most of the body lice. Dry dust will answer the purpose, but fine loam is better for the reason that fine dry dust sometimes carries disease germs into the throat or lungs and it is not so soothing for the fowls as the moist loam. The loam should be kept moist but not very wet—just as it should be for planting seeds. All fowls, including chicks, thrive better if they have constant access to an earth-bath. To quickly destroy and prevent perch lice, or night mites, thoroughly spray every part, including ceiling and floor, of the sleeping quarters with stove distillate, in which is mixed about ten per cent of liquid lice killer, crude carbolic acid, or something similar. This stove distillate is the cheap kind used for burning, with patent burner, in kitchen stoves, and is obtainable almost everywhere. It is also known as medium or blue distillate to distinguish it from the crude and the engine distillate.

PULLETS ACT WOBBLY.

To the Editor: What ails my pullets? I have lost some. They throw their heads back and act wobbly. Then then sit down or fall backward and their combs pale. They die in two or three days. I give them commercial scratch feed in the evening, and sprouted barley and oats in the

forenoon; also give greens and keep dry mash before them all the time. They have no chance to get any refuse. Would like to know what to do.—A. L., Soquel.

These fowls act as though they had eaten deadly nightshade (*Atropa belladonna*), which may have been given them with the greens. This plant thrives in shady creek beds and sheltered portions of wood lands and thickets. It is a small plant with reddish bell-shaped flowers that somewhat resemble the bloom of potato vines, to which plant it is related, and yields shining black berries. The drug, belladonna, is made from the leaves and roots—the whole plant is poisonous. For a remedy, make an infusion or tea of galls in which, while lukewarm, dip the fowls head several times and allow it to swallow some of the tea. Use care to avoid strangulation. After drying the fowl's head swab its throat with one drop of tincture of iodine. A swab may be made by twisting a small portion

of cotton on the end of a toothpick. The galls of any animals may be used and these are usually obtainable at retail butchers.

REFRIGERATING PLANTS FOR EGGS AND POULTRY.

American farmers and poultry raisers are losing an average of \$200,000,000 yearly because of improper methods in handling at the point of production, Dr. Mary E. Pennington, who is in charge of poultry and egg investigations for the Department of Agriculture, told the House Agriculture Committee recently. Dr. Pennington was asked by the committee to give her views on proposed regulation of cold storage plants and her statement relative to losses by the farmers was made in that connection.

"Better handling of eggs and poultry at the point of production will eliminate great losses all along the line," Dr. Pennington said. "I think the industry aggregates a production of about \$1,000,000,000 per year, but it is not all realized. The farmer must hold his stock under refrigeration if he is going to get a stock of any magnitude. The refrigeration is

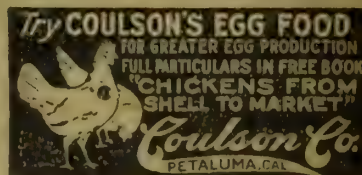
the thing that is lacking. It has been developed greatly in the last few years, but greater strides should and are coming.

Dr. Pennington made a strong plea for the use of refrigerating plants wherever such were available. She declared that eggs could be kept in storage for twelve months without deterioration or loss and that the same time limits applied to poultry.

PROBABLY RHEUMATISM.

To the Editor: Some of my hens are getting lame and die after a couple of weeks' illness. Is there any cure?—J. L., Salinas.

It is impossible to determine the exact nature of the trouble from the above imperfect description of symptoms, but, assuming that our correspondent would have mentioned any



Make your hens moult quickly



Get more winter eggs

The moult is a severe test of a hens strength. It calls on her to supply all her surplus energy and flesh to make feathers. Hens must have a tonic during this critical period, to supply them with more energy, and help them to digest and use every ounce of the feed. Make your hens moult properly this year, by giving them

Dr. LeGear's Poultry Prescription (Powder)

in their feed. This prescription, compounded from my 27 years veterinary and poultry raising practice, absolutely cuts down the time and strain required for moulting, keeps hens in strong, vigorous condition and insures your getting more winter eggs from your hens. Don't lose profits from high winter egg prices by neglecting your hens during the moult. Try this famous remedy, recommended by thousands. I guarantee that it will help make your hens lay more eggs.

Dr. LeGear's Stock Powders.
produce perfect digestion, drive out worms, increase growth and production.

Dr. LeGear's Antiseptic Healing Powder.
cleanses, dries and heals sores and cuts quickly, handy to use, in sifter top cans.

Dr. LeGear's Lice Killer (powder) kills your flock quickly of lice, protects chicks, etc.

Money Refunded

through my dealer, if any remedy bearing my name fails to do what I claim for it. Ask your dealer for a package today. Sold by 40,000 dealers—never by peddlers.

Dr. L. D. LeGear Medicine Co.
767 Howard Street, St. Louis, Mo.

Dr. LeGear's Poultry Prescription



PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

Western Meat Company

SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

outward indication of injury, we suggest that it may be a form of rheumatism which, at times, attacks flocks of fowls that are fed an abundance of rich feed and are supplied with little or no greens or fresh vegetables. Often this form of rheumatism is complicated by a formation of liquid in the sack covering the heart and sometimes, in such cases, the fowls die suddenly and without any apparent cause. As a remedy, give an abundance of greens and vegetables and in as large a variety as possible; temporarily reduce the heavier and rich feeds, and give in each quart of the drinking water fifteen grains of iodide of potassium.

RHODE ISLAND REDS EARLY LAYERS.

To the Editor: At what age do Rhode Island Red usually lay? I had one that began laying at four months and six days and one at four months and seven days. Are these record breakers?—V. M., Del Rey, Cal.

Rhode Island Red pullets frequently begin laying when between four and five months of age. However, in order to allow the pullets to gain a maximum of vigor and attain large size, and to avoid quite a long period, during which small eggs are produced, it is preferable for them to begin laying when they are about six months old. As a means of postponing egg production, the pullets should have a large proportion of bulky feeds and a lesser amount of concentrated stuff; avoid feeding large portions of finely ground rich meals and meat until it is desirable to start them laying.

LAYING HENS SHOULD TAKE EXERCISE FREELY.

During the spring season fowls having free range get abundant exercise. Close confinement without exercise is not conducive to the best results, although the feed provided may be the best, for idle hens soon grow too fat to lay. It is almost impossible to give laying hens which are confined too much exercise. The fowls may be encouraged to exercise in various ways, such as feeding corn on the cob, suspending cabbage heads, beets, etc., so that the birds have to jump for them, and scattering grain in the litter. The litter should be from 4 to 8 inches deep, and may consist of straw (either cut or whole), hay, leaves, buckwheat hulls, shredded corn fodder, or any convenient material of this nature. The hens should be kept hungry enough so that they will work diligently all day for the grain scattered in this litter, which should be removed whenever it becomes damp or soiled.

The odor of whatever soils an egg will soon penetrate the shell and flavor the contents. Keep the eggs clean.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GESE, GUINEAS, Pea Fowl, Pigeons, Wm. A. French, 545 W. Park St., Stockton, California. Stamps.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hogenized and Trapped stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

BOOKING FOR WINTER, SPRING DELIVERY—Hundreds of chicks open most weeks this fall. Seven popular breeds clearing customers \$5 yearly. Greatest profit next year and all found in strains like ours, laying winters and 200-290-egg scores of generations back. Half chicks go to former customers. Doubling our 70,000 hatching capacity. Returned thousands of dollars for chicks we couldn't supply. **FEW HUNDRED BREEDERS**, laying, younger pullets going rapidly. 50c, \$2.00 underpriced. Circular with proof free. J. BEESON, Pasadena, Cal.

FIRST-CLASS PUREBRED S. C. BUFF Leghorn cockerels, only \$3.00 each. Just the bird you need to improve the laying ability of your flock. My motto is, "You must be satisfied." Oscar E. Wrieden, care Spiers Stage, Calistoga, Cal.

ANDERSON'S PEERLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels \$5 and up, 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties very week. Only good, strong youngsters shipped. Stubbe Poultry Ranch and Hatchery, Box 67, Palo Alto.

EASTMAN'S BRED TO LAY—Hogenized and trapped Barred Poultry Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

FALL BABY CHICKS—Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. Santa Clara Valley Hatchery, San Jose, Cal.


BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Voden, Box 3, Los Gatos, Calif.

WRITE FOR SPECIAL PRICES on Fall chicks. Willow Glen Poultry Yards, 10 South Lincoln Ave., San Jose.

ROCK, RED OR LEGHORN baby chicks—large or small lots. Right prices. Madera Hatchery, Madera, Cal.

FALL BABY CHICKS from our large heavy-laying S. C. White Leghorns. Send for prices. Tupman Poultry Farm, Box 7A, Ceres, Calif.

Male birds should be confined or disposed of as soon as the hatching season is over. This will provide infertile eggs, which will keep much longer than fertile ones. Hens will lay just as many eggs without a male bird as with one.



DR. HESS Instant Louse Killer Kills Lice

**For Use
On Your Poultry**

Seize the hen and dust Instant Louse Killer into the feathers. The handy sifting top can makes it convenient to use. Sprinkle it in the nests, on the roosts and floors. Put Instant Louse Killer in the dust bath occasionally—your hens will do the rest. This means louse prevention.

FOR STOCK

With one hand stroke the hair the wrong way, with the other sift in the Louse Killer. Especially good for lousy colts.

GUARANTEED. The dealer will refund your money if it does not do as claimed.

1 lb. 30c, 2½ lbs. 60c (except in Canada)

Dr. HESS & CLARK
Ashland Ohio

"I would never hatch another chick without one"

says John F. Forney, a successful poultry raiser of Kingsburg, Cal., "—if I could not have all my machines equipped with your regulator. The heat does not vary one-fourth of a degree during the last three or four days. Its action is almost human." Many others write us about the

CHARTERS REGULATOR

(Readily attached to your incubator. Part of the equipment of Charters Incubator.)

How it works:

It's the two thermostats that do the trick, one outside and one in the egg chamber, actually anticipating any change of temperature and automatically adjusting the size of the flame. The temperature outside may vary as much as 70 degrees, without producing as much as half a degree of change in the egg chamber. With the Charters you will not need an incubator cellar.

The big tank holds a fuel supply capable of running the lamp from 2 to 3 weeks. That means only one refill and trimming of the wick a week.



P. R. Lyding of Sebastopol, with twenty-six years of incubator experience, writes: "Your Regulators complete are absolutely the best I have ever used. I installed them myself—and can feel sure when machines are hatching, if unwatched, temperature will not vary to exceed one-half of a degree."

J. H. Stubbe, of Palo Alto, writes: We need not give the lamps any thought at night. The Regulator takes care of any changes in temperature perfectly. It is certainly a relief."

Many big hatcheries operating upward from one-hundred machines, are discarding all others and using Charters Regulators and Incubators exclusively. Owners of only one machine are finding the Charters Regulator a treasure.

Write today for free catalogue—or better still—let us have your order now, for your Charters. The Regulator is \$10; the incubator (equipped with Regulator) is \$65.

Remember: If the Charters Regulator and Incubator do not do what we claim for them—your money back.

See The Charters at principal fairs and poultry shows this year.

CHARTERS MANUFACTURING CO.

336 Soquel Avenue, Santa Cruz, California

GLOBE "A" FEEDS

—Judge them on Business Principles!

**FEED FOR SWINE,
STOCK AND POULTRY**

ASK YOUR DEALER

THE HOME CIRCLE

A RECIPE FOR PEACE WITHIN.
(According to St. Paul.)

Edith A. Talbot.

First, of rejoicing freely take—nor
stay thy measuring hand;
Ingredient too oft forgot,
It maketh raised and light the lot.
Then prayer; lacking this solid stuff,
thy mixture will not stand.
This, e'er thy chiefest stay,
Must be renewed each day.
To savor well thy mixture now, use
moderation duly,
That all may reckon fit
The pleasant taste of it.
Thou must keep clean thy mixing-
bowl from petty wishes truly;
Give them to Him above,
He will thy wants approve.
Then add for salt a dash of thanks,
which thou must ne'er forget.
So shalt thou have, for nought,
Sweet peace beyond thy thought.
This recipe is one, good friend, which
ne'er hath failed yet.

LITTLE BEAR AND THE LOST OTTER BABY.

One morning, while Little Bear was out camping with his father and mother, he went into the woods to pick daisies and bluebells, with which to decorate the entrance to their cave. His hands were full of flowers, and he was ready to go back with them to his mother, when he heard a baby crying. Little Bear stood still and listened; then he knew that the child who was crying was an Otter baby; he had heard Otter babies cry before.

"What is the matter, baby one?" called Little Bear. "What are you crying about and where are you? Did you bump your nose?"

"I am lost! Come and find me!" answered Baby Otter.

"You are hiding behind the oak stump!" exclaimed Little Bear, as he scrambled through the thicket and fairly pounced upon Baby Otter. "I spy!" he shouted.

"It isn't a game!" wiled the Otter Baby. "I tell you I am lost! I don't know where my mother went and I can't find my father! I want to go home! Oh, boo-hoo-hoo!"

"There, there, don't cry!" said Little Bear. "Tell me where your camp is, and I will take you home just as fast as we can go."

"But we do not live here!" com-

plained the lost baby. "Our home is Brookside, a long way off across country, and we are only camping out, and I do not know where our camp is! Boo-hoo-hoo-hoo!"

"Come, come, cheer up!" said Little Bear, using the very words his father often used when speaking to him. "I tell you I will take you home, and if it is too far away I'll ask my father to go. We are camping out, ourselves, down the river a little way. Now tell me how you happened to get lost."

So the Otter baby told him that the Otter family had gone out together after breakfast that morning, and that while they were laughing and chatting Baby Otter had strayed away from the path to pick flowers. The next thing that he knew he had been alone, and, not knowing what else to do he had sat down and cried.

"Well, wipe your eyes now, and give me your paw!" said Little Bear in big, grown-up tones. "My father showed me your camp only yesterday, and, and, if you are one of the campers, you live only a little way from here and I can take you home."

Of course Baby Otter wiped his eyes and walked happily behind Little Bear; he wished to travel in single file, Otter fashion.

It happened that Father Bear had been teaching Little Bear how to follow the wood's trails, and Little Bear knew the Otters' path, because they always went round stumps and under logs; besides, their legs were short and their bodies so heavy that they left well-worn trails behind them.

At last Little Bear reached the end of the crooked path, and Baby Otter, without so much as saying, "Thank you!" to Little Bear, ran to the cave by the river-bank where his family were camping out.

"Some people always forget their manners," said Little Bear to himself as he ran home to tell his father and mother what he had done.

"I am glad you were good to the baby," said Little Bear's mother as she took the bluebells and daisies that he had brought and put them into a hollow stump beside the cave door. She had filled the stump with water from the spring while Little Bear was gone.

"The flowers are lovely!" said Mother Bear. "Now please run into the woods for some green leaves and vines to put with them, Little Bear."

Before he could do as she told him, Uncle John Kingfisher came flying to invite the three Bears to a party. "The Otters," said he, "request your presence at a fish dinner. Come now."

"We thank you, Uncle John Kingfisher," said Father Bear. "We will start at once. Come, Little Bear, wash your hands and face and get ready."

That is how it came about that the three Bears dined with the Otters that day, on trout, salmon, and eels, and were served with only one bite from each fish, and that bite taken from the meat just behind the head. Mother Bear thought that the Otters chose only one dainty morsel from each fish just because they had invited company for dinner; but Father Bear told her afterward that she was mistaken; Otters always serve fish in that way when fish are plentiful.

After dinner the Otters and their guests rested for a while, and then Father Otter urged the children to come out and play with him and with Mother Otter. Said Mother Bear to Mother Otter, at last, "We thank you for inviting us over. If you ever wander into our home woods, come to our little house and have porridge with us."

"We shall be glad to do so," said Mother Otter, "and we shall always think kindly of Little Bear because he brought our baby home when he was lost. If we do go to visit you, you must let us make Little Bear a toboggan slide."

"Ask them to come as soon as we get home!" urged Little Bear in a whisper to his mother, so loud that the Otter children heard it, and laughed.

And that night Little Bear dreamed

of taking home a baby otter and of being invited to slide down that baby otter's toboggan slide all the afternoon.

CARE OF SILK STOCKINGS.

The laundering of silk stockings should be done apart from the regular wash, for they will not last as they should, if abused. White or colored silk stockings should never be soaked, but washed out quickly in warm water and a good white soap, and then

thoroughly rinsed. Then they should be wrapped in a coarse towel and wrung out as dry as possible before being hung in the shade to dry.

The life of black silk stockings may be prolonged by soaking them over night in cold water before they are ever worn. All silk stockings, and in fact, all silk underwear, should be washed after each wearing as the perspiration of the body rots the silk. Silk stockings should be purchased plenty large and an added precaution for breaking at the toe, is to darn the

DREADNAUGHT
BLAZING AWAY IN COST-DEFENSE!

Last Call



This is the last call for the little Burner at six-fifty—the price must go to \$7.50 to meet the increased demand for labor and material. New prices for foundry and machine shop went into effect immediately. The best we can do at \$6.50 is to agree to fill all mail orders post-marked on or before September 27th.

At that, the Burner remains the biggest little bargain in home cost defense ever offered the public. A clean, dry gas, full in heat units and thrift value. Without any changes, the old stove becomes far more effective than ever before, with

drudgery entirely eliminated. The Dreadnaught Burner is clean, honest and fully guaranteed.

Price change does not effect the hot water heater—the Super-Sixty Burner—the wonderful little steamer, or the No. 7 Furnace Burner

Write for circular—get your order in quickly

OIL-GAS BURNER AND VALVE

UNTIL SEPTEMBER 27th—\$6.50. THEN—\$7.50

MAILED ANYWHERE.

SCIENTIFIC SPECIALTIES CO.

MANUFACTURERS

310 South Hill Street,
Los Angeles, Cal.

MAIL THIS COUPON

Find out how to save tons of fuel this winter and yet enjoy better heating!

PUT in a Mueller Pipeless Furnace and flood your house with moist, healthful heat at a saving of $\frac{1}{3}$ to $\frac{1}{2}$ on fuel cost.

The Mueller Pipeless is guaranteed to heat every room in your house comfortably. And thousands of installations prove the sincerity of this written guarantee. The Mueller

Pipeless is so designed and constructed that it never fails.

Mueller heating engineers designed a better pipeless furnace because they had 62 years' experience in the building of heating systems. No wonder then that the Mueller Pipeless scientifically and correctly applies the laws of air circulation and gives the utmost satisfaction to home owners.

MUELLER
PIPELESS
FURNACE

It is properly and accurately proportioned throughout. Eight sizes—one to fit every home. Easy and inexpensive to install. Burns all fuels.

The interesting book, "The Modern Method of Heating Your Home," explains in detail the many features of construction that make it possible for the Mueller Pipeless Furnace

to give such dependable heating service and still save you tons of fuel. We'll gladly send it to you FREE—just fill out and mail in the coupon—NOW!

L. J. Mueller Furnace Co., 231 Reed St., Milwaukee, Wis.
Makers of Heating Systems of All Kinds Since 1857

Distributors for California:

Holbrook, Merrill & Stetson, San Francisco and Los Angeles, Cal.

22 other distributing points. Immediate shipment to any part of the country.

L. J. Mueller
Furnace Co.
231 Reed Street
Milwaukee, Wis.

Gentlemen:—Without obligation on my part, please send me your free booklet "The Modern Method of Heating Your Home" and name of nearest dealer who can show me the Mueller Pipeless Furnace.

Name _____

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Convert your old-fashioned bathrooms

into modern bathrooms to which you can conduct your guests with a feeling of pride.

The combination of beauty and simplicity contained in Pacific Plumbing Fixtures make them the vogue. Their added convenience, and the amount of unnecessary work they save, will more than compensate for their moderate cost.

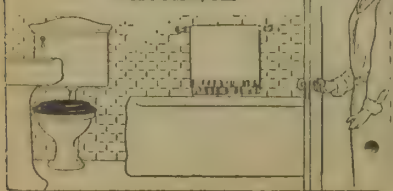
Write for a copy of the Book of Bathrooms. It's a 56-page book, brim full of helpful ideas on bathroom arrangement.

PACIFIC
PLUMBING FIXTURES

For sale by all plumbers

Main Offices and Show Room
67 New Montgomery Street
San Francisco

Factories at Richmond and
San Pablo, Cal.



toe until it is well reinforced. A piece of velvet pasted on the inside of the heel of a pump will prevent the rubbing that so often breaks the silk on the heel.

Care in putting on the stocking will prevent the runs that are the despair of everyone. Be sure the toe-nails do not catch a thread and start a run that many ruin an otherwise perfectly good stocking.

MAKE FARM HOME ATTRACTIVE.

Trees and shrubs should be a part of the setting of every home. They add value to the farm by making it more attractive and homelike. When we find a home set in the midst of trees and shrubs well arranged it has a cozy and attractive appearance, and we are instinctively drawn to it.

We immediately think of home, children, flowers, birds, music, etc. I love to think of trees and shrubs as musical instruments which attract the birds, for we all know it requires trees, shrubs and groves to induce them to build nests near our dwellings. Then they will live with us, sing for us and eat the bugs, worms and insects the whole livelong summer. Many of the birds that live upon the insects and bugs which destroy our gardens and crops are not to be found where there are no trees, shrubs or groves.

I have always found it wise in selecting trees and shrubs to choose

those best suitable to one's locality, that is, that have been grown under conditions similar to those of the locality. In this way, one is nearly always sure to meet with success instead of failure as when plantings are made not suited to one's locality.

One can easily make their own observations as to which are the best varieties by making note of those grown by neighbors. When possible, examine the trees, shrubs and groves. In this way you will find the varieties that could not withstand the wind, sun and cold. In this class we will find the broken partly dead and entirely gone trees and shrubs. These should not be considered.

On the other hand one will find other varieties that are thrifty and healthy, giving good results and these are the ones to plant in your locality.

This will not take a great deal of one's time, but it often saves a great amount of time, work and money later on.

When varieties are planted, that are not adapted to the locality, the trees and shrubs are weakened by the sun, drouth and severe weather, thus making them more susceptible to the different insects and fungus diseases. This soon causes them to die.

The horticulturist at the agricultural college is always in a position to give good advice as to methods of planting, pruning etc.

Trees and shrubs are usually lost on account of planting improper varieties, improper cutting back at the time of planting and lack of proper care after planting.

Trees and shrubs are often planted just as received, the tops never cut back. The result is that the tree started to grow, but the root system was not sufficient to take care of the top and in a few weeks the leaves start to wither and then it is good-bye tree, for the poor thing soon dies.

Or for instance, if the soil around newly planted trees or shrubs is left to bake and crack and weeds left growing, one can not expect results. Therefore, remember to plant varieties, adapted to your locality, back properly and then give them the proper care.—Selected.

CLEANING OF SILVER.

There are many ways of cleaning silver, more or less easy. The old-fashioned way of rubbing each piece separately with a dampened powder, necessitated careful washing afterwards. Then there are the aluminum pans with racks for the silver, so there is no rubbing required, only a thorough drying. Now there are pastes on the market which do wonders in removing tarnish and discolorations, but the easiest way of all to clean it is to rub with the prepared cloths which can be found at any good store. This method requires no washing at all; in fact, the cloth can be used just as the silver is being put upon the table for use.

WHITE GRAPE PRESERVES.

Wash grapes and remove the seeds, if the seedless variety are not obtainable. Cook with very little water until soft, skins and pulp, then add cup for cup of sugar. Cook slowly for about an hour; longer, if necessary to have a stiff preserve. Just

food

is mightier than pen and sword

It is the foundation of health and human energy. It produces the stamina and the strength to do things. On the field of battle—as well as on the tables where peace and plenty reign—chocolate has proved itself a 100% food.

To insure supreme quality chocolate you must insist upon Ghirardelli's. It comes only in cans—for your protection.

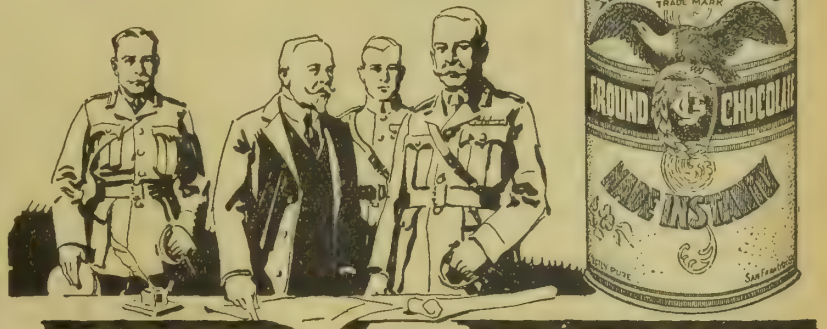
At the store where you do your trading—in ½ lb., 1 lb. and 3 lb. cans.

"Say Gear-ar-delly"

D. GHIRARDELLI CO.

Since 1852

San Francisco



Ghirardelli's Ground Chocolate

before placing in jars or glasses, add broken walnut meats. Seal with paraffine. This makes a very delicious preserve.

INTERESTED IN HOME FURNISHING IDEAS?

Want to enjoy the Suggestions and Plans other people have successfully used to make their homes better and more livable? Want to know about the newest, choicest creations in Furniture and Home Furnishings?

Send a Postal to Barker Bros., saying:

"Put my name on your mailing list" and immediately you will receive some of the most entertaining and delightfully interesting Home-making literature possible to produce. More will be sent you from time to time.

You incur no obligation by this request. This store's enthusiasm for Home-making plans and its sympathetic understanding of all the many perplexities attendant upon home beautifying problems has been generated by 39 years of active, sincere participation and co-operation in the planning and creating of better and more beautiful homes in California and the West generally. We count it a privilege to be depended on for serious assistance whenever it is needed.

Just send the postal request. It will help if you state whether Living-room, Dining-room, or Bed-room furnishings interest you most at this time.

Barker Bros
ESTABLISHED 1880

COMPLETE HOME FURNISHERS.

734 South Broadway,
Los Angeles.



If you really want the puckery tannin-taste, don't buy tea. You can get more tannin from oak-leaves.

If you want the real tea-flavor, pay enough for your tea to get it.

There is some tea-taste—not very fine—in common tea; but the tannin-taste smothers it.

Besides, fine tea is cheaper per cup than poor tea—a pound makes so many more cups.

Schilling Tea is the fine practical economical tea of this country.

There are four flavors of Schilling Tea—Japan, Ceylon-India, Oolong, English Breakfast. All one quality. In parchment-lined moisture-proof packages. At grocers everywhere.

A Schilling & Co San Francisco

TOWER'S
FISH BRAND
REFLEX
SLICKER

is the wet weather service uniform for the regular men who make every day count.

Look for the
Reflex Edge

A.J. TOWER CO.
Boston Mass — Established 1836

MORE LIGHT THAN 20 OIL LAMPS
AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electricity More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The

COLEMAN QUICKLITE
No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over. —will last a lifetime.

Write our office for Catalog 21-R. P
THE COLEMAN LAMP CO.,
(Successors to)
COLE LITE & SALES CO.,
120 S. Los Angeles St.,
Los Angeles, Cal.

THE PREMIER BURNER
Makes Gas from Kerosene (common coal-oil)

No Farm Kitchen is complete without a Premier. If it cost ten times as much as we ask for it, and you had one—you would not part with it for ten times what you paid for it.

Complete Outfit, \$12.50—for No. 6 Stoves.
Complete Outfit, \$20.00—for No. 7 to No. 9 Stoves.

Outfits sent upon receipt of price the same day we receive the order.

VAUGHAN & MATTISON, Agents
225 Market Street, San Francisco, Calif.

MARKET COMMENT

Beet Sugar Advances.

Western beet sugar producers have advanced their price to 11½¢ New York basis. This translated into trade terms means a cost basis at point of production equivalent to \$11.25 per pound less 2 per cent for cash, or 11¢ to the producer.

Northern California Lambs Lower.

Sheep and lambs are selling around Alturas for less money than for a number of years and the demand is light. Some sales have been made at \$5.50 and \$4.50 per head, which is half the price received last year.

Rice Millers Stand Pat.

The recent Government agitation in regard to the high cost of living caused uncertainty and some depression in the rice market. However, ideas of California millers have not changed appreciably and futures are generally being offered at \$11.25 for fancy and \$10.50 to \$11 for choice, October-November shipment.

Beef Slump Explained.

Conditions of the food markets in the world indicate to the Institute of American Meat Packers, recently in session in Atlantic City, N. J., that the demand for beef from America for meeting shortage in Europe has about ceased, and that the demand for pork is slackening, while in the United States the agitation against the packers has caused a slump in the consumption.

Produce Destroyed to Maintain Prices.

Substantiation of the charges that tons of vegetables are being destroyed by Japanese growers near Los Angeles to maintain high prices was contained in reports gained after a semi-official investigation. At the same time imported vegetables are selling at a lower price than local products in this city. A reduction in price of tomatoes at Japanese roadside stores from 50 to 35 cents a box became effective recently.

The Hide Situation.

The market in country hides is quiet and unsettled. Many dealers are closely sold up on light-weight stock and continue to talk higher prices. Firm bids of 2c to 3c under asking prices for good quality extremes effect some trading. Canada has placed an embargo on hides and skins because of the high prices prevailing in the domestic markets. Australia, however, has released hides and leather. During the fiscal year, ending June 30, 1918, we imported 3,279,729 pounds of hides and skins from Australia. Nearly two-thirds of these shipments were sheepskins.

Prunes Marketed by Express.

For the first time in the history of the industry California prunes were shipped by express last week by the California Prune and Apricot Growers, Inc., to speed the delivery to markets in the United States clamoring for immediate stocks from the 1919 pack. H. G. Coykendall, manager, says that the original estimates of a 275,000,000 pound crop will probably be fulfilled unless adverse weather conditions again damage the crop. Of the total crop, the association is counting on packing and marketing from 180,000,000 to 200,000,000 pounds, the largest crop the California farmers have had in the history of the industry.

Inter-Mountain Alfalfa Prices.

The feed and hay situation in inter-mountain regions is reported as very serious. Alfalfa is short in all of the irrigated sections of Idaho, Montana, Wyoming, Colorado and Utah. Range conditions also are reported as serious and many cattle are being shipped to eastern points for feeding purposes. Alfalfa hay at Blackfoot, Idaho, is selling for \$26 per ton baled, and as a concession to home feeders, was offered loose in the field at \$17.50 per ton, which was refused. Nevada growers of alfalfa have been undecided as to prices for this year's crop, owing to the lack of early demand for alfalfa hay from cattle feeders, but indications point to good prices for this great feeding stuff this year.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, September 17, 1919.
WHEAT.

The supply of wheat seems ample for all demands in San Francisco, although it is stated that arrivals are slow. All grain markets are dull.

No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
California, per cbl	\$3.65 @ 3.70

BARLEY.

While quotations for barley are unchanged the grain is in reality weaker. Future barley is not materially different from the spot grain.

Feed	\$3.00 @ 3.05
Shipping	\$3.20 @ 3.30

OATS.

There was practically no demand for oats this week and quotations are nominally unchanged, although the grain is weak at present prices.

Red, feed, per cbl	\$2.90 @ 3.10
Red for seed	Nominal
Black for seed	Nominal
Re-cleaned Red or Black for seed	Nominal

CORN.

Corn is suffering from the same stagnation as the other grains, although there seems to be a firmer undercurrent.

California	\$3.80 @ 3.90
Egyptian, choice	Nominal
Milo	Nominal

HAY.

Receipts of hay for the past week were 2,722 tons compared with 2,800 the previous week. As has been the case for some time past, the majority of these receipts were by water from bay and river districts. The car situation has not improved any during the week, and in fact has become more acute. As a consequence large amounts of hay has gone into warehouses at shipping points to protect it from possible rain. The market in the city has run along about the same as heretofore.

fore. Demand from country districts has slackened off considerably.

No. 1 Wheat, or Wheat & Oat	\$15.00 @ 18.00
No. 2 Wheat, or Wheat & Oat	\$12.00 @ 15.00
Choice Tame Oat Hay	\$15.00 @ 18.00
Wild Oat Hay	\$10.00 @ 14.00
Barley Hay	\$12.00 @ 16.00
No. 1 Alfalfa Hay	\$17.00 @ 22.00
Stock Hay	\$ 8.00 @ 12.00
No. 1 Barley Straw, per bale	50 @ 80

FEEDSTUFFS.

Roller barley was weaker and the quotations were lowered slightly this week. While roller oats were also very weak their price was well maintained.

Roller Barley	\$63.00 @ 64.00
Roller Oats	\$62.00 @ 63.00
Cocanut Meal	\$48.00
Cracked Corn	\$79.00 @ 81.00
Alfalfa Products	\$38.00 @ 40.00

POTATOES, ONIONS, ETC.

A shortage of cars is affecting the vegetable market, and little is arriving except by boat. Potatoes are dull at unchanged quotations. For onions a lively demand has arisen—and the price has been advanced. A good many onions are now going into storage and this is the main reason for the advance. Tomatoes are now at about the height of their season. Their quality is excellent and at present prices are proving an attractive buy. The rest of the market is firm with little change in prices.

String Beans	4 @ 5c
Peas	3 @ 4c
Carrots, per sack	\$1.00 @ 1.25
Rhubarb, Strawberry, box	Nominal
Cucumbers	50 @ 70c
Eggplant, box	50 @ 75c
Lettuce, per crate	75c @ 1.25
Tomatoes, River, per large box	50 @ 55c
do, Early Annas	50 @ 75c
do, Stone	75c @ 1.00
do, 85 @ 85c	
Summer Squash, lugs, Alameda	\$1.50 @ 2.00
Green Corn, Alameda, sack	\$2.25 @ 2.40
Potatoes, Garnets	\$2.25 @ 2.50
do, local whites	\$2.00 @ 2.35
do, Rivers	\$2.00 @ 2.35
do, Sweets, new, lb.	4 @ 5c
Onions, new red	Nominal
do, Browns	\$2.50 @ 2.75
do, Yellow	\$2.50 @ 2.75
do, Green, Alameda	None
Garlic	20 @ 25c

BEANS.

The bean men state that nothing has occurred during the past week to change either the condition or the prices of beans. With

the smaller area of beans planted this year and the consequent smaller crop in prospect, it looks as if a stronger market for the beans on hand should develop.

Bayos, per cbl	\$6.25 @ 6.50
Blackeyes	\$5.50 @ 5.75
Cranberry beans	\$5.20 @ 5.50
Limas (South, re-cleaned)	\$12.00
Pinks	\$6.25 @ 6.50
Mexican Reds	\$5.50 @ 5.75
Tenary beans	\$2.50 @ 2.75
Garbanzos	\$10.00 @ 10.50
Large whites	\$6.50 @ 6.90
Small whites	\$7.50 @ 7.75

POULTRY.

The strike of the poultry pickers is still in progress and is the main cause for the weakening market. The poultry pickers are firm in their demand for the increase, and it is said that they have applied for admission into the American Federation of Labor. Local dealers say that the market is at present overstocked with young chickens, notwithstanding notices sent out at the beginning of the strike. Good hens, ducks, geese and turkeys can be handled, however, as these sell readily to the Jewish trade, which attends to its own picking.

Turkeys, dressed, young spring, lb.	50 @ 55c
Broilers, 1½ lbs. and under	20 @ 30c
do, 1½ to 2 lbs.	20 @ 30c
Fries, 2 to 3 lbs.	30 @ 31c
Hens, extra, per lb. colored	34 @ 36c
do, Leghorn	30 @ 33c
Smooth young roosters, per lb. (3 lbs. and over)	32 @ 34c
Old roosters, colored, per lb.	22 @ 23c
Geese, young, per lb.	24 @ 25c
do, old, per lb.	22 @ 23c
Squabs, per lb.	48 @ 50c
Ducks, young	26 @ 27c
do, old, per lb.	23c
Belgian hares	15 @ 16c
Jack rabbits	\$1.00 @ 4.00

BUTTER.

The receipts of butter have not been heavy this week and the price is firm at the close. The weekly fluctuation of only two cents from the low to high is considered small. Some of the dealers have been making heavy inroads on their private stocks and more butter was withdrawn from storage this week than for some time past. The fact that Great Britain has resumed the importation of butter from Denmark after a considerable period of almost exclusive dependence on the United States, and that Argentina is now shipping large quantities of butter to the same market, is likely to have an effect on supplies and prices of butter in this country and may eventually affect the local market.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	60½	58½	59½	59	59½	60½

EGGS.

Extra eggs were steady and showed a fluctuation of only a cent and a half during the week. Pullets and underlayers were both higher.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	62½	61½	61	62	61½	62½
Ex. pullets	53	53	53	54	53	54½
Underlayers	39½	38½	38½	36½	36½	37½

CHEESE.

Cheese recovered some of the losses of last week. Oregon Y. A. gained 2 cents and the California Y. A. followed with a gain of 1½ cents. California flats also showed some strength.

California Flats, fancy	34
do, Firsts	Nominal
O. A. Fancy	35c
Oregon Triples	20½c
do, Y. A.	32½c

FRESH FRUITS.

The fresh fruit market continues to show strength on a good local demand. Price changes have been upward. The blackberries in the market were in much better condition than last week. Strawberries were higher and raspberries slightly lower.

Apples—Gravensteins	\$1.50 @ 2.50
do, Alexanders	\$1.50 @ 2.00
do, Skinner Seedling	\$1.50 @ 2.00
Figs	\$1.00 @ 1.25
do, white	60 @ 75c
Plums, box	75c @ 1.25
Grapes, Seedless	\$1.00 @ 1.25
do, Malaga	\$1.25
do, Tokay, large box	\$1.75 @ 2.00
do, Muscats	\$2.00
Pears, No. 1	\$2.50 @ 3.50
do, No. 2	\$1.50 @ 2.00
Peaches	75c @ 1.25
Strawberries, chest	\$11.00 @ 15.00
Raspberries	\$15.00 @ 17.00
Blackberries	\$10.00 @ 12.00
Cantaloupes, Standard	\$1.25 @ 1.50
do, Pines	75c @ 1.00
do, flats	50 @ 65c
do, Fernan, lb.	Nominal
Watermelon, lb.	1 @ 1½c
Quinces	\$1.00 @ 1.50

CITRUS FRUITS.

More interest is being manifested every week in the citrus market, which in another month will probably attract more attention than the regular fresh fruits. Grapefruit continues to show the greatest strength as the season progresses.

Oranges, Valencia	\$4.25 @ 5.50
Lemons, fancy	\$4.50 @ 5.50
do, choice	\$5.50 @ 6.50
do, standard	\$4.50 @ 5.50
Lemonettes	\$3.50 @ 4.50
Grapefruit	\$4.00 @ 5.25
Grapefruit	\$4.00 @ 5.25

DRIED FRUITS.

Apples and apricots showed lower prices this week, but otherwise the quotations of last week still prevail. Some of the jobbers believe that the agitation regarding the cost of living is going to cause a decline all along the line in dried fruits, but there is nothing directly and exclusively connected with dried fruits to warrant any such belief. There is some hesitation on the part of jobbers about buying in the present market.

Apples	17 @ 20c
Pears	16 @ 18½c
Peaches	17 @ 18½c
Apricots	21 @ 25c
Prunes	12 @ 13½c
Figs, Adriatic	14 @ 20c
do, Calimyrna	16 @ 23c

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., September 16, 1919.

Under moderate offerings of Bartlett's during the past week, the demand remained strong and prices advanced towards the end of the week; in a few specific instances the price on good, firm storage stock realized the top market for the season.

Favorable Eastern weather conditions permitted the outdoor display of fruits, which stimulated the demand on practically all varieties, both Malagas and Tokays having first call, with the Tokays showing a slight preference over the Malagas.

The only reaction noticeable in any of the markets was on freestone peaches. The demand lessened somewhat from the week previous, though there was a noticeable advance in the sale of clings.

Plums of all varieties being offered ruled firm, though the offerings were somewhat scattered, as the shipments are now very light and confined to those en route.

Regardless of the fact that the established wine grape buyers are purchasing moderately, on account of the activity of Federal inspectors, all cars of wine grapes that are arriving in a condition suitable for their manufacture into wine are receiving a very ready demand and at prices considerably higher than last season.

The car shortage that has prevailed during the past week in California has been serious and as a large percentage of the grapes have been held in warehouses for four and five

days at a time awaiting the arrival of cars, their quality has unquestionably been affected, which will result in considerable inferior stock being forced upon the markets, which will have a depressing effect upon conditions generally. The car situation is somewhat easier at this writing.

If weather conditions remain favorable, the movement of grapes should be very heavy for the next thirty days. We predict a strong demand for all varieties at good prices.

Averages for the week:

NEW YORK: Bartlett Pears, \$5.27; B. Hardy, \$4.45; B. Clairgeau, \$4.70; Winter Nellis, \$3.55; Orange Cling Peaches, \$1.90; McDevitt, \$1.90; Salways, \$1.16; Levi, \$1.90; Phillips, \$1.05; Grand Duke Plums, \$1.90; Giant, \$1.06; Gros, \$1.97; Malaga Grapes, \$2.40; Tokays, \$2.83; Muscats, \$1.42; Rose Peru, \$1.77; Thompson Seedless, \$2.17; Cornichon, \$2.50; Alicante Bouchet, \$2.15; Zinfandel, \$1.93.
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BOSTON: Orange Cling Peaches, \$1.50; Salways, 96c; Bartlett Pears, \$4.41; Winter Nellis, \$3.65; Hungarian Plums, \$2.07; Gros, \$1.85; Grand Duke \$1.77; Malaga Grapes, \$1.77; Tokays, \$3.80; Rose Peru, \$1.75; Thompson Seedless, \$1.55; Zinfandel, \$1.78; Alicante Bouchet, \$1.80.
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Chicago: Malaga Grapes, \$1.93; Tokays, \$2.20; Thompson Seedless, \$1.70; Muscat, \$2.15; Zinfandel, \$1.45; Black Prince, \$1.05; Bartlett Pears, \$4.25; Gros Plums, \$2.40; Hungarian, \$2.05.
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Special Livestock Market Report

San Francisco, Sept. 20, 1919.

CATTLE—Many of the cattle coming into this market at the present time are from the Nevada grazing grounds, and are mostly of good quality. The supply is ample for the demand, and all are being taken care of.

Steers, No. 1, 950-1100 lbs.	10 @ 10½c
do, No. 1, 1100-1800 lbs.	9½ @ 10c
do, 2nd quality	8 @ 8½c
do, thin	6 @ 7c
Cows and Heifers, No. 1	8 @ 8½c
do, 2nd quality	6½ @ 7½c
do, common to thin	4 @ 5c
Bulls and Stags, good	5½ @ 6½c
do, fair	4½ @ 5½c
do, thin	3½ @ 4½c
Calves, lightweight	12 @ 12½c
do, medium	11 @ 11½c
do, heavy	8 @ 9c

SHEEP—The equation between supply and demand for mutton sheep is maintained in this market, with a strong undertone to the lamb and yearling situation.

Lambs, Yearling	10c
do, Milk	12 @ 12½c
Sheep, wethers	8½ @ 9c
do, ewes	6½ @ 7c

the next week or two will witness a further decline.

Hogs, hard, grain-fed, 100-200	16c
do, 200-300	15½c
do, 300-400	14½c

Los Angeles, Sept. 16, 1919.

CATTLE—This market is steady with fair demand reported. Only one item changes since last report. Calves quoted 50c higher.

Per cwt. f. o. b. Los Angeles:	
Beef steers, 1000 @ 1100 lbs.	\$9.50 @ 11.00
Prime cows and heifers	\$8.00 @ 9.00
Good cows and heifers	\$7.50 @ 8.00
Canners	\$5.00 @ 5.50
Calves	\$10.50 @ 13.00

HOGS—Demand is fair, but light, quoted 50c since last week. No other prices changed.

Per cwt. f. o. b. Los Angeles:	
Heavy averages 275 @ 350 lbs.	\$12.50 @ 14.00
Heavy averages 225 @ 275 lbs.	\$14.50 @ 15.50
Light	\$15.50 @ 16.00

Rough docked 20 lbs. piggy sows 40 lbs. and stags, 40 per cent.

SHEEP—Lambs and yearlings reported to be in good demand. All prices the same as a week ago. Ewes and wethers slow sale.	
Prime wethers	\$8.50 @ 9.50
Yearlings	\$8.50 @ 9.50
Prime ewes	\$8.00 @ 8.50
Lambs	\$12.50 @ 13.50

LOS ANGELES.

Los Angeles, September 18, 1919.

BUTTER.

Receipts not quite so heavy as last week. Demand is reported to be very good. An advance of 1c will be noted over last week's quotations. For the week, receipts were 261,800 lbs.

California, extra creamery62c
do, prime first60c
do, first59c

EGGS.

This market is lower in prices on fresh ranch and pullets. Receipts also below last week. Demand holding up well. Receipts for the week, 417 cases.

Fresh ranch, extra58c
do, case count57c
do, pullets49c

VEGETABLES.

Offerings are lighter and the demand is good for all fresh stuff at better prices.

Potatoes, local, per cwt.\$2.50@2.65
do, Northern Burbanks\$2.70@2.80
Sweet Potatoes\$2.75@3.00
Onions, Stockton, yellows, cwt.\$2.75@2.80
do, White Globe, cwt.\$2.50@2.65
Cabbage, per 100 lbs.\$1.00@1.25
Lettuce, crate\$1.25@1.50
Rhubarb, per 30-lb. box75c@1.25
Summer squash, lug30@40c
Peas, per lb.10@12c
Kentucky Wonder6@8c
String Beans, wax6@8c
do, Green5@6c
Tomatoes, lug box25@65c
Lima Beans, local, lb.5@6c
Cucumbers, local, lug box60@65c
Cantaloupes, Tip-tops, Stand. crates 90@1.00
do, Pineapple, crate90@1.00
do, Paul Rose, crate1.00@1.25
Watermelons, 100 lbs.1.00@1.25
Corn, lug box50@60c
Peppers, Bell, lb.2 1/2@3c
do, Chile, lb.2@3c
Casabas, lb.1 1/2@1 1/4c
Celery, crate\$3.75@4.00

FRUIT.

Demand is good for all choice to fancy and all prices generally steady. Bellfruit apples lower and good call for them. Other apples unchanged.

Peaches4@5c
Strawberries—
30 basket crates, fancy\$5.00@5.50
Poor to choice\$4.00@4.25
Blackberries, case 30 boxes\$2.25@2.75
Raspberries, case 30 boxes\$5.00@5.25
Plums, Burbank, lb.4@5c
do, Sugar, lb.5@6c
do, Nectarines, lb.6@7c
Apples, White and Red Astrakhan, lb 4@7c
Grapes, Malaga, lb.7@8c
do, Muscat,5@6c
do, Tokays7c
do, Rose Peru, lb.3 1/2@4c
do, Hamburgs, lb.3 1/2@4c
Crabapples5@7c
Pears, Bartlett, lb.7@8c
Apples, Bellefleur, 4 tier\$1.40@1.50
do, 4 1/2 tier\$1.35@1.40
do, 3 1/2 tier\$1.50@1.60
do, Alexander, 4 tier\$2.00@2.25
do, Gravenstein, 4 tier\$2.25@2.50
do, Skinner Seedlings, 4 tier\$2.25@2.40

POULTRY.

The demand is good for broilers and friers at the advance of 1c. Receipts not quite so heavy. Hens coming in more freely and demand for them slowing up. Turkeys are selling well. Ducks and geese reported dull.

Broilers, 1 to 1 1/2 lbs.31c
Broilers, 1 1/2 to 1 3/4 lbs.31c
Friers, 2 to 3 lbs.28c
Roosters (soft bone) 3 lbs. and up29c
Stags and old roosters, per lb.19c
Turkeys34@40c
Hens27 1/2@36c
Ducks23@27c
Geese27c

BEANS.

All prices in this market the same as quoted one week ago. Very few moving and prices holding steady at present quotations.

Limas, per cwt.\$11.00@11.50
Large white, per cwt.\$8.25
Small white per cwt.\$6.50
Blackeyes, per cwt.\$5.00@5.25
Tepary, per cwt.\$3.00@3.25
Pink, per cwt.\$6.25

HAY.

Receipts are better in this market, but it is slow and weak under heavier offerings. Prices unchanged.

Barley hay, per ton\$18.50@21.50
Oat hay, per ton\$22.00@25.00
Alfalfa, Northern, per ton\$24.00@25.00
Alfalfa, local, per ton\$25.00@27.00
Straw, per ton\$9.00@10.00

OPENING PRICES ON ALMONDS FOR 1919.

The entire crop of almonds for this year has been contracted for. Shipping, which commenced the last of August, will continue for about five months. The crop is estimated to total 7,000 tons—the largest in the State's history—with a value of \$3,000,000. The opening price to the trade by a California Almond Growers' Exchange, which practically controls the entire crop, is as follows: Nonpareils, 32 1/2 cents a pound; I. X. L.'s 31 1/2 cents; Ne Plus, 30 1/2 cents; Drakes, 23 1/2 cents. These prices apply to business already closed, and provide a discount of 1 per cent for cash in 10 days. New business is booked 1 cent higher. These prices will net to the grower about 28 cents a pound on Nonpareils, 25 cents for I. X. L.'s, 25 cents for Ne Plus, and 19 cents for Drakes—an advance of about 5 cents over last year's, and are in line with trade

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weissbaum Pipe Works, 160 Eleventh street, San Francisco.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

WANTED—A competent married man to operate small fruit ranch. Wife must be willing board extra help in harvest. Permanent place. Address, stating experience, Box 1660, Rural Press.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

FOR SALE—Yuba 12-20 tractor, 1915 (double clutch) model, well kept up, good running order. A bargain. Owner has purchased larger tractor. B. Guillon, Windsor, Cal.

SWEET CLOVER SEED for sale.—Buy direct from the producer and save money. Fine, clean seed, 25 cents per pound. Write Geo. D. Forest Jr., Standish, Calif.

WE WILL SELL new Cleveland tractors while they last at \$1,395.00; also one second-hand Cleveland tractor, almost new, at \$850. F. H. Stow Tractor Company, Berkeley, Cal.

WANTED TO BUY.—Second-hand hog wire, 34 to 36 inches high. Enough to fence 20 acres. Must be in good shape. W. J. Cardia, Blythe, Riverside Co., Cal.

TRACTOR FOR SALE—Holt Caterpillar 30, fine running order. Engine and connecting rod bearings all new. Price very reasonable. Address B. F. Hoffman, Byron, Calif.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

DAIRYMAN wants place on shares or for wages. Experienced and reliable. Have family. Address, Box Y, Pacific Rural Press.

A NEW ALFALFA—Investigate now. Our great "Hardy Hybrid" alfalfa. For facts, write J. L. Lawson, San Jose.

12-20 YUBA TRACTOR, used very little. P. M. Pederson, Oakdale, Cal.

COUNTRY LANDS.

FOR SALE—Good dairy ranch, Humboldt county. Well improved. Write B. F. Gibson, McKinleyville, Cal.

FOR SALE—Alfalfa ranch of 23 1-3 acres, stanchions for 20 cows, house, separator house, garage, chicken houses and other out-buildings. If interested address Box 58, Esposito, Calif.

STOCK RANCH for sale—about four thousand acres. A good sheep ranch—plenty of water and wood. Good buildings. Most of ranch fenced. Terms, if wanted. Address Box 139, Middleton, Lake co., Calif.

IDEALLY LOCATED RANCH, northern Sacramento valley, on main line of S. P., flag station at gate, one mile to highway. Over 400 acres, 325 acres under main ditch of irrigation system, about 50 acres fine stand oak timber, 30 acres leveled and checked ready for alfalfa or corn, 75 acres more easily leveled, 7 acres pears, all fenced and hog tight; 6-room house and bath, tank house, new barns, shop and sheds, corrals, etc. Well concreted, with water piped to house and lots, 10 head good work stock, 20 head dairy stock, about 80 hogs. Wagons, disk, plows, scrapers, etc. Good stands of rice in vicinity. Terms, \$15,000 down, balance 10 years. Box 1670, Pacific Rural Press.

60 ACRES, PAIR HORSES AND

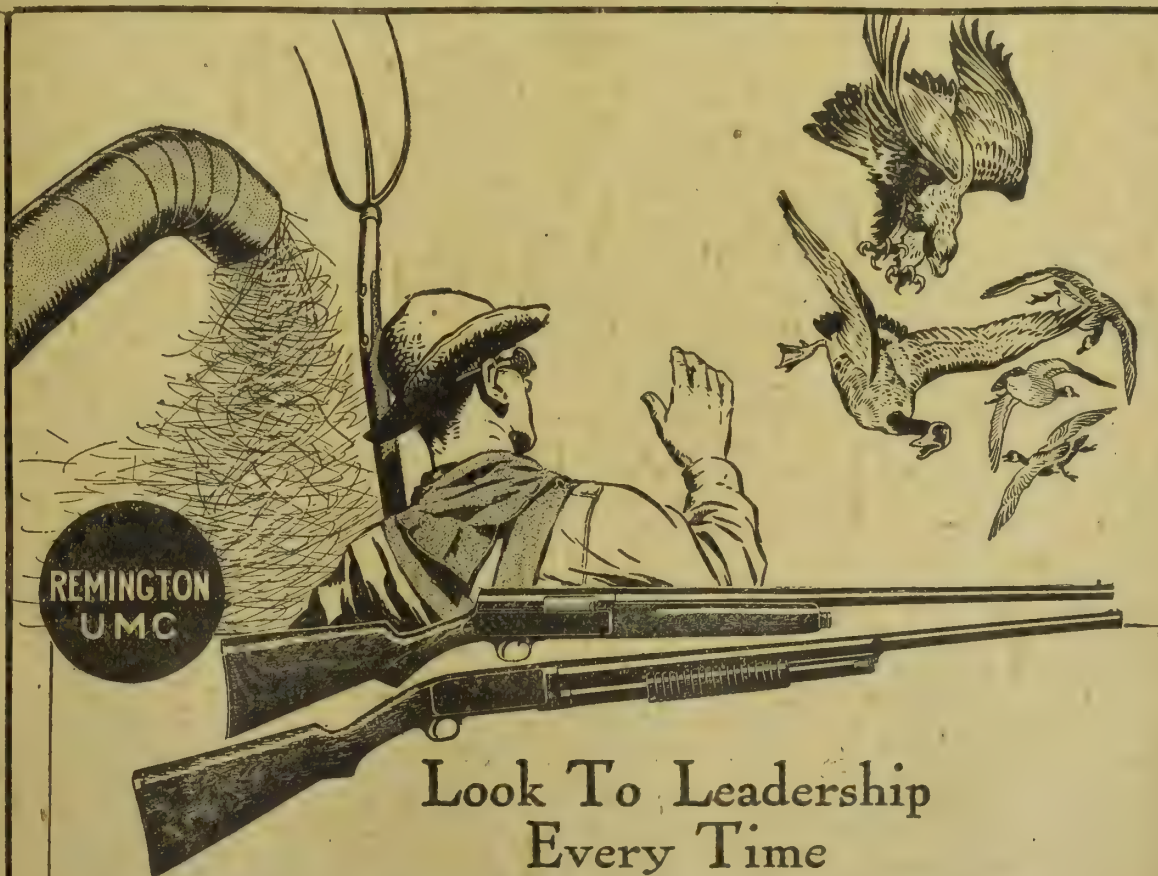
4 cows, heifer, poultry, turkeys, wagons, separator, mowing machine, full line tools, crops, etc.; 2 1/2 miles high school town, near R.R. city, trolley. Machine-worked fields, 10-cow pasture, wood, timber, orchards. 7-room, furnace-heated house, large barn, hog, poultry houses. Aged owner sacrifices all for quick sale. \$2750, easy terms. Details page 23, Fall Catalog, just out. Write for your free copy this big 100-page book of farm bargains from Maine to Florida and west to Nebraska. STROUT FARM AGENCY, 831AF, N. Y. Life Bldg., Kansas City.

RANCH FOR SALE—240 acres, 6 miles E. Santa Margarita, Calif. 25 acres orchard—apples, pears, prunes, peaches; 50 acres cleared; 50 acres level. Live oak on hills. 4-room house and bath; outbuildings. 8 tons hay, machinery, buggy, wagon, harness, cow, horses, bees! School on place. Write Mrs. Bertha Boomer, Santa Margarita, Cal.

DAIRY AND ORCHARD RANCH for sale by owners, about 120 acres. Good location, new buildings. Will be sold on easy terms and reasonable price. \$10,000 will be accepted as first payment. Alex T. Gibson, P. O. Box 561, Chico, Cal. Residence, 216 East 1st Ave., Chico Vecino.

FOR SALE—an improved 80-acre ranch, sandy loam; no more productive soil in California; all under irrigation; stock and equipment; 1/2 mile from paved highway. Address, Owner, Box 79, Maxwell, Cal.

FOR SALE—Ranch, Contra Costa County. 22 miles southwest Brentwood. 36 acres alfalfa, 5 acres orchard. Improved. John E. Davis, 3221 Illinois Ave., Fresno, Calif.



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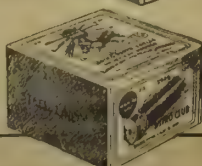
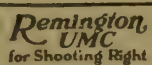
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PRUNING—College graduate. University Farm experience, familiar with latest methods, would prune large deciduous orchard this winter. Can bring two good assistants. \$6 per day, board; assistants, \$4.00, board. N. C. Wilson, 205 First Savings Bank Building, Oakland.

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THE PACIFIC RURAL PRESS

SAN FRANCISCO

SEPTEMBER 27, 1919

LOS ANGELES

Monterey County is Finding Herself

Written for Pacific Rural Press by R. E. Hodges.

A GIANT is shaking off the shackles of the ages. He does not yet know a tithe of his own power. But his muscles are getting a steadily increased exercise and they are mightily increasing in strength. This giant of untied and unknown strength is one of the oldest of his family; for Monterey county was one of the first to be settled in California and the visitor to Monterey city is likely to be surprised at any turn by a sight of something that was the first of its kind in the State.

Our giant's bonds have held him back from his proper place among the members of his own race. Many of his younger brethren have outstripped him in development and usefulness. But he is bursting his bonds, and a greater freedom, usefulness and happiness are coming to those who depend on him.

Our Giant's Grand Physique,

Back of Monterey and its deep blue bay is a line of coastal mountains extending indefinitely southeastward. Back of these, but opening into the broad plain facing Monterey Bay, lies the valley of the Salinas river, over 100 miles long in Monterey county and coming from a source far beyond her borders. Another riot of mountains forms a lovely background along the easterly side of this valley.

In both of these ranges are small valleys already developing agricultural and horticultural importance; and the horticultural possibilities of thermal belts along the foothills are beginning to be realized. But wonderful Salinas Valley, land of unlimited possibilities!

A thousand square miles there are in the Salinas valley—all ready for the plow. No alkali or hardpan, no swamps, but underlaid at most points by plenty of water at practicable pumping depths, and nowhere worn out by the long-continued grain cropping to which it has been subjected. Some may dispute this latter statement, but fortunately it is based on actual agricultural accomplishments in this same valley. The soils are rich and deep, the climate was designed for field crops, fruit, and livestock—neither too hot nor too cold and with no great variations in temperature.

Easy Transportation for Farm Products.

For commerce, a mainline railway traverses the entire valley, connecting it with San Francisco, about 100 miles north and with Los Angeles, about 300 miles south. Smaller railways serve more local interests, one of them connecting the main valley with Monterey Bay, of whose surpassing commercial possibilities we will say more later. Three good roads traverse the valley lengthwise, one of them being the paved State Highway. Other pavements connect local points, including two routes to Monterey city from Salinas, which is the county seat.

The Giant's Preliminary Accomplishments.

Even in its present undeveloped condition, Monterey county's agricultural products have contributed no small amount to a hungry world. Last year's barley crop was about 16,000 tons, beans, 9,000 tons, wheat 1,100 tons, 1,500 tons of "Salinas Burbank" potatoes, about 180,000 tons of

sugar beets, 80,000 or 90,000 tons of alfalfa, practically all of which was fed in the county, around a million pounds of butter, four million pounds of cheese, several hundred thousand cases of condensed milk. How many beef cattle were sold we could not learn. The assessor's figures for livestock, as reported to the State Board of Equalization for the year ending June 30, 1919, show 56,500 cattle of all kinds in the county, 7,000 hogs, and 35,000 sheep. But the assessor himself feels certain of only one feature in regard to these figures—they represent only a part of the total. His figures on fruit trees show 107,000 apples and not that many of all other kinds put together. But the county

tile and uniformly productive soil, climatic advantages, desirable living conditions, transportation facilities, so long neglected the fuller use of its talents?

The answer is short. This vast domain of hill and valley was coveted in the earliest days by powerful families, who obtained large grants of the land and held them intact for generation after generation to the present day. Probably a dozen families own more than half of the acreage in the county. They could not farm any considerable proportion of their land themselves. Consequently they stock most of it with cattle, which made easy romantic money. They rented some of the farm lands

held largely by a few interests and rented to supervised tenants. Here are being worked out some of the best agricultural practices in the Valley. Sugar-beet farming has taught many lessons on the value of deep tillage. More irrigation each season is evidenced by new pumping plants that dot the landscape. The value of drainage is realized as shown by a system of drainage ditches now being dredged. Sugar beets, beans, barley, alfalfa, potatoes, corn, vegetable seeds, etc., thrive here.

Step over to the Pajaro Valley and the Aromas district, bordering the extreme north end of the county, and picture in your mind a greater extension of their apple and apricot orchards into Monterey.

Swing back on the boulevard that borders the Bay to Monterey city. Let them tell you there how the great Pacific armada of the American war fleet anchored within a few hundred yards of the beach in water a mile deep. That incident did much to interest the Government in a proposed breakwater, which is all that is needed to make Monterey Bay one of the chief Pacific ports of commerce when the country behind it shall have been developed. Let them show you a temperature chart that will make you want to stay there.

But climb over the Carmel hill and drive past the Carmel Valley alfalfa fields, dairies, and grain fields, to that inspiration point, whence you look down onto a veritable carpet of luxuriant fruit trees, surrounded by mountains. Go down the coast into the Sur country to see more possibilities.

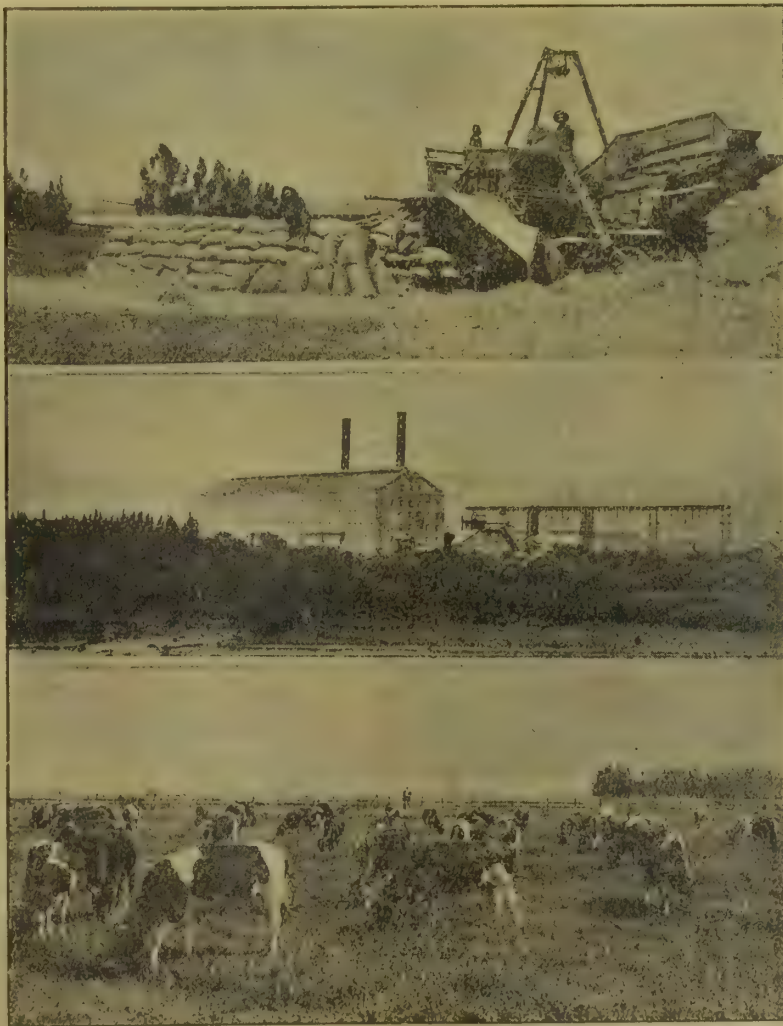
Come back by way of Salinas and prepare for a magnificent drive of varied experiences in a big country. As you travel southward, swing off to the right or left occasionally onto the table lands and into the foothills. There note the old family orchards planted by early settlers and still loyally producing fruit in spite of neglect. You will find them from one end of the county almost to the other.

As you pass through the Chualar-Gonzales-Soledad district, feast your eyes on the luxuriant green alfalfa and contented cows. See the grain fields on the higher lands handy to complete the dairy ration.

Turn off from Soledad, note the poultry and garden farms of Fort Romie, one of the few Salvation Army settlements, and drive a few miles up the Arroyo Seco. You will at this season find most of its bed entirely dry. The several small irrigation systems which use water from the Arroyo during spring and early summer are dried up now and you will wonder why they have not banded together to build a dam at some one of the grand succession of narrow, rock ribbed, vertical sided gorges to hold the winter floods for summer use and at the same time reclaim great areas of wash lands below the opening place of the Arroyo onto the Salinas Valley.

Cross the Arroyo and drive through a few miles of the heavily loaded apple and apricot and almond trees of the Greenfield colony, one of the few subdivisions of the great land grants. Note the real homelikeness of the fruit-surrounded houses here and wonder why the rest of the valley is not settled likewise. Visit the Metz

(Continued on page 424.)



Some of the typical industries of historic Monterey county. The upper pictures shows a grain-threshing outfit in action; the middle, one of the Spreckels sugar mills; and the lower is a good picture of a fine herd of dairy cattle near Gonzales.

horticultural commissioner two years ago reported over 300,000 apple trees alone. Apricots, prunes, cherries, figs, olives, pears, almonds, walnuts, and peaches are listed in important quantities. All of these and others have proved adapted to various parts of the Valley, as evidenced by the family orchards of early settlers and more recent commercial plantings. The figures in this paragraph are only approximations deducted from the estimates of many of the best posted people.

Why So Long Undeveloped?

Why has a county of such varied and boundless possibilities, such fer-

to tenants. They lived in affluence on very small net returns per acre from their great acreages. Why should they worry about intensive farming? Why dispose of their lands to settlers or undertake the cares of many tenants? Why should the tenants work along lines of permanent agriculture? The giant was bound by fetters of large land holdings.

The Giant Shows His Mettle.

But we said that he is now shaking off the shackles. What are the evidences of this? Go to the great plains around Salinas and toward Monterey Bay. Dotted with prosperous farmsteads they are, though, still

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THOS. F. McCONNELL - - - - - Livestock

EDITORIAL.

WHY IS THE FARMER SAD?

FARMERS have been so mercilessly battered back and forth between price-fixers, production exporters and consumers that they do not know whether they, as a class, are self-sacrificing patriots or greedy profiteers. They know individually, of course, that they have been working and worrying very hard during the last few years, and have produced more stuff than they ever did before, and they also know that it has cost them more for labor and for all other agencies and supplies which they use in production, than ever before. They also know individually, and to the extent of their personal acquaintance, that they not only do not get the prices which popular report charges to them—also that in many cases they have had to sell produce at less than it cost them, or, perhaps, have not been able to sell at all. Still there has been so much hubbub about high prices for farm products, and so many charges made that farming is the greatest money-making business that many farmers, as individuals or in local groups, have felt impelled to believe that perhaps only they and their friends have had particularly bad hands dealt to them and that probably all other kinds of farmers are rolling in ill-gotten wealth. As each group is apt to think this of all other groups of food-producers, the general condition of all must be seen to be one of doubt, distrust, apprehension of danger, and loss of incentive to vigorous and efficient effort for the production, of which all authorities declare the world is now in serious need. And this general condition is aggravated by the popular hullabaloo that food prices must be brought down—which means to the farmer that he will get less, because every handler will take out all he can from the final selling price and hand to the farmer whatever happens to be left—if there is any such thing.

COST OF PRODUCTION ONLY SURE BASIS

We have frequently claimed that the only way to keep farmers at work with their muscle and their invested capital is to make it sure that they will receive back all wise and economical outlay they make to get a product and fair compensation for their own effort and the use of their own capital in getting it. It is obvious that otherwise production cannot continue. The reason for recalling such generalizations now is that the wisdom involved in them seems to be taking concrete form and may be recognized in public policy. In Cleveland, Ohio, recently a special grand jury was appointed by the court to take up warfare against profiteering—of which David Gibson was foreman. A report was unanimously adopted by the jury which is full of sound economics. It proposes the creation of a commission of experts to determine base costs of all commodities so that there would be a foundation upon which the building of proper cost to consumer could be erected by adding proper cost of all proper handling. We have, however, only to do with the grand jury's attitude toward farming. It is this:

This investigation would not be for the purpose of exposing the farmer as a profiteer; it might even be found by this commission that the farmer was not receiving enough profit. Let this investigation be entirely friendly to the farmer.

It is our judgment that such a survey would not only reveal where the production could be increased at less cost to the farmer, but that it would directly reveal the true points of attack on the game of profiteering, by the simple process of subtracting the base cost from the price to the final consumer.

It is high time that the farming industry be viewed with a fresh industrial eye, one that is not obsessed with the present traditions of farming. Such a fresh eye might reveal why the farming industry has not been developed in proportion to other industries.

Yes, if the farmer is charged less by everybody else, he can produce for less, and that seems to be the grand jury's sound judgment of the situation. Of course, it must not be inferred that this grand jury has an idea that it is easy to determine the cost of a farm crop, but qualified economic investigators can determine it to the extent of a normal cost and price the factors entering into it in such a way that with their rise and fall just figures for base cost may be closely adjusted and the farmer's "relative justice be secured"—a thing which he is generally denied.

THE FRESH EYE ON FARMING.

Mr. Gibson has surely given us a picturesque phrase expressing a most significant truth. We have heard manifold exhortation during recent years of the need of a fresh eye in farming—that is, the need that the farmer should be taught to see how he can produce more with the same land, etc., and thus, presumably, be able to sell for less and still make a living. This is about all that the public mind will concede to be the farmers' right, although no fraction of this public mind would concede that such is its own right. We have had quite enough exhortation and explanation of how the farmer can produce more cheaply and therefore sell for less—nearly all of which is a guide-board to the poor-house for him. It is not a "fresh eye in farming," but a "fresh eye on farming," which this grand jury calls for. It calls for "a fresh industrial eye by which the farming industry shall be viewed." That is exactly what is needed. The eye not "obsessed by the present traditions of farming" is an eye which will no longer look upon the farmer as a man to be universally imposed upon—for the traditions of farming are that the farmer is a producer against whom finance, commerce, manufacture, transportation and labor shall charge the last cent the traffic will bear: that is, shall lay upon him every burden he can stagger along with and shall take from him everything except the bare necessities of life and leave as few as possible of them. Yes, we surely do need "a fresh eye on farming," and, judging by the parties who have held the old eye on farming, a grand jury is the proper source of such an indictment as is now found and filed.

A NEW GAME OF "PUBLICITY."

The plan of the Cleveland "special grand jury" seems to be to stop profiteering by placarding the "base-cost" of all commodities in places where these commodities are offered for sale to consumers. This will give all purchasers munitions for drives on retailers, and if consumers do their duty to themselves they will rattle these base-prices into the ears of the retailers until they put down their retail prices or put up their shutters. This base-price business is a great improvement on the proposition which requires a retailer to post the prices he himself actually pays for the goods he is selling, because the base-price uncovers all the middlemen who work between the retailer and the producer, and will give to the final distributor who, so far as practicable, buys directly from producers the advantage which properly belongs to him. He can undersell all retailers who buy indirectly, as he properly should.

But base-price posting does another thing which is even more important, viz.: it makes it exceedingly dangerous to speculate, because it will show the consumer when the speculator is robbing him and he will refuse to stand for it and will deny himself even his pet tastes by boycotting things which show speculators' inflation. For the retailer,

when posting the base-cost which the Cleveland grand jury proposes to require will protect himself by posting also the price which he has to pay for the goods he is offering. We can think of no way to turn "pitiless publicity" upon this great iniquity of robbing consumers by exactions after the producer gets his pittance doled out to him. It will no longer be a matter of "addition, division and silence." Every bright school teacher will send his students in arithmetic to the village store to work out "sums" all the way from addition to percentage from the storekeepers' price placards, and the whole community will hum with publicity. In fact, the many interesting things which can be done with these price-cards in a mathematical way will constitute the most popular parlor-game in every neighborhood, and while the kids operate mathematically the grown-ups will be kept busy also in drawing the moral conclusions and the local preacher will be quick to catch on with a burning sermon on the eighth commandment!

ONLY ONE GAMBLE IN A CROP!

By every moral and humane consideration there should be only one gamble in a food-product, and that is, the unavoidable risk which the man takes who grows it. No matter how good the land, the seed, the cultivation, the grower may make a drive at a crop with his full strength and wisdom and get nothing. The heavens above, the air around, and the earth beneath him are always full of destructive agencies and conditions which he will often be unable to avert or control. The farmer is therefore necessarily a gambler, and the only one admissible in the cycle which begins with the opening of the soil with the plow and ends with the opening of the consumer's jaws with interior yearning for nourishment. All the gamblers, small and great, who beset the many turns in this cycle should be cast out of it. There are, of course, many legitimate things which may need to be done in the accumulation, transportation and storage of foods, and whoever uses his time and money in such necessary service is entitled to reasonable reward for both, but such services are legitimate trade—not gambling and the inscription of such charges on the price-cards would create no sensations.

As for the risk of the only permissible gambler, the man who undertakes to grow the crop, it would of course, be covered in the base-price, which any group of expert economists would fix, as implied by the Cleveland grand jury in its suggestion of a "commission" to determine base prices. This would not remove risk from farming, for that is impossible, but it would, in the long run, qualify the thrifty and provident farmer to sustain his unavoidable losses by his own reasonable fore-handedness. In this way the whole consuming interest would insure its own continuous supply by contributing infinitesimally to the building up of a dependable farming business instead of contributing outrageously as it now does to the enrichment of idlers who spend their time in producing nothing but in figuring, figuring, figuring—all the way from the polished marble of the "exchange" floors to the mire of the curbstones. Yes, as the Cleveland grand jury claims, the determination of a fair base-price and the publicity thereof would "reveal the points of attack on the game of profiteering." And it is true, also, that the fact that this has not been done hitherto "might reveal why the farming industry has not been developed in proportion to other industries." It not only might; it would reveal it. Senator Borah, in a picturesque western way, said, the other day: "President Wilson lost his fourteen points in Europe because he 'sat in another man's game.'" Opinions may differ as to that, but there is no doubt that is just what the American farmer has always been doing and his business "has not developed in proportion to other industries," because he has been sitting in other men's games!

PASSING THE BUCK.

Current reports of meetings of associations of grocers indicate that these wide-awake tradesmen are endeavoring to parry charges of profiteering which some one is laying against them by counter-charges of profiteering against California co-operative organizations of food-product growers. So far,

It appears to be a process of back-firing, which has only added to the scorching of the groceryman who resorted to it. Colonel Weinstock, who is charged by law with the promotion of growers' selling organizations, has written to the secretary of an association which proposed to boycott the products of associated growers, a statement which is outlined in this way:

The State Market Director denies that rice, almond and other growers are about to announce excessive prices. He declares the increase of prices of organized products has been 15.7 per cent, while the unorganized products of the State have advanced 26.44 per cent in two years.

He denies that the California Rice Growers' Association has announced an opening price of from \$6.50 to \$7.50 this year, as against \$4.32 for paddy rice last year. He says the institution contemplates a wide advertising campaign to stimulate consumption, and it would be foolish to raise prices at this time.

Similar denials are made in the cases of prunes and almonds; of the latter an increase of about 3 cents a pound, which is absorbed by the increased cost of production.

Charges similar to those made by the retail grocers were investigated during the last session of the Legislature and found untrue. The organized growers want only their cost plus a reasonable profit, and that under the organized system the farmer receives his full share of the consumer's dollar.

It will probably surprise these retailers to hear that products of unorganized producers have advanced more than those which have organized producers to promote them. Their first thought will probably be that it is incredible that growers would organize to take less for their products. Well, of course, they do not—so that strain upon credulity need not be suffered. The fact is, of course, that profiteering by extortion or by speculation is practically ruled out in those products which are controlled by a producers' association. They have a base-cost fixed by the association, and every knows it, and it operates just as the Cleveland grand jury says it will—by "revealing the points of attack on the game of profiteering" so clearly that nobody dares to take a hand in that game with those products. With the other food products there is no such revelation of cost and profiteers gamble in them as freely and gaily as gambol the lambs in the spring time. Of course, Col. Weinstock does not say that growers of these unorganized products have enjoyed an advance of 26 per cent while associated growers have only secured 15 per cent advance. Oh, no! Sometimes an outside grower gets more than the base-cost, or fixed price, to members of organizations—for reasons best known to the profiteers who pay it, but the increased price which the retailers pay for such articles goes, not to the growers, but to the middlemen and speculators. This fact suggests two reflections: first, instead of boycotting the output of associations, the retailers should boycott products not certified and freed from speculation by them; second, our current experience furnishes a unique demonstration that the indictment of profiteering by the Cleveland grand jury is a true bill.

BASE-COST AND DAIRY PEACE.

If we had this base-cost proposition in working order we might avoid the unfortunate issue which is now being made against one of our largest and most necessary producers' organizations—the Milk Producers' Association. This association, which includes a large fraction of our dairy producers, simply desires to secure base-cost, which is understood to mean return of all actual outlay and a fair producers' profit. A few weeks ago certain tumultuous consumers' leaders raised a ruction against the Milk Producers, and they appealed to a group of advisory experts whom everybody respects for expertness and disinterestedness, and their decision was that the Milk Producers' prices were reasonable. As this decision has no constituted authority back of it, as the Cleveland grand jury contemplates providing for its base-cost determination, the combative consumers convinced the State Attorney-General that the Milk Producers ought to be proceeded against as a trust and suits were started in that direction last week. The Milk Producers appealed for support to other producers' organizations and a meeting of their representatives was held in this city on Monday of this week, and it is reported that at that meeting the other

associations decided that as the Milk Producers had not adopted the same form of organization that they had, they could not join with it in defending itself against the action of the attorney-general and so endanger the different form of organization with which they were successfully proceeding. The decision seems to have been that it is up to the Milk Producers to make their own fight for the kind of association they have organized. In our earlier references to this undertaking of the milk producers to get together we expressed the opinion that it had the form of a trust, and in some respects it had acted like a trust—both toward its own membership and toward other producers. For the good of everybody, perhaps, it is desirable that the courts should decide whether it is heading in the right direction or not. If it is, trials will strengthen it; if it is not, the sooner it is turned about and reorganized on a legal basis, the better. Apparently it is now organized to give a profit to other people than cow-men, while our other co-operative organizations work for their producing membership only. Otherwise than in this one regard, the Milk Producers may be like these other organizations, and if it had not been for this departure from the non-profit plan, which they regard as the basis of their strength and innocence, these other organizations would have responded to their appeal for help. This vexed question should be settled as soon as possible, for the dairy-men surely need organization to secure base-cost for themselves more sorely than any other group of producers.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Re-Planting Orchard.

To the Editor: I have an acre and a half of ten-year-old apple trees that I am going to take out to plant prune trees. Would it be advisable to reset the prune trees this spring or give the soil a rest for a year?—A. R., Morganhill.

You do not need to wait. Grub or blow out the old trees and plow the land as deeply as you can, pulling out all old roots. Get at this immediately so the generous rains (which the prophets say we shall have this fall) will have a chance to settle the soil. Lay out the new rows midway between the old ones, plant as early in the winter as the soil gets wet clear down, but is not holding cold water.

Green Feed for Brood Sows.

To the Editor: I have the use of seven brood sows. Have no alfalfa pasture. What feeds (roughage) can I grow for them?—A. W., Oroville.

You can get fine winter feed by sowing oats or rye with vetches, and if you have water to wet down the ground do it as soon as you can and then plow and harrow or drill in the seed without farther delay. If you are going to have water next summer, add some common red clover to your seedling now and it will fix you for feeding after you have mown off the grain and vetches during the winter. Red clover does admirably in the foothills if it gets its drinks regularly.

Don't Make a Fowl Work Too Hard.

To the Editor: If a food is deficient in protein can the fowl use carbohydrates, or fat, as a substitute to build muscle? If a food is deficient in ash can a fowl use carbohydrates, fat or protein as a substitute to make bone?—F. C. H., San Francisco.

In your carbohydrate food there is nothing by which it can supply its own deficiency in protein. It is hardly conceivable that you can find a food containing carbohydrates fat and protein in which they are not associated with lime enough to enable a fowl to stump along, but if you wish the bird to fly or run swiftly in production be sure to add bone-making materials. Profitable production is not a question of keeping alive.

Cover Crop in Prune Orchard.

To the Editor: The former owner of a prune orchard I have bought planted vetch as a green manure crop for the past two years, securing a good stand two or three feet high. I plan to plant melilotus indica and he has advised me to drill it in after irrigating the orchard, the latter part of

October or nearly in November. Do you consider this the best way? Would you advise inoculation of the seed? Would you recommend mixing in any other seed, such as bur clover, for the purpose of opening the soil with its longer roots? The trees are seventeen years old, are in fine condition, and I want to do all I can to keep them so.—H. W. S., Oakland.

Your predecessor gives you good advice. The way to get a good stand of melilotus is to get the seed in early so that the plant can make growth from the autumn heat—when there is moisture present to enable it to do so and that you make sure by irrigation. We apprehend that inoculating seed for ground which has grown such legumes as you mention is not necessary, though it would be enterprising to inoculate part of the seed and mark where you sow it and test out the matter by comparison of the growth of treated and untreated seed. It would make you surer of stuff to plow in under if you sowed some bur clover with the melilotus, but not for the purpose of getting longer or larger roots, for melilotus roots are much larger and longer than bur clover roots.

The Peach-Almond.

To the Editor: Two years ago, in the lower San Joaquin Valley, I observed an old neglected orchard of peaches, almonds, plums, pears, etc., on semi-adobe land. The peach trees were grown out of reach, scale eaten, some overloaded with "marbles," others with no fruit. The almond trees and some of the plums had been cleaned with red spider, but what attracted my particular attention was the large spreading branches—all in good foliage, thrifty, green—of what, on investigation proved to be a peach almond loaded with nuts and coming to normal maturity in the latter part of July. There was no sign of red spider, nor of the hard usage the surrounding trees gave evidence of—branches spreading in a radius of 15 to 20 feet and all in good foliage, gave evidence of unusual vigor and hardihood. It occurred to me that this must be a good root stock to employ in stead of peach or bitter almond root. I have since asked a number of nurserymen, but none of them seem to know anything about the adaptability of a peach-almond as a root stock. Will you furnish the information?—J. E. Bergtholdt, Newcastle.

Your nurserymen-counsellors are too young. They do not know as much as their grandfathers did. French and English gardeners knew the peach-almond and grew it largely as a curiosity. It appeared very early in California, which was reasonable as the pioneers grew their first peach trees from pits, which it was so easy to bring with them or to get by mail. They also planted almonds very early and either by local crossing of the two or because the peach is naturally sportive in that direction, peach-almond trees appeared in several places at about the same time and their possible value as a stock for the peach was a pioneer conception. W. B. West grew peach-almond seedlings at Stockton in the '50s, budded peaches on them, and secured what he described as "good trees." He stated that the peach-almond appeared in his nursery as a "chance seedling." About a decade later Senator Routier of Sacramento county was an earnest advocate of the peach-almond root for all peach propagation claiming that his use of it gave him "peach trees having smooth, straight stems and fine, spreading tops." But though freely advocated it was not largely used, probably because peach seedlings were easier to get and were so good. During the '70s and '80s the peach almond was always mentioned in peach discussions, but was never largely used. In the '90s Mr. Burbank produced a peach-almond by crossing the Wager peach with almond pollen. Thus, although the peach-almond is a very old novelty it is still up to you to demonstrate its value. So far as we know the prospect of success with it is just as good as it ever was.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending September 23, 1919.

Stations—	Past Week	Rainfall		Temperature	
		To Date	Normal	Highest	Lowest
Eureka .....	.00	.81	.91	66	48
Red Bluff .....	.00	.48	.46	100	58
Sacramento .....	.00	.40	.21	100	56
San Francisco .....	.00	.12	.12	93	52
San Jose .....	.00	.01	.25	98	48
Fresno .....	.00	.00	.08	100	56
San Luis Obispo ..	.00	.00	.29	90	50
Los Angeles .....	.00	.00	.00	90	58
San Diego .....	.00	.01	.00	70	60
Winnemucca .....	.00	.08	.54	80	40
Reno .....	.00	.00	.59	86	40
Tonopah .....	.00	.00	1.03	80	46

Los Angeles Implement and Tractor Exhibit

Written for Pacific Rural Press by R. E. Hodges.

"What proportion of ranchers already believe in tractor farming?" we recently asked a great many tractor salesmen individually, knowing that they had been "talking tractor" to many more ranchers than we had.

The answers were astonishing, not only in the percentages named, but also in the uniformity with which approximately the same percentage was named.

If we are to judge by these answers, over 90 per cent of ranchers believe in tractor farming wherever enough land is being worked to require more than two horses. There are good reasons and poor reasons why some of them have not yet bought tractors. The chief reasons perhaps are difficulty in disposing of draft stock without sacrifice and in obtaining capital enough to buy tractors.

Visitors Interested in Details.

The writer's observations at all the tractor and implement demonstrations and shows held in California, including the one at Los Angeles, Sept. 16 to 21, 1919, indicate a notable change in the attitude and interest of ranchers which seems to bear out what the dealers told me as quoted above.

That the idea of tractor farming and its economy as compared with horses need no longer be proved to ranchers of California seems shown partly by the light attendance at the Sacramento and Los Angeles demonstrations and partly by the location of the scattered crowds at Los Angeles.

Never before have we seen so few people following the tractors to see whether they could plow or not. Never have we seen so great a proportion of the spectators collected around the headquarters tents of the various tractors and implements. Their object in being there was shown by the questions asked and answered, not as to how many plows a tractor would pull, but as to what kind of material the various parts were made of, how to get inside of the machines, how many grease cups, what sort of ignition, how dust was kept out of the engine, what principles made the carbureters burn low grade oils most thoroughly, and other details of construction as numerous as there are. One salesman remarked that you can't evade a farmer's questions now by changing the subject as you could a year or two ago. He knows what he wants to find out and he is there to find it out. He knows he is entitled to the information before the salesman is entitled to ask for his money.

Most Businesslike Demonstration.

The Los Angeles tractor and implement demonstration of 1919 was not the biggest ever held, but it was perhaps the best in view of preparedness and completeness of detail in every exhibit. Not so many different makes of tractors were there as were shown at the State Fair or some previous demonstrations. But a saner idea animated the exhibitors in that fewer machines were tormented by overloads, fewer useless stunts were performed, and attention was devoted to real business.

The crowds were not so great as at some previous demonstrations; but it was noticeable that a large majority of the visitors were intelligently interested in tractors and implements. The weather could not have been improved, and the dry adobe soil was not so badly cemented as the soils of many previous demonstrations.

Arrangements for convenience of visitors were the best we have seen at a demonstration except for the effort required to eat at the cafeteria after seeing its kitchen and kitchen inmates. The drives were sprinkled, and automobiles were freely allowed everywhere. A free parking space adequately watched and with each machine checked in and out was well patronized. Shavings and chairs and plenty of drinking water made all tents comfortable.

Each Tractor Exhibit Separate.

Each tractor had its own tent on its own proportional acreage, and it per-



Airplane photo of part of the Los Angeles Tractor and Implement Demonstration field. Implement and accessory tents are most prominent, tractor tents generally being out on the fields not pictured here. Photo by Hughes.

formed whatever operations were desired.

Two tractors were shown which are rated around two horsepower on the drawbar and about four on the motor. At least two were shown with 75 horsepower on the motor. Twenty-seven different makes were on exhibition, twenty-six of which were in working clothes at honest labor. Each

make of tractor was represented by the largest number of individual machines on the average that ever graced a demonstration.

Best Implement Demonstration Ever Held.

The greatest farm implement show ever staged in California was that at the Los Angeles 1919 demonstration.

More individual houses showed great collections, and these included more complete lines for every farm operation than were ever shown before on one field. More new features and improvements were brought to notice at this demonstration than at any previously held.

Half a dozen great tents housed implements and accessories, several of them including tractors doing belt work on various grinders, alfalfa cutters, silage cutters, hay presses, corn shellers, etc.

On the fields, a multitude of every kind of implements lost paint and proved merits. Everything from plows and surface mulchers to deep subsoilers and compressed-air land levelers saw service behind the flocks of tractors. Orchard cultivation was emphasized in most cases. Eight or ten of the outfits had set out trees or stakes or posts at regular orchard distances and had worked down the hard adobe clods in some instances to a real soft dust mulch close to the trees and all around them.

The biggest crowds seen consistently following any one tillage implement, however, were those watching the big subsoilers in action. It seemed that this phase of farming engages an increased amount of ranchers' interest since it is acknowledged that power is now available to pull deep tillage implements.



Get The Best

ASK the driver of an automobile stage running to the deer country what is his choice in a rifle and ammunition. If he hunts, he is almost sure to say Remington UMC. No one is better able to appreciate the best.

Modern minded, well informed sportsmen the world over have come to depend upon Remington UMC for the most important improvements in their shooting equipment. No other manufacturer so completely justifies this confidence with modern service.

In hunting rifles, the highest efficiency is reached in the Remington UMC lock-breech autoloading and slide action repeaters—hammerless, side ejecting and fitted with safety lock. In cartridges, in the Remington UMC rimless high power .25 .30, .32 and .35 for these rifles.

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There are now more than 82,700 Remington UMC dealers in the United States—another important point of value in Remington UMC Service.

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Clean and oil your gun with Rem Oil, the combination Powder Solvent, Rust Preventive and Lubricant.

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Largest Manufacturers of Firearms and Ammunition in the World
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Conditions Facing Wine Grape Growers

(Written for Pacific Rural Press by Jno. J. Fox.)

At a meeting of grape growers convened for the purpose September 13 in the auditorium at the University Agricultural College at Davis by Geo. H. Hecke, Director of the State Board of Agriculture, the chief speaker of the afternoon was E. M. Sheehan, for many years Secretary of the State Board of Viticulture. His subject was that set forth at the head of this article, and gave a brief survey of the situation for wine and table grape men, as it generally stands today and the outlook for the future. He said in effect: "We have to face trying times for the next two months. We have a crop of wine grapes this year in excess of 400,000 tons. Formerly we knew what to do to take care of them. New conditions have arisen with National Prohibition and with the war-time provisional measure. No wine making means that all growers are looking for an outlet for grapes that have cost them twice as much to produce as it cost them four years ago."

Car Shortage Serious.

Some weeks ago, at the behest of the traffic departments of the transportation companies, I tried to estimate the tonnage of fresh wine grapes to be moved out of the State. After deducting the amount to be dried, or crushed for grape juice and grape syrup, I estimated there would be about 225,000 tons to be shipped equalling 15,000 to 16,000 carloads, in addition to some 16,000 carloads of table grapes. Our committee, working with the State Market Director, was told there was little prospect of 32,000 cars for grapes only. No further estimate could be given than possibly 300 cars a day for the State. And this for apples and other commodities that must be moved too. We could not get a line on grape cars at all. Now the supply of cars is entirely inadequate, and we can see no relief for at least two weeks, when some measure of relief may be hoped for. Not one quarter of the cars needed at Lodi are being supplied.

What Are the Needs?

Thirty-two thousand cars of grapes means that we need 500 cars a day for 60 days. They can't be supplied—nor half of them. Perhaps we won't get one-third of our needs. We were informed that no distinction would be made between accepting wine grapes or table grapes for car applicants. Also, if big packers wanted, say 50 cars, and small men only one or two cars, the small men will get equally good service.

Strange Conditions.

The endeavor to amend the Prohibition enforcement bill by permitting light wines to be consumed in the home brought forth a vague, indefinite reply. Many people figured they could make their own wine in their homes for home consumption, and orders for our wine grape began to pour in. This question is in doubt. No permission can be given. At present it seems to be against the law to make wine any time, anywhere for any purpose. The hope still exists that no interference will take place in home affairs.

Grape Juice from Lodi Grapes.

The Lodi wine-grape growers have been lucky. Fourteen thousand tons of wine grapes have been bought here by one firm. This will make 2,250,000 gallons of grape juice to be held for wine making, if practicable. Sulphurous acid is added (5 gallons to 100) to save it. This same grape juice is being offered at \$42.50 a barrel in New York, and lots of it is being sold. It is marketed as grape juice, to be later made into wine, after driving out the sulphurous acid. Our grape juice is not wanted without the skin of our grapes to give color or blend with Eastern.

What Are Our Outlets?

The best practical outlet for our wine grapes is through drying—if we can find a market for such raisins. Col. Weinstock has already busied himself in many foreign countries to this end. In a few months data will

be forthcoming with regard to this. There is a large domestic consumption now—a greater demand than ever for these dried grapes. No one need take less than 10 cents a pound for either dried white or black grapes. This method would also be a happy solution of the car problem.

Use Every Possible Outlet.

The advice of the old members of the Viticultural Commission to the grower is to use every possible outlet to save your crops where they cannot be sold or transported. If you can make unfermented grape juice—try that. If you can sell green and get transportation, do it. If you can dry your grapes, dry them or make into wine to hold them if you want to, however it may be handled later.

If you have contracted your grapes and they are ready for shipment but are held up for lack of transportation, you can salvage them in any way. The risk is yours. If a winery is operating the owner can crush your grapes

PROPERLY HOUSE YOUR TOOLS AND MACHINERY.

The present high cost of lumber should not deter us from building that machine shed or keeping the old one in thorough repair. It costs a lot of money these days to replace farm machinery and tools. For \$300 we can put up a shed that will hold the prune-dipper, tractor and cultivating tools, a truck and all the boxes for a small prune orchard—five or six hundred—and still have a good space to work in. A gravel floor is plenty good enough.

and take a chance on so many gallons per ton, or you can sell them to him outright. Syrup is not yet being made in large quantities, as there is no avenue of consumption yet in sight.

How Many Are Dried?

The tonnage to be dried will not exceed 10 per cent of the crop this year. About 25 efficient evaporators will try drying in Mendocino county this year. If dews or rains come some are going to try drying in the hop-kilns. A drier of grapes takes many chances without a proper evaporator.

A Good Market.

As to the possibility of selling grapes in the East, there are more purchasers than sellers. Fifty dollars a ton is being paid and lugs fur-

nished. This nets the shipper from \$35 to \$37 a ton with the price well guaranteed. One hundred dollars is paid down when the car is loaded and the remainder can be obtained at your bank on the bill of lading. Just ship and get your money.

Elements of Chance.

The elements of chance are lug boxes and cars. You might get boxes and no cars to ship them in, but boxes, too, are hard to get. There is plenty of sawed veneer, ends and cleats, but cars are short. The cost of boxes has risen from 8 cents to 20 cents in the last few months. Fifteen cents is too much. They were 17 cents yesterday. However, a few weeks may see them possibly down to 12½ cents.



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Those years convinced us that the Light Six should be more enduring. So late in 1916 we started to revise it, part by part. For two years, scores of specialists and experts have worked here to that end. And this new model, with its 100 improvements, shows the complete result.

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Thus, in 100 ways, we have added strength and endurance, lasting smoothness, freedom from trouble. We have built a car which stays new, both in looks and in performance. We have cut your cost of upkeep and your operating cost. We have eliminated scores of shortcomings which Sixes of the old type have developed.

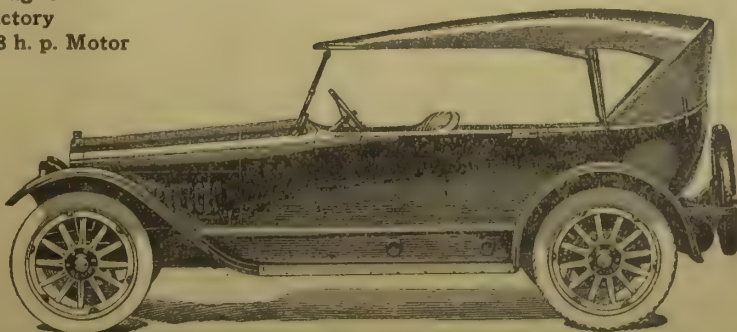
We have done all this at modest cost, through wonderful factory efficiency. We build the complete car—motor, chassis and body—under scientific cost-reducing methods. We have kept this new-type in the old-type price class.

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The Purviance "One-Man" Leveler is built of high grade steel, yet is light in weight and draft. It is strong enough, however, to stand very hard usage.

The leveler consists of a blade with a wing on either side, while a one-piece axle running the full

length of the machine is supported by two strong wheels at each end of the leveler.

The pull of a tractor practically loads and dumps the leveler, due to the arrangement of the draft and axle. The position of operating lever can be changed to suit various styles of tractors.

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6 foot Purviance One-Man Leveler.....	\$190.00
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New Experimental Evaporator at Davis

(Written for Pacific Rural Press by Jno. J. Fox.)

Probably more interest is centered in dehydrators and evaporating plants this year than in all the ten preceding years put together. For the wine grape growers see in it their chief hope of salvation. Prune growers believe they can improve quality, increase space, and decrease labor expenses by its use, and many raisin grape growers think the same. Besides, it is an insurance against foul weather.

At a meeting at the University Farm at Davis on September 13, called by G. H. Hecke, State Director of Agriculture, a representative gathering of growers from many counties met to inaugurate the opening of the new experimental evaporator. Demonstrations were given of dipping and drying wine grapes.

Dean Hubert E. Van Norman, Vice-Director of the University Farm, said that when the problem of evaporation was presented by the growers, the University had no funds for this particular work. The State Commission of Viticulture came to the rescue, and their offering, supplemented by Department help, availed to install the present plant. No figures are at hand yet, as the plant is new, though a few weeks will furnish some facts for future development. As fast as the department has any information to give out it will be given. The experiments will be conducted by Professors Bioletti, Cruess and Christie.

Result of Co-operation.

Professor F. T. Bioletti (Viticulture) said that co-operation had been, in existence for several years between the University and the State Board of Viticulture, for which there were results to show in various ways for the disposal of the wine grapes. Several methods of dealing with them were tried out, but the best way at the pres-

returned over a chamber at the top to the furnace room by the action of the blast fan and used over again. Mr. Cruess said, however, that the drying was slowed up by this method, the difference being 75 hours for a charge at Fresno by this method and only 24 hours by discharging used air. This again was reduced to 8 hours by using lye to cut the grapes. We were shown samples of dried grapes cured in the small laboratory plant at the University.

The new plant is designed to vary heat conditions from 100 degrees to 200 degrees. The humidity can also be regulated by the return air chamber and by the use of the suction fan.

The Lye Dip.

The dipping apparatus is an ingenious contrivance to handle baskets for dipping in the lye solution first and clear water afterwards, whence it goes direct to the tray. Four tins of lye are used to 50 gallons of water, or twice as strong as is used for prunes. The prunes are dipped at the boiling point. This carries off bloom and slightly checks the skin. Thompson's Seedless require about 4 to 5 seconds immersion, while Muscats, being tougher skinned need perhaps 20 seconds, and Zinfandel 8 to 10 seconds. Some men dip Thompsons in Soda Bicarbonate, though this may not give such a rapid rate of drying.



This cut shows the new experimental evaporator at Davis. A dipping demonstration is taking place at the right. The concrete sulphur house is shown in the foreground and the concrete furnace building at the left showing oil blast burner. By courtesy of H. J. Baade, County Agent, Napa.

ARCADIAN Sulphate of Ammonia

In a great many cases an application of ARCADIAN Sulphate of Ammonia now will help size the coming citrus crop in addition to prompting bud growth for next season.

ARCADIAN Sulphate of Ammonia is for sale by: CALIFORNIA: San Francisco: Hawaiian Fertilizer Co., Pacific Bone Coal & Fertilizing Co., Pacific Guano & Fertilizer Co., Western Meat Co., California Fertilizer Works. Los Angeles: Pacific Guano & Fertilizer Co., Pacific Bone Coal & Fertilizing Co., Agricultural Chemical Works, Hauser Packing Co. OREGON: North Portland: Union Meat Co.

For information as to application, write

The Barrett Company

Agricultural Department

510 First National Bank Bldg.
BERKELEY, CAL.

Do You Want \$100? Could You Use \$50? How About \$25?

Well then, put on your thinking cap and submit a name for our finest brand of California Canned Fruits. Remember, we are a co-operative growers' organization and we want a striking, distinctive, easily spoken, easily remembered name, which can be registered as a trade mark.

We are now operating three growers' canneries and expect to extend our operations into every part of California where the growers want to can their own fruit, and we intend to make our brand as famous as Sun-Maid on Raisins, Sun-Kist on Oranges or Sun-Sweet on Prunes.

For the best name selected we will pay \$100.

For the next best name (which we may use as a subsidiary brand) we will pay \$50.

For the third name we will pay \$25.

If two or more submit the same name, preference will be given to the one sending in the name first.

If interested in Co-operation, write us and we will tell you all about our \$400,000 canneries in San Jose, our plant in Tulare and our plans for further extensions all over California.

ADDRESS

California Co-operative Canneries
San Jose, California

ent time and demand seemed to be drying them. In the San Joaquin valley it is possible to dry the crop in the sun, using proper precautions, but in the upper and coast sections there is only one way—artificial evaporation. What kind of plant to use is the question. No evaporator has yet tried out in the coast counties for drying wine grapes, though a number have been built there both in Napa and Sonoma for prune drying.

Several processes have to be gone through. The grapes are dipped, rinsed and set on trays. Then they are probably sulphured. They may then be set in the sun for awhile and later evaporated. The whole course has yet to be worked out, and demonstrated for the most approved method.

Work So Far Preliminary.

Professor W. V. Cruess said the work to date was preliminary. He has studied commercial and practical dryers throughout the State in search of the right idea: a dryer that shall be easy to handle and not too expensive to build or to operate. He has seen dryers that have been installed costing from \$300 to \$50,000—a wide range. The latter was for drying capstem raisins and was a hot-air blast. The main defect was the length of tunnel, which was up to 75 feet. The owners advised cutting this length in half.

The Demonstration Plant.

The new plant is so constructed that the various methods now practised can be tried out. The end of the building is moulded to take in suction fan for carrying off moisture-laden air, if necessary. Or the heated air can be

Trays and Sulphuring.

The trays shown at Davis are half-inch mesh. Professor Cruess advises ¼-inch mesh to prevent loss of shattered grapes. The grapes are improved in color by sulphuring, even the red ones profiting thereby if needed for grape juice or wine-making. They are taken direct from the dipper to the sulphur house. Fifteen to 20 minutes of sulphuring is enough if they are evaporated afterwards, while 3 to 4 hours are needed if they are to be dried in the sun.

The Sulphur House.

The sulphur house is of reinforced concrete and will hold two cars of 60 trays of 30 pounds to the tray, or 1½ tons to a charge. A small adjustable vent is placed in the roof to assure complete combustion of the sulphur. The sulphur-pit is slightly offset to avoid burning of grapes. One of the problems is to determine length of time desirable in the house.

The Evaporator.

The evaporator is a tunnel 33 feet long, 6½ feet wide and 7 feet high, with a blast fan next the furnace room and a suction fan the other end. Either or both can be used. The amount of humidity desirable for various fruits has yet to be determined. Thermometers—read from the outside, are placed at three points, the hottest one being self-registering. The tunnel holds 8 cars. If laboratory tests can be duplicated here, a charge of grapes can be cured in from 12 to 15 hours. When the point of entry of heat registers 150 degrees, the other end of the tunnel only registers 100 degrees. (Continued on page 419.)



20 POT BULBS, 20c.

6 New Purity Freesias, 1 Babiana, 1 Eucharis, 1 Star Bethlehem, 1 Double Rosebud, 3 Buttercup, and 4 Grand Duchess Oxalis, and 1 set of New Winter-blooming Spencer Sweet Peas and Catemans, and all bloom this winter. ALL MAILED FOR 20 CENTS. Big catalog, free, of Hyacinths, Tulips, Narcissus, Pansies, Lilacs, Irises, Phloxes, Hardy Plants, Striped Vines, Ferns in great variety, Aboretion window plants for winter, Succs, etc.

John Lewis Childs, Inc., Floral Park, N. Y.

and now comes the

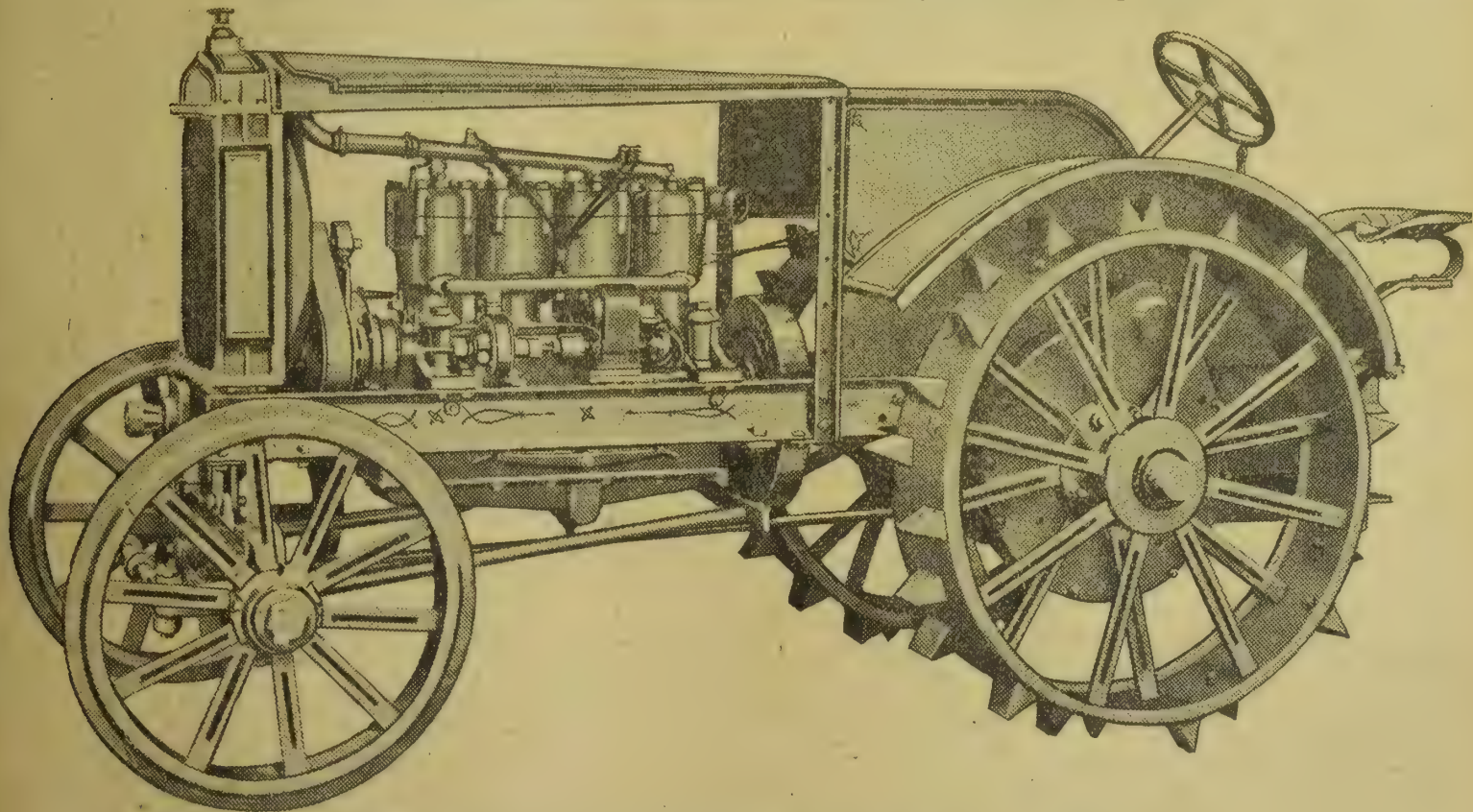
CALIFORNIA ORCHARD MODEL

of the famous

Allwork Kerosene Tractor

Allwork II

12-22 h.p.—4x6 four cylinder motor—4000 lbs. weight and still only 50 inches wide, 55 inches high with a 75-inch wheel base and a remarkably short turning radius



PRICED to be the Greatest of All Tractor Values

All gears enclosed in a bath of oil.
Timken and Hyatt bearings throughout.
Rear axle differential.
Individual rear wheel brakes.

Kerosene or distillate burning engine.
High tension magneto.
Five bearing crankshaft.
Three speeds forward and one reverse.

Carefully working out every detail that is demanded by the orchardist and vineyardist of California, the old established Electric Wheel Company, Quincy, Illinois, announces the ALLWORK II Tractor built especially for California horticultural conditions and with specifications and performance that command the interest and attention of every producer of fruit.

The idea that has made this tractor so pre-eminent was the development of a very powerful engine in a short, low, easy turning tractor, giving the owner more power than he ever had before for the money, less load to bear down, more standard units and greater efficiency in a small working space especially around trees and vines. We want you to see this tractor and pass judgment upon it.

Dealers who are looking for a tractor highly desirable in the citrus and deciduous districts of California will find the ALLWORK II will sell readily and be a service and satisfaction to the owners.

Orchardists will find in the ALLWORK II many features that have not been included in any tractor yet offered. Write us for full descriptive literature.

GRANT & CO.

Distributor for Northern California and Nevada.
Sacramento, California

ELECTRIC WHEEL CO.,

914 Story Building, Los Angeles, Cal.

L. M. RAILSBACK, Representative.

Factories: Quincy, Ill.

Electric Wheel Co.,
914 Story Building, Los Angeles, Calif.

Please send descriptive folder concerning The California Orchard Model, The ALLWORK II tractor.

My Name

Address



The **49^{er}** says—
"the genuine **GIANT**
dates back to
1866"

"I remember well when we used black powder for stump blasting and mining. Just after the Civil War the first Giant Powder ever made in the United States was manufactured in a little laboratory in what is now Golden Gate park.

"Out of that beginning has grown The Giant Powder Co., Con., with its chain of great plants and magazine stocks throughout the entire West. And the Giant Farm Powders are being used for stump blasting, boulder blasting, tree planting, etc., by thousands of Western land owners. Giant Powders have always been so popular that some people have thought any ordinary dynamite was Giant Powder, but that is wrong. The only way to get Giant economy and efficiency is to get the genuine Giant Powders made by the originators of the name.

Just tell us "send me your book," and we will mail you our valuable guide to blasting, "Better Farming with Giant Farm Powders."

THE GIANT POWDER CO., CON.

"Everything for Blasting"

216 First National Bank Bldg., San Francisco
Branch Offices: Denver, Portland, Salt Lake City, Seattle, Spokane



STUMPING

EUREKA

Here and There in the Fruit Business

"Knocking Almonds."

The California Almond Growers' Exchange says: "A certain firm of speculators, who, we believe, are buying most of the almonds outside of the Association, say in a circular known as 'Brokers' Advice,' in part as follows: 'It is with pardonable pride that we call attention to the fact that, without exception up to date, our opening prices this year have been materially lower than those subsequently named by the different associations, and we know this is bound to aid our Brokers when they solicit business for our account after we have named prices for 1920 crop next spring.' See? They can sell at lower prices than the association pays and still make a profit out of your almonds and you can't blame them—that's good business. They are so sure of you that they can name prices for your nuts in the spring before the shell has formed. Is this speculation or betting on a sure thing?"

Apricots Dried Light.

We have heard quite a few complaints of apricots drying out light this year, and apparently it was quite general in the north. Percy R. Dexter of Gilroy said that his Moorpark dried away 5 to 1 this year. F. B. Smith of Saratoga told us his Blenheim dried out 6-1, and W. H. Schrader of Los Gatos also had 6-1 results. A. C. Kuhn of Evergreen kept account of his fruit from young orchards. He said, "The shrinkage on my apricots was 5% to 1. In these figures we averaged the boxes of fruit at 40 pounds, which I believe was right, though we did not weigh every box."

It is difficult to account for this condition except that the weather was very generally cool during the ripening period, except at Mr. Dexter's. It may possibly have been that the fruit was picked a little too close on account of the high price of labor. But with green fruit at \$100 to \$110 a ton this year, it would have paid better to ship to a cannery than have that much shrinkage.

An Eight-Hour Day for the Farmer?

"Say, what's this talk about an eight-hour day for the farmer?" said a jolly looking grower at the State Fair to the writer. "If production is short now, how would the world fare if we fellows cut down our days to eight hours? It is production that is going to bring down the cost of living. We farmers mainly spend our earnings in efforts for reproduction, and all the hundreds of million of dollars we get for our products come back to the State and everyone that is a worker benefits. If the farmer makes money everybody gets a look in. For this money comes where there was none last year—from a new creation, so to speak. This year has shown better than ever before what our growers' organizations are worth. We have doubled some of our yields in ten years, and yet our stuff sells readily and is well distributed. Yes, I am going to buy me a tractor this year. Eight hours! Come and have a drink of buttermilk."

To Plant Figs at Oakdale.

200 acres have been bought by fig men from Fresno in the Leitch Colony, Oakdale (Stanislaus County), to be set out to Kadota figs. Another man from Orange Cove has bought 40 acres for the same purpose, and various others have bought in the last few months with an eye to figs. The bare land price is still around \$100 an acre. This section is already known as an almond producer.

"Constitutional" Wine.

Wine is to be manufactured at several large wineries in the State this year that will not be in contravention

of the Prohibition Act, according to word received by John B. Carter, Collector of Inland Revenue. The alcoholic content down to one-half of one per cent is extracted when the wine is ready for marketing. C. E. Pickett of Calistoga says it is not biblical because it "maketh not glad the heart of man," for even the color loses its roseate hue and becomes cloudy and uncertain. Perhaps that is why it is called "constitutional." To the layman's ear it sounds rather sombre and colorless. Captain Kidd's toast, as he lifted his beaker of grog, used to be, "Down with strong drink!" And that is what the government says.

The Loss on Cling Peaches.

There has been quite a loss in cling peaches for two reasons. One was unavoidable, and that was shortage of water in some quarters when it was needed to size up the fruit. The other reason was inadequate or no thinning of the peaches, and this will result in a loss of fruit which might otherwise have been marketable. It is true that labor was difficult to obtain when it was needed and prices for day labor were very high, but more thinning might have been done.

Kearney Figs Prospering.

Last year 3,000 border Adriatic fig trees on the noted Kearney ranch owned by the University of California, near Fresno, produced 120 tons of figs. Some of the land has been sold and the number of trees reduced by a few hundred, but the other trees are bearing a still larger crop than last year, needing heavy propping to save the branches.

Labor Organization in San Joaquin.

The large fruit centers have done admirable work in the matter of labor organization of the fruit harvests. Permanent plans to the end will doubtless supervene in view of the rapidly increasing demands of growers who will need importations annually, for years to come apparently, just during the harvest season.

Butte County Olives.

Our earlier estimates on olives are hardened. The crop in Butte county is reported 60 per cent of a crop or better than last year. The quality is excellent and the trees as usual in A-1 condition. Los Angeles county claims pretty well a normal crop of olives. The price of oil keeps the fruit high.

The California Peach Growers in Fresno have sent a letter to all members advising the drying of small clings whole. Realizing that canneries would run smaller this year they anticipate that the Association can market small peaches dried, and so allow the growers to realize on otherwise unmarketable fruit. The peaches are to be quartered, leaving the pit intact, sulphured generously and dried in the sun in the usual way.

Show up well and provision has been made to dry quite a tonnage of this crop for export, it is said. We know nothing of the markets for this dried product. Should markets develop for any material quantity of dried wine grapes, added interest will be shown in evaporators to handle the crop for storage. From 8 to 10 cents has been paid for the dried grapes. No estimate of the value of this crop can be given, though \$25 to \$55 has been paid green.

Shasta County's prune crop will amount to about 1200 tons according to Horticultural Commissioner B. F. Stroup, according to size, on the present basis, they should average \$280 a ton.

PAYS TO RAISE A COVER CROP OF BUR CLOVER SEED.

At 15 to 20 cents a pound why would it not pay to raise a crop of bur clover seed, which is always in demand for cover-cropping because it is such a sturdy and persistent grower? The threshed straw is mighty good feed, too. In order to make the bur clover stand up for cutting and harvesting from 15 to 30 pounds of grain might be sown with it.

Fruit
Trees



That
Produce

Losse Blenheim Apricots

One of the finest 'cots in existence.

The fruit grows to a uniformly large size—is of finest flavor and quality—and brings a big price in the market.

We offer the Genuine Losse Strain—budded from the original Losse orchard.

Write for further information—also our latest price list.

Elmer Bros. Nursery

"The Nursery that Helped to Make Santa Clara Valley Famous"

76 So. Market St., San Jose, California

"GROZ-IT BRAND" Pulverized Sheep Manure

Cheapest and most efficient fertilizer — Highly concentrated — Dry, Odorless — No weed seed or foreign matter—a natural fertilizer.

Contains plant food as follows:

2.50%	Ammonia
1.25%	Phosphoric Acid
4.00%	Potash Water Soluble
15.00%	Available Humus

PACKED IN BAGS OR BULK

CALL OR WRITE US—

PHONE

KEARNY 1542

PACIFIC MANURE & FERTILIZER CO.

429 Davis Street, San Francisco, Cal.



The Winchester Pattern. 320 pellets out of a possible 431, or 74% of the shot charge, evenly distributed; no birds get through

How big a bag will you bring back?

THE difference between a bulging bag and a lean one is often a question of gun and shells and not of shooting skill.

Make sure you have the right game-getting combination—shells that kill when the aim is true, and a gun that enables the shell to make its best pattern.

Good shell patterns are either *allowed* or *prevented* by the character of the gun barrel—the chamber, bore and choke.

Faulty chambering even more than faulty choking tends to mash and “ball” the shot, making pellets fall short or fly wide.

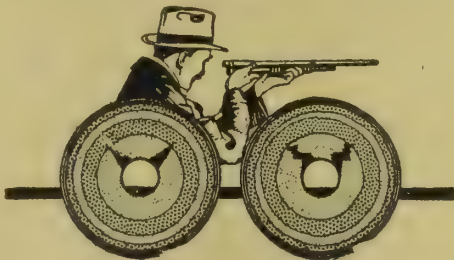
And if a gun is faulty in its most vital part, the chamber, the chances are that the bore is also carelessly made.

From chamber to choke, the barrels of the famous Winchester Repeaters are bored to make the shell throw its highest pattern. They are free from shot-jamming defects. They let the shell do its full work.

“Line” test the barrel

Point a Winchester barrel toward the light and look through the bore.

It looks like a highly polished mirror. Not a false shadow throughout the bore. Sight through the bore at a horizontal black line on the window. This line will throw a “V” shadow in the bore. Tilt the barrel till the point of the “V” touches



The “Line” test

Perfect bore of Winchester barrel revealed under “Line” test.

Irregularities revealed in inferior shotgun barrel under “Line” test.

the muzzle. The perfect “V” shows absence of irregularities.

This is the “Line” test of a perfect bore. No faulty barrel can pass this test—the “V” will be distorted.

What  means

This mark on a Winchester barrel means that the gun has passed the “Winchester Provisional and Definitive

Proof” test, having been fired many times for smooth action and accuracy, and strength-tested by firing 25 to 40 per cent excess loads. This stamp stands for Winchester’s guarantee of quality, with 50 years of the best gun-making reputation behind it.

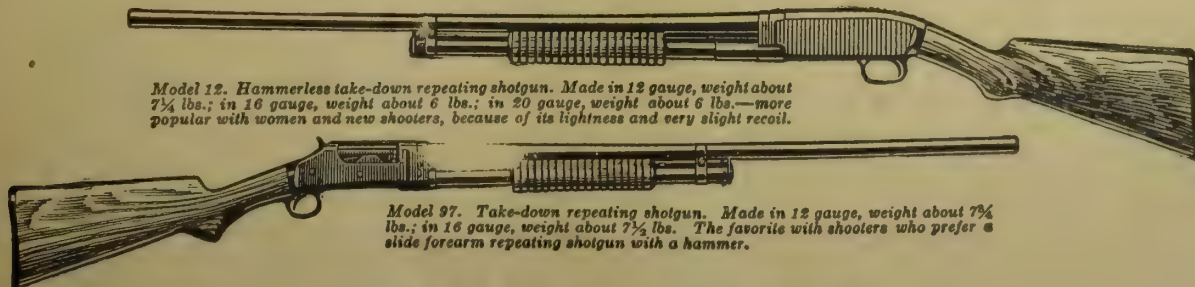
Your dealer will show you Winchester Guns and Ammunition

Before you take to the woods this Fall, get your dealer to show you a Winchester Repeater—Model 97 for hammer action; Model 12 for hammerless. Put one to your shoulder, try its balance, see how beautifully it handles. Your sportsman’s instinct will tell you it’s the best weapon you could choose. Leading hardware and sporting goods dealers in every community carry Winchester Arms and Ammunition. They will be glad to assist you in selecting the gun best suited to your needs. Upon request, we will mail you, free of charge, the complete catalog of Winchester guns and loaded shells.

WINCHESTER REPEATING ARMS CO.
Dept. 151 New Haven Conn., U. S. A.

Important Notice

The chamber, bore and muzzle choke of all Winchester Shotguns are reamed to micrometer measurements for the particular Winchester Shells they are meant to shoot. You will get the highest and most uniform pattern results by shooting Winchester shells in Winchester guns. The two are made for each other.



Model 12. Hammerless take-down repeating shotgun. Made in 12 gauge, weight about 7½ lbs.; in 16 gauge, weight about 6 lbs.; in 20 gauge, weight about 6 lbs.—more popular with women and new shooters, because of its lightness and very slight recoil.

Model 97. Take-down repeating shotgun. Made in 12 gauge, weight about 7½ lbs.; in 16 gauge, weight about 7½ lbs. The favorite with shooters who prefer a slide forearm repeating shotgun with a hammer.

WINCHESTER

World Standard Guns and Ammunition

CAR SITUATION

Attitude of California Fruit Distributors

TO ALL MEMBERS:

Since the early part of the year, we have been continuously after the Railroad Administration to force complete recognition of the needs of the deciduous fruit industry for 1919, in the matter of transportation, car supply, schedules, etc. We have a number of times held a personal conference with the Director of Traffic at Washington, as well as other officers of the Railroad Administration and car lines.

We have exchanged telegrams and letters as follows:

Sacramento, California, September 16, 1919.

Sacramento, California, May 23rd, 1919.
Mr. W. G. Barnwell, Traffic Mgr., Atchison, Topeka & Santa Fe Railway, San Francisco, Cal.
Mr. G. W. Luce, Traffic Mgr., Southern Pacific Railway, San Francisco, Cal.
Dear Sirs:—During the war, the Railroads found it necessary to lengthen the time of hauling fruit across the Continent. Under pre-war conditions, we had an established service, wherein we could sell in New York the tenth morning, Chicago on the seventh morning. This schedule was changed by the Railroad Administration, so that during war times, we were supposed to get the fourteenth morning in New York, and the tenth morning sale in Chicago.

The war is over. We should go back to pre-war conditions. We ask for the establishment of the old schedules and running time to Chicago. Would request that you immediately arrange for such service.

Awaiting immediate advice, I remain, yours very truly, CHAS. E. VIRDEN, General Manager.

San Francisco, Cal., May 31, 1919.
Mr. Chas. E. Virden, General Manager, California Fruit Distributors, Sacramento, California.

Dear Sir:—Have just returned from Southern California and find awaiting me your letter of May 23rd, in matter of reinstatement of pre-war eastbound schedule for deciduous fruits.

Will bring the matter to the attention of the Administration and urge immediate disposition. Yours very truly, W. G. BARNWELL.

San Francisco, Calif., June 13th, 1919.
Mr. Chas. E. Virden, General Manager, California Fruit Distributors, Sacramento, California.
Dear Sir:—Referring to your favor of May 23rd concerning eastbound fruit train schedules:

This subject has been carefully considered by the Administration officials in Chicago as well as those on the Coast and the conclusion has been reached that the schedules adopted for movement of last season's traffic should not be disturbed, excepting that trains should be made up and moved as blocks of fruit are assembled, the same as in seasons previous to the last; this instead of confining the departure to certain hours of the day.

It is the understanding of the Administration that the manner in which last season's fruit was handled, both as to time in transit and particularly with reference to regularity and dependability of service, met with the approval of fruit shippers, they having so expressed themselves at the fruit meeting held at Sacramento, May 15th.

Considering the abnormally heavy traffic to move the coming season, our operating people tell us it will be absolutely necessary to secure out of locomotive power the very best possible performance if we expect to make deliveries on time, which we understand is more desirable in preference to an irregular performance by endeavoring to move a heavy crop on a faster schedule. Yours truly, G. W. LUCE, W. G. BARNWELL.

Sacramento, Calif., June 16, 1919.
Mr. G. W. Luce, F. T. M., Southern Pacific R. R., San Francisco, Calif.
Mr. W. G. Barnwell, A. F. T. M., Santa Fe Ry., San Francisco, Calif.
Gentlemen:—I am not satisfied with the reply that you made under date of the 13th, pertaining to reduction of schedules on eastbound fruit trains, you saying that at the meeting held in Sacramento on May 15th, the schedules met with the approval of the fruit shippers.

My notion of this meeting is that the Transcontinental schedules were not even discussed. This meeting was held for the purpose of discussing conditions within the state such as time of pulling trains and placing of empties, assembling, etc.

I am of the opinion that the 1919 perishable fruit movement throughout the United States is going to be the heaviest in the history of the industry, and it is going to tax to the utmost the railroads in the providing of refrigerator cars, as I think we all realize there has been practically no new refrigerators built in the past two years, and as far as I can learn there are none under construction at this time, and it must naturally follow that some of the service are in need of complete overhauling, etc.

Now it does seem to me that you can conserve traffic conditions and more fully protect the requirements of the growers and shippers by handling these trains under load in the quickest possible time. In other words, get back to pre-war schedule, or better, and a very definite effort should be made to have empty equipment returned promptly to producing fields. If these things are done it will result in a greatly increased availability of refrigerator cars and will also mean a considerable reduction in the amount of ice consumed in shipment under refrigeration, and we are told there is a short supply of ice.

I may be entirely wrong in the position I am taking, but I have yet to be shown.

Realizing as you gentlemen do the necessities of the California growers, I think you should urge the schedule that I proposed in my letter of May 23rd, and I ask that you give this your further and immediate consideration and let me have a reply.

Yours truly,

CHAS. E. VIRDEN, General Manager.

C/o Mr. J. H. Dyer.

Sacramento, California, July 23, 1919.
G. W. Luce, F. T. S. P. Railroad, San Francisco, California.
Mr. W. G. Barnwell, A. F. T. M. Sfe Railway, San Francisco, California.
See my letter June sixteenth asking for reduction in schedule across Continent which means a greater availability of refrigerator cars, material reduction in amount of ice consumed and greater efficiency in handling of this perishable industry. Stop. If nothing happens the movement from this state during month of August will be extremely heavy followed by like movements in September and possibly October. You realize that today there is not a surplus refrigerator car west of the Sierras. By this I mean we are practically using every car that is available from day to day. If there should be an interruption in the return of these empties we are going to suffer. There should be a seventy-two hour supply of empties at loading stations so if any delay to operations, wrecks, etc., should prevail it would not prevent us from loading. I again appeal to you for a reduction in schedule and would ask that you advise by wire whether or not you are going to take action on this request.

SM 11:25 a. m. W.U.

CHARLES E. VIRDEN.

Carbon copy of above telegram sent to J. H. Dyer, Gen'l Mgr. U. S. R. A., 11:25 a. m., July 28th, 1919.

San Francisco Calif., July 29, 1919.
Chas. E. Virden, Calif. Fruit Distrs., Sacramento, Calif.

Your wire twenty-eighth about re-establishing pre-war eastbound schedule deciduous fruit matter has been carefully considered with conclusion that no change will be made in present schedule, believing that all things considered present schedule will provide regular dependable service. Stop. Supply refrigerator cars being given closest attention with full realization that it is necessary to keep cars moving westward and every effort is being made to that end.

W. G. BARNWELL, July 30, 3 a. m.

Chas. E. Virden, Sacramento, Calif. San Francisco, Calif., July 29, 1919.

Your request for reduction eastbound schedule deciduous fruit has had very careful consideration by the Administration at different times from different angles since its receipt with the conclusion that no change will be made in present schedules, believing that after considering ice supply, reicing and car situation, also movement of fruit, that present schedule will render regular dependable service on the fruit. Stop Supply of refrigerator cars being given most vigorous attention with knowledge that it is necessary keep empty refrigerators moving westward, and every effort is being made to give adequate supply; and if any failure to do so, coupled with all that is being done for movement of fruit East and empties West, it is beyond prevention. Stop Further it is thought if reductions in schedules east made it would conflict with all factors entering into the service and retard movement west-bound of empties. Stop Viewing subject as an entirely stability of schedule eastbound and the facility of moving empties westbound are both promoted by present arrangement. Stop While few cars may make better than present schedule it is the entire movement of both fruit and empties that must be considered.

G. W. LUCE, 11:42 A.M.

C. E. Virden, Truckee, Calif., July 29, 1919.

Your telegram yesterday empty PFE cars receiving special train service from Ogden west just received advice that administration making arrangements move three thousand FGE cars to California just released from Georgia and Florida service. These cars now reaching Chicago in liberal numbers and expected move west average two hundred per day which with return empty FFE cars should give us approximately four hundred daily empty west through Ogden gateway.

J. H. DYER, 3:07 P. M.

Mr. Wm. Sproule, Director of Railroads, Sacramento, Cal., Aug. 5, 1919.

We are not obtaining sufficient cars to handle our business. For example, tomorrow the hill points and other additional districts around Sacramento will need hundred thirty-five cars and the Pacific Fruit Express tell us that the most they can hope to deliver will be sixty-five and they are not certain about this. Stop Something must be done and done quickly. A large tonnage yet to be moved and quick action is necessary. We appeal to you to take immediate steps to avoid the tremendous loss that will follow to the growers and shippers if equipment is not furnished.

CHAS. E. VIRDEN, 2:10 P. M. WU.

Chas. E. Virden, Sacramento, Calif. San Francisco, Cal., Aug. 5, 1919.

Wire date expect to place for loading seven a. m. tomorrow one hundred forty empty refrigerators in Sacramento territory. Will continue to do everything possible to protect loading.

WM. SPROULE, 11:30 P.M.

Mr. Edward Chambers, Director of Traffic, Washington, D. C. Sacramento, Calif., Sept. 5, 1919.

We are now meeting with serious car shortage with very little relief in sight, in fact our advice is to the effect that we may expect even greater shortage. Most of Tokay crop yet to move and considerable part of the table grapes in Fresno district yet to be shipped. While we have no way of checking we are told that movement of winegrape varieties is heavy. This you can probably verify from your Pacific Coast offices and as per our conversation consider that now is time to act so that table grape industry may be fully conserved. Would appreciate immediate answer.

CHAS. E. VIRDEN, 10:00 a. m.

C. E. Virden, Washington, D. C., Sept. 9, 1919.

Your fifth supply will appear serious for few days but as soon as results strike are overcome will be more regularity in movement. Am watching winegrape situation closely. Have no information yet that it is interfering in any serious way with shipments of table grapes or other fruits.

EDWARD CHAMBERS, 5:40 p. m.

Mr. Wm. Sproule, Director of Railroads, Sacramento, Calif., Sept. 11, 1919.

Car supply has been entirely inadequate and is now very critical. Will involve growers and shippers in tremendous losses with absolutely no one to blame except Railroads. Positive and drastic action should be taken this morning to relieve this situation. Stop Greater co-ordination should be immediately obtained. It is getting so we never know what to expect. This is a business that is deserving of the personal and effective attention of someone connected with the Railroad Administration.

CHAS. E. VIRDEN, 9:10 a. m.

Chas. E. Virden, California Fruit Distrs., Sacramento, Calif. San Francisco, Calif., Sept. 11, 1919.

Your message 11th received. Appreciate difficulties created by shortage of refrigerator car supply which efforts of all parties concerned have not been able to remedy because of large crop demands throughout United States in producing districts supply is improving and within forty-eight hours this improvement ought to be manifest. I have subject actively in hand both with Administration officers east and with refrigerator car lines since you tried to phone me have endeavored to reach you by phone but without success. You can rely on best being done that circumstances will allow.

WM. SPROULE, 1:43 P. M.

Mr. Edward Chambers, Director of Traffic, U. S. R. A. Washington, D. C. Sacramento, Calif., Sept. 11, 1919.

Something must be done immediately and executive action should be taken instantly towards furnishing cars to move grapes. Shortage is an extreme one. The present position is the most critical in the history of the industry. We appeal to you to take personal and forceful action. Answer fully.

CHAS. E. VIRDEN, 11:45 a. m. WU

Chas. E. Virden, Sacramento, Calif. Washington, D. C., Sept. 12, 1919.

Your yesterday careful survey of situation leads me to believe no serious car shortage will continue and that supply will improve daily. What has happened was anticipated as I advised you message a few days ago. Results of strike are about overcome. I am still looking into winegrape situation and will let you know result shortly.

EDWARD CHAMBERS, 12:01 P. M.

Respectfully submitted, **CHARLES E. VIRDEN, General Manager.**

THE NEW EXPERIMENTAL EVAPORATOR AT DAVIS.

(Continued from page 414.)

isters approximately 120 degrees, and the chain of cars is moved down and replenished from one end as fast as they are cured. A continuous run turns out from 5 to 5½ tons a day, it is estimated.

The temperature is very important, says Mr. Cruess. Grapes can stand up to 200 degrees when wet, but when dry not over 150 degrees, and even that tends to caramelize the grapes when they are very dry. The dryer the fruit the more susceptible it is to injury from heat.

Furnace Room.

The furnace room is of reinforced concrete with a floor 12 inches thick and 6 inch walls. An old boiler with the tubes taken out forms the heat chamber, ingeniously built in. There are two sets of heat blasts—one plain air and one forced air, both oil feeds. The roof is also concrete, with woven fence wire for reinforcement. The fresh air is regulated by doors, and the fan is closely set in a molded aperture. Waste of heated air is avoided to the greatest extent. The blower burner is operated by a 1/16 H. P. motor and burns stove distillate at a cost of 25 to 30 cents an hour. About 30 feet of 12-inch pipe is used for heating the air. The blast fan is operated by 7 H. P. motor, though a four is enough. It revolves at the rate of 300 revolutions a minute, conveying 300 cubic feet of air to the tunnel in that time.

Prof. Cruess probably knows more

about evaporation and has conducted more experiments than any man in the State. This fall we may expect results in experimental grape drying that will be conclusive. At any rate there will be something definite to go on—something workable.

HORTICULTURAL JOTTINGS.

The first carload of fresh wine grapes ever shipped out of Napa Valley was sent from St. Helena September 13.

The big wineries in both Napa and Sonoma Counties are crushing grapes, and a more hopeful feeling prevails in salvaging the crop.

Forty thousand acres of timberland and brush have been burned over in the Los Angeles National Forest, according to Supervisor R. H. Charlton, and the fire was still raging September 18.

An 80-acre crop of grapes has been sold at Tulare for \$25,000, picking and curing to be done by the purchaser. The owner gets \$312 per acre for his grapes without doing a tap—some record.

The Watsonville district, which produces half of the State apple crop, will ship approximately 3,000,000 boxes in 1919 as compared to 2,500,000 boxes in 1918, according to the Bureau of Crop Estimates.

A number of hop growers in the Sacramento valley have refused 57½ cents a pound for their 1919 crop, believing the price will go to 75 cents before the crop is cleaned up. Very few lots are left uncontracted for.

A delegation of deciduous and citrus fruit growers met with the director and staff of the State Board of Agriculture at Chico on September 16, to outline plans for the State Convention to be held there in November.

Because of the success which attended spraying orange groves in the late spring against orange thrips, many growers will practice the same treatment this fall to protect the new September growth. Lime-sulphur is used.

In carrying out the work of cantaloupe standardization under the law in Stanislaus county, Commissioner H. L. Rutherford condemned about 10,000 crates of green and sun-burned melons out of 300,000 crates shipped.

The California Wine Association is crushing grapes at its Napa winery for must or grape juice. The pasteurizer has only just been installed. The Association will probably crush all the grapes they can and ship any surplus to Winehaven.

It is estimated that 40 per cent of the State's peach crop is produced in Fresno, Kings and Tulare counties. The movement of fresh peaches from California by the Bureau of Crop Estimates is about 4,000 cars, the rest being canned and dried.

Dr. R. L. Nougaret has resigned his office with the Bureau of Entomology, U. S. Department of Agriculture, to take charge of the Viticultural Office of the new State Department of Agriculture, to which he was appointed by the Director.

The almond harvest is proceeding apace and the Almond Growers' Association is shipping them out as fast as they are delivered. Practically the entire crop has been sold. It is a booming year for almonds. Buyers bought while the buying was good. Why wait to buy from the scalpers?

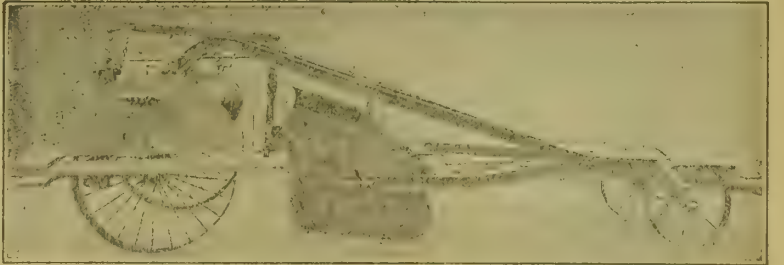
The International Trade Conference to be held at Atlantic City, September 30, will be attended by delegates from all the great allied European powers. These will consist of officials and business men of the highest standing who can speak authoritatively for the most important divisions of their respective industries.

"Common vetch seed for cover crops will be sold at 12 cents a pound for delivery after October 15th," says the Bomberger Seed Co. of Modesto. Melilotus will be sold at 10 cents a pound in less than ton lots, or 9 cents in ton lots and over. There is very little burr clover to be had—apparently not near enough to meet the demand.

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So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

A GREAT ROAD MACHINE

Every road district should own one of these machines for constructing roads. They will cut down the high places and make fills quicker and cheaper than by any other known method.

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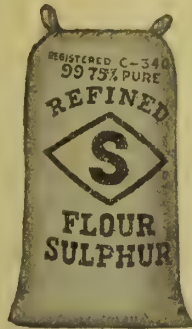
has become so popular in its first four years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil, preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws. Write AERMOTOR CO., 2500 Twelfth St., Chicago

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Dealers in PAPER **BLAKE, MOFFITT & TOWNE**
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Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

SULPHUR



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 6 times they will not be affected by MILDW or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also E A G L E Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for

bleaching purposes, LEAVING NO ASH. VENTILATED Sublimed Sulphur—Impalpable Powder, 100% pure, in double sacks, for Dry Dusting and making Paste—(Atomic Sulphur).

For LIME-SULPHUR SOLUTION, use our DIAMOND "S" BRAND REFINED FLOUR SULPHUR. We can furnish you this Sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out in labor for spraying your orchard, even if you pay your men \$4 per day for making the solution and applying same.

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Twin City Tractor

PAYS BIG DIVIDENDS

For the first time in the history of the tractor industry, the 4-cylinder, 16-valve engine (valve in head type) is now applied to a tractor. The TWIN CITY 12-20 with its 16-valve motor actually develops 25 per cent more than its rated horsepower.

This new 12-20 is a light weight tractor that will out-pull, out-last, and out-dividend other tractors of equal rating.

Not built down to a price, but built up to a fixed ideal—to do the work assigned to it better than it has ever been done before.

The highest grade tractor will unfailingly prove the least expensive and pay the biggest dividends.

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Story of Two Corn Fields

IN 1916 two 40-acre fields of corn grew side by side in Illinois. On one an International spreader had been used consistently for three years. The other had seen no manure for seven years.

That was the only difference between those two fields. One produced a matured crop running just over 80 bushels to the acre, the other averaged barely 30 bushels of soft corn. If both crops sold at the same bushel price, the fertilized field produced \$2,000 more than the unfertilized one.

Was that spreader worth \$500? Yes, because just scattering manure on a field will not accomplish the same results. That field of 80-bushel corn was properly fertilized by a man who knows his business. He feeds his crops a balanced ration. This cannot be done without a good, wide-spreading manure spreader. It is being done by these spreaders:

Corn King — Cloverleaf — 20th Century

It pays to study fertilizing, to know what to do and to practice what you know. See the local dealer or write us for a copy of "Feed Your Hungry Crops" and full information about our spreaders, or about any other machines in the list below.

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Grain Harvesting Machines	Mowing Machines	Corn Machines
Binders Push Binders	Mowers Tedders	Planters Listers
Headers Rice Binders	Side Delivery Rakes	Cultivators Drills
Harvester-Threshers	Loaders (All Types)	Lister Cultivators
Reapers Shockers	Rakes Bunchers	Motor Cultivators
Threshers	Combination Side	Binders Pickers
	Rakes and Tedders	Enslage Cutters
	Sweep Rakes Stackers	Shellers
	Combination Sweep	Huskers & Shredders
	Rakes and Stackers	
	Baling Presses	
		Other Farm Equipment
	Boat Tools	Cream Separators
	Seeders Cultivators	Feed Grinders
	Pullers	Manure Spreaders
		Straw Spreader Att.
	Planting and Seeding Machines	Wagons & Trucks
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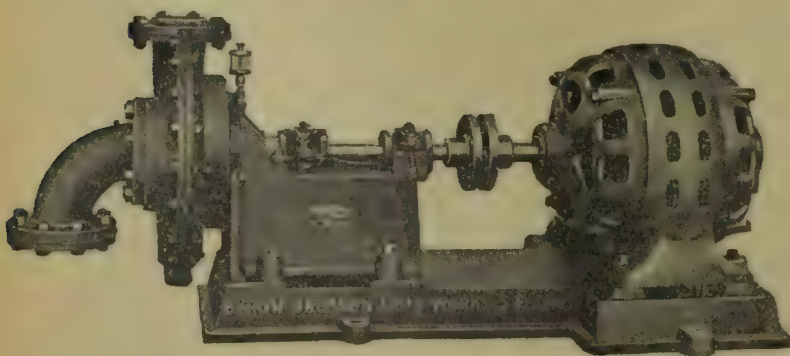
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Lima Bean Crops and Markets

(Written for Pacific Rural Press.)

Can lima bean growers get back the cost of production this year? The answer is not doubtful. On the average, they cannot. The total acreage in this crop is estimated by Manager R. L. Churchill of the California Lima Bean Growers' Association at ten or fifteen per cent less than last year, but the total tonnage expected is about 66% per cent less than last year. In one of the districts which usually produces good crops, about 2,000 acres farmed by 25 growers will average about 1½ sacks per acre. This was not irrigated; but one of the best irrigated fields under normal conditions is yielding this year only half as much per acre as last year.

Many irrigated fields are still green and growing—if bad weather does not damage them, they promise a good crop. But only about one-fourth of all the limas are irrigated and many of those fields lost their blossoms without setting pods. All of the non-irrigated fields suffered more or less, according to the kind of soil. Thousands of acres of beans made bushes but did not vine. They bloomed freely but moisture was insufficient to mature beans in pods even where pods set.

Orange county has a smaller proportion under irrigation than Ventura and a 25 per cent crop is estimated. Ventura and Santa Barbara counties are expected to produce 35 or 40 per cent.

The total lima crop is estimated by Mr. Churchill in a preliminary way between 500,000 and 525,000 bags.

Costs of Production.

Last year Mr. Churchill obtained data on costs of production from eight or nine rather large lima bean ranchers, who keep detailed records on cost of production in three different counties. One man with 727 acres valued his land at \$700 per acre and charged the crop with interest on that valuation. He obtained a high yield, which made the cost of production \$6.28 per hundredweight. Another man valued his land at \$300 on a 650-acre ranch, but a low yield of 7½ bags per acre made his cost of production \$9.35 per cwt. in spite of the low valuation. Another man charged his crop on 1400 acres with a rental of one-third of the crop, which he had to pay. This in addition to the normal cultural expenses made his crop of 900 pounds per acre cost \$8.29 per hundredweight. The average of all cases investigated was between \$7.80 and \$8 per cwt. These people, being the kind that keep accurate accounts, probably had as low costs as any.

The cost of production this year involves an increased outlay for labor and supplies, so that the cost of production per acre has been increased. Owing to the light crop, the cost per acre for threshing and bags has decreased, but these are small items in the cost of production. So the cost per hundredweight this year is way above that of last year.

If the price of limas were set according to their food value per pound, based on the prices of many other foods, limas would sell for the cost

of production plus a profit to the grower. But consumers are not likely to buy them on the basis of food value, and it is not expected that the beans will bring the average cost of production.

"Baby Limas."

The situation with regard to "baby limas" is different. "Baby lima" is a trade name for Henderson Bush limas, which cook and taste about the same as regular limas; but in the commercial product other varieties are sometimes mixed. They set pods under the dryness and heat of the interior where regular limas would drop their blossoms and small pods.

Most of the baby limas are grown in the San Fernando Valley, and all are under irrigation from the Owens River project. Growers there had about the same acreage of teparies last year as they had of baby limas. The teparies did not pay, so they have been replaced this year by sugar beets and baby limas, increasing the total acreage of both. No regular limas are grown in San Fernando Valley.

Lima Market Conditions.

Aside from the loss to growers due to light yield, market conditions are considered more satisfying than those for common beans. The "Manchurian limas," which might compete with ours as the Kotoshish of Japan compete with our small whites, are not worrying the California Lima Bean Growers' Association much, because they are of inferior cooking quality, remaining hard and relatively tasteless. Limas from Madagascar, however, would compete with ours in quality and price were that island not under French protectorate, and its beans likely to be shipped to France and England rather than to the United States.

A rather unfavorable condition at present is the fact that a larger quantity than usual of last year's beans of all varieties have been shipped to wholesalers and jobbers since April, so less demand is developing for new-crop limas in spite of the fact that other varieties compete with limas only indirectly.

Growers' Organization Stronger.

The Lima Bean Selling Agency, which was formed last March by a general coalition of independent growers and dealers with the Growers' Association, so as to control at least 80 per cent of the unsold crop, performed its function admirably and dissolved recently. Its apparently most enduring result was to turn about 80 per cent of the total number of lima growers into the association. This means that the Association is in a strong position, although the actual tonnage likely to be handled is less than last year, when a much smaller proportion of growers marketed through the organization.

Opening Prices Soon.

In view of the lack of uniformity in yields from the early threshing and the unsettled condition of the general bean market, the association is wisely deferring any sales and will not decide its opening prices until late this month.

LATE FIGURES ON CANTALOUPE CROP IN IMPERIAL.

How much does the grower get out of his crop? The following figures are furnished by Dr. Geo. P. Clements, Agriculturist, Los Angeles Chamber of Commerce:

Number of acres cantaloupes	14,088
Number cars cantaloupes	7,830
Number crates cantaloupes	2,630,880
Number cantaloupes shipped	118,389,600
Average crates per acre	187
Approximate cost place crate cantaloupes on platform	\$ 1.15
Approximate gross money received at receiving end	3.50
Approximate cost per crate for commission, freight charges, refrigeration, operating loading sheds, furnishing all material and labor, etc., by distributor, charge at 16 per cent on gross sales	2.00
Cost of crate and wrappers to grower .....	.25
Net profit to grower per crate .....	.45
Growers made approximate average net per acre	121.55
Picked and shipped per acre per cent of car	56%
Distributors advance per crate as the growers haul them in	1.00
Growers pay for picking and packing	
Gross returns for crop	9,208,080
Net returns to growers	1,710,072
Total of all cost to handle crop from time ground is rented until cantaloupes are delivered to the other end	7,498,008

A Maxwell Truck you buy this Month will make you a present of its Total Cost in One Year.



More miles per gallon
More miles on tires

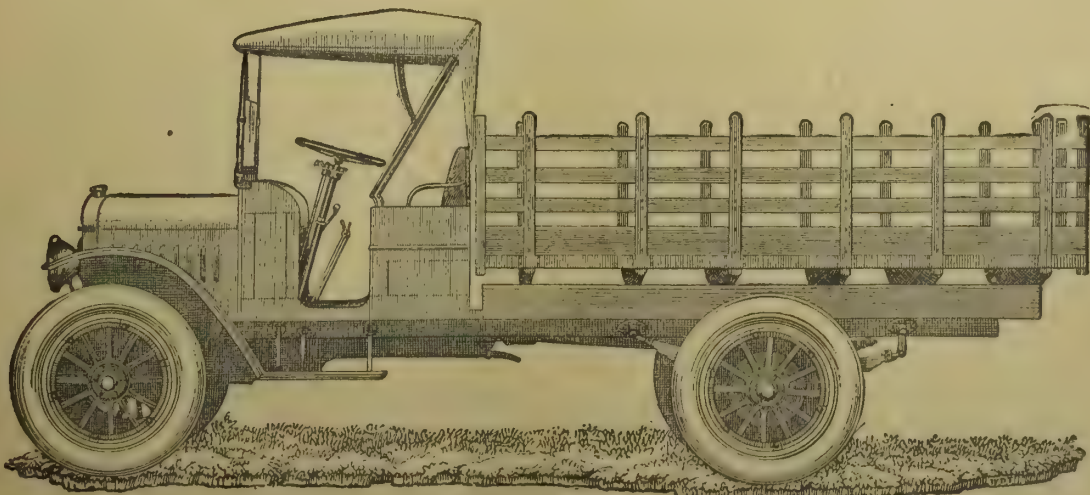
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Pays its way from day to day.

MAXWELL MOTOR COMPANY, Inc.
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NEVADA NEWS NOTES.

(By Our Special Nevada Correspondent.)

Mr. C. C. Tidd of Smiths Valley is building a modern dairy plant and will soon establish a herd of pure-bred Holsteins.

Farmers on the Newlands Project, the Carson Valley and Truckee Meadows are enjoying excellent crops of hay and grain. Hay has been sold as high as \$18.00 in the stack. Treshing is nearly 25 per cent complete.

The Department of Animal Husbandry of the University of Nevada has just received a young Epochal Berkshire herd boar from the herd of E. B. McFarland of San Mateo, also a Poland-China herd boar from Hale March of Modesto.

Crops and ranges in eastern Nevada are very short, owing to a shortage in rainfall and irrigating water. Many breeding cattle are being shipped out of this section to Lovelock, Truckee Meadows, the Newlands Project, and to California points for the winter months.

Squirrels are reported to be a great pest in eastern Nevada, near Metropolis. Unless some immediate and definite steps are taken to eradicate them great losses in production will prevail; also development work in reclaiming sections in this vicinity will close down.

A considerable number of range men are seriously considering the erection of silos in order to meet frequent shortages of winter forage. A goodly number of new silos were built this year, and if silage proves of merit for wintering livestock a great many new silos will be put up in 1920.

Mr. Ed T. Morgan of Northam, formerly herdsman for the late Governor Sparks, has lately taken over a bunch of Hereford breeding cows, with the herd bull, Alamo Reuben, from the Alamo herd of W. D. Duke, Likely, California. Mr. Morgan will soon be out on the Western Fair Circuit with a show herd.

Fallon cantaloupes are being shipped to the principal cities of Nevada; also to points in eastern and northern California. The cantaloupes from this section are of very high quality. The isolation of this section from a large market handicaps the enlargement of this industry to a great extent. Watermelons and various fruits are being shipped in very limited quantities.

The Indian Service in Nevada is establishing Indian villages near farming sections in order to give them a home place. This encourages agricultural work rather than along other lines not so well suited to their temperament. Farmers in eastern California and throughout northern and eastern Nevada consider Indian labor to be excellent for general farm work. This is especially true in the hay and grain fields.

Farmers in the Truckee Meadows are in the midst of a suit to establish the water rights of the community. The suit was brought by the Government to establish all water rights of users of water out of Lake Tahoe, the Truckee river, and its tributaries. Judge Farrington, of the Federal Court, after taking considerable testimony in August, continued the trial until October in order that the farmers could harvest their crops.

Many bands of lambs and old ewes are being brought off the ranges and pastured on the meadows for short periods before being shipped for market. Some owners are also bringing their breeding ewes in on the meadows. Smaller bands numbering one thousand to twelve hundred are being run on pasture this year. Flock masters declare that the day of two thousand head of sheep in a band for meadow pastures is over. They state sheep make greater gains, waste less feed, and leave the fields in much better condition, if pastured in smaller bands.

THE BEAN OUTLOOK FOR THE MONTH.

The bean harvest in Southern California is proving very disappointing in yields, according to the Bureau of Crop Estimates, which forecasts 625,-

000 hundred pound sacks of lima beans as compared with 1,545,000 sacks in 1918.

Other beans are falling short of estimates in Santa Maria and Lompoc valleys, though the condition is better in Salinas Valley. A two weeks' hot spell in August in the Sacramento valley lowered the percentage there seven points to 71 per cent of a normal crop. All beans (limas included) in the State indicate a crop for this season of 4,814,000 bushels; compared to final estimates last year of 8,584,000 bushels.

RICE LEASING TERMS.

The 22,000-acre Conway Ranch at Woodland is looking for lessees to plant rice on their land. They promise to plow the land this fall and to furnish water next year when it will be needed. They agree to accept one-third of the harvested crop when put on the warehouse scales, as their total payment. In turn, the lessee must contour and check his own land, else pay the ranch to do it. He must put up \$2.00 per acre bond after he accepts the allotment of land which may be assigned him. This is to insure planting. Harvesting and warehouse needs will be taken care of for him, at his expense, by the ranch.

A PERFECT STAND OF RICE.

The Conway Ranch at Woodland this year has nearly 3,000 acres of the finest rice to be found in the Sacramento valley. This is the joint opinion of Professors Hendry and Madson of the University Agronomy Division. No further advanced or more even stand can be found anywhere, nor one more free from watergrass, they say. Last year the Conway Ranch suffered from water shortage and only 80 acres were harvested. Therefore, the present crop is practically on first year land.

B. Hayman Co. Inc.

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Ranch Development Co.

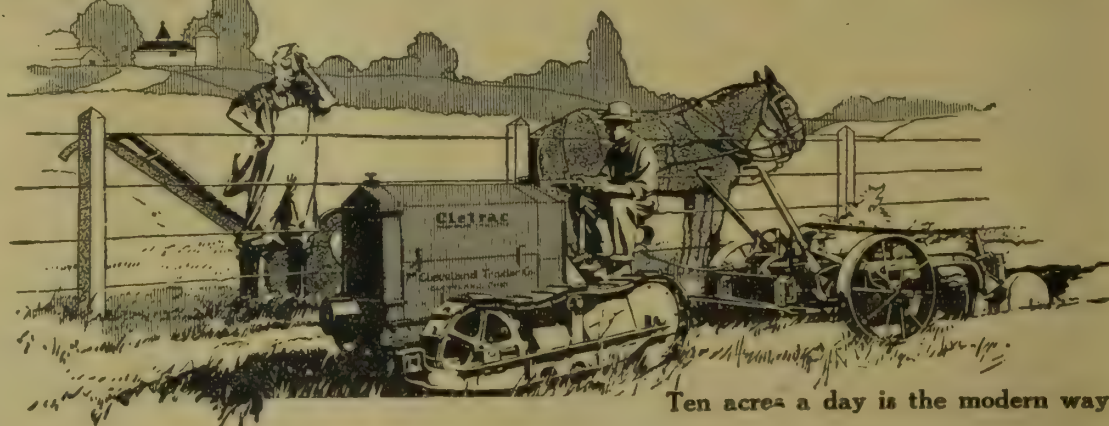
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The Cletrac Tank-Type Tractor enables you to do more work and better work more days in the year—with fewer men, shorter hours and less expense.

It produces larger and better crops at a lower cost thus materially increasing your profits.

It plows, harrows, plants, reaps, binds, threshes, cultivates, hauls, saws—does practically all the things that your horses, mules and stationary engine used to do—and does them better, cheaper and faster—requiring considerable less man labor to accom-

plish the same amount of work. You—or your wife—or your boy, can operate the Cletrac and do as much work with it as was formerly done by three men and three teams.

The Cletrac runs on metal tracks like a locomotive. It goes over the top of the ground,—doesn't sink in, doesn't pack down the earth even when it is freshly plowed. No power is wasted in moving the machine itself through the soil.

The Cletrac is the answer to the acute farm labor question. Call on the nearest Cletrac dealer and look it over carefully.

Send for our booklet "Selecting Your Tractor." It is full of good, sound, practical information that every farmer should have.

The Cleveland Tractor Co.

19079 Euclid Avenue

Cleveland, Ohio

Largest producers of tank-type tractors in the world

Cletrac TANK-TYPE TRACTOR

(Formerly known as the "Cleveland Tractor")

State Fair Machinery Notes

The Killifer Exhibit, besides their regular line of deep tillage tools, included an extra heavy automatic disc cultivator suitable for rice fields.

The Avery Company of the Pacific were not able to show their new 7-14 horse-power tractor, which will, they say, soon be on the market.

The new G. M. C. Samson 50 tractor is equipped with Tungsten steel exhaust valves to prevent pitting. The intake valves are half Tungsten.

Neal Weaver, distributor for the new Hart Parr Tractor, sold a machine during the State Fair to the son of the man who handled the Hart-Parr at Dixon, over ten years ago.

Messrs. Myers & Hart have bought the Knight & Lee tractor. It has been re-named the Stockton tractor. The new company state they will soon be making these machines in quantities.

The end-plates in the Monarch tractors, which were formerly made of cast iron, are now made of vanadium steel.

The side frames of the track in the Bates Steel Mule are now made of channel structural steel to prevent bending.

Much interest was manifested in a Lauson tractor, set up on blocks and operated by a motor connected with the fly-wheel.

The Linn tractor made its first appearance at the Fair. It is a truck with rear wheels replaced with Caterpillar type tracks.

A Nisco manure spreader in the big exhibit of the Pacific Implement Company was equipped with high side racks and auxiliary reel for spreading grain straw, bean straw, or alfalfa.

A seven-gang power lift disc, weighing 3600 pounds, said to be the heaviest made in America, was part of the LaCrosse exhibit.

Among the new tractors were the Victory exhibited by Grissel Bros. of Stockton and the Wisconsin tractor exhibited by the Automotive Products Co. of San Francisco.

The Huber Light Four weighs five thousand pounds and pulls 2500 pounds on the drawbar at 2½ miles per hour.

Farmers from Tehama, Butte and Sacramento counties bought Twin City tractors during the first few days of the Fair.

The Knapp Power lift disc plows in gangs of two and three discs were shown by the W. L. Hughson Company, who have added it to their line of tractor implements.

Power Lift McKay Tractor gang disc plows with subsoiler attachment for each disc were shown by the H. V. Carter motor company.

According to a sign in the Sandusky exhibit, five hundred Sandusky tractors have recently been ordered for shipment to France.

The Oliver Chilled Plow Works featured an enormous three-gang plow, whose purpose it is to "farm the farm under the ordinary farm," also a breaking plow with long, narrow moldboard twisted like augurs to insure turning the sod up side down.

The International Harvester Company for the first time showed their own line of plow, formerly the P. & O. line.

A 20x36 horse power tractor was the brand new addition to the already large Case family.

The Yuba Ball Tread tractor, as usual, drew the crowd.

The Holt Mfg. Co. exhibit, which occupied the entire end of the large tent, included 75-horse caterpillar, operated by a motor, with many of the working parts uncovered, notably the big chain drive, which ordinarily is completely enclosed and running in oil.

The Moline Company exhibited a new power lift disc, built especially for use with their Universal tractor.

The Bean tractor shown at the State Fair still monopolizes the single track pull, which enables it to run close to trees and turn shorter than implements can follow.

Exhibitors of the Cletrac tractor were kept busy explaining how, in spite of its small size, it can do the work of six horses or mules.

Onion and carrot seed is far above normal, heads weighing up to two pounds. The stalks are nearly as high as a man. Such seed will net about \$750 an acre. The season has been exceptionally good, so good that an oversupply may result as there was a surplus left from last year.

Alfalfa sown in the fall under the right conditions has shown a growth next season nearly as heavy as two-year-old alfalfa. Fall seeding is worth knowing about.

SEND FOR BOOKLET which tells about it, explains the conditions under which it pays, and contains much valuable alfalfa information. Sent free with Price List and Booklet describing Bomberger's Seven Kinds of Alfalfa.

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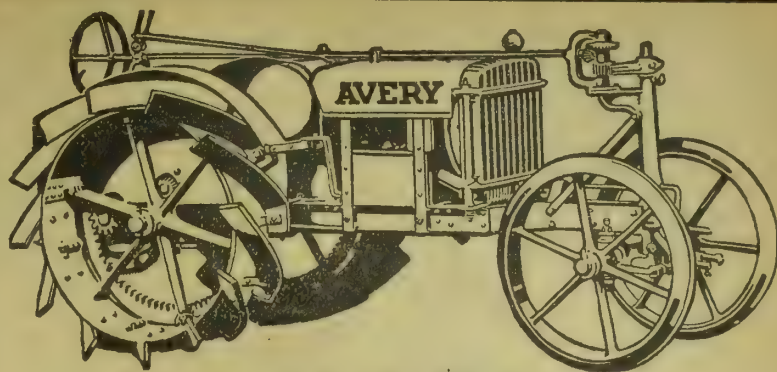
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AVERY ORCHARD TRACTORS

5-10 H. P. Complete \$775.

Will pull 2 Plows or 4 to 5-foot double disc

6-Cylinder 8-16 H. P. Complete \$950

Will pull 3 Plows or a 6 to 8-foot double disc

These Orchard Tractors represent the greatest dollar-for-dollar value on the American market.

Because we use Mogul bearings (same as used in Packard Twin Six, Rolls-Royce, Handley-Paige Aeroplane) on crankshaft and connecting rods. Because we use three speed forward and one speed reverse selective gear type transmission; Hyatt roller bearings throughout. Because we use K-W High Tension Magneto with Impulse Starter. Because we use built-in, dust-proof centrifugal type Governor. Because we have 1½ inch crankshaft and 3x4 four and six cylinder motors.

AVERY Heavy Duty Tractors for open field work built in six sizes: 8-16 H. P. to 40-80 H. P., a size to fit any size ranch, orchard or field.

Write for detailed description and prices.

AVERY COMPANY

of the Pacific Coast

67-69 Beale Street,
San Francisco

237 So. Los Angeles St.
Los Angeles

One AVERY Always Sells Another

FORDSON TRACTOR

Manufactured by
HENRY FORD & SON, Inc.

The Fordson again proved its popularity by the great interest displayed by thousands of ranchers who witnessed the Fordson in action—plowing, discing, pulverizing and working on the belt at the recent Los Angeles Tractor Demonstration.

To be assured of delivery in time for fall plowing, order should be placed now, owing to the tremendous demand, the factory being thousands of orders behind, tractors are delivered in rotation.

Use the Fordson on the Belt

William L. Hughson Co.

Distributors

Branches at

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Los Angeles

San Diego

Oakland

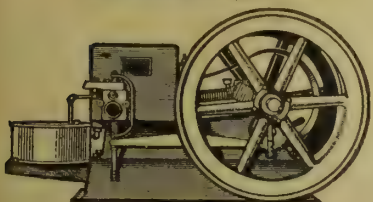
WITTE Engines

2 to 30 H. P.

Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

A. H. SIMPSON CO.

129 FREMONT ST.
SAN FRANCISCO, CAL.



A TWO-YEAR GROWTH OF

ALFALFA

IN ONE SEASON

Alfalfa sown in the fall under the right conditions has shown a growth next season nearly as heavy as two-year-old alfalfa. Fall seeding is worth knowing about.

SEND FOR BOOKLET

which tells about it, explains the conditions under which it pays, and contains much valuable alfalfa information. Sent free with Price List and Booklet describing Bomberger's Seven Kinds of Alfalfa.

Fall
Planting
of
Alfalfa

BOMBERGER
SEED COMPANY
MODESTO, CAL.

BOMBERGER
MODESTO

GREEN
BRAND
GOLD

SEED CO.
CALIFORNIA

8-ft. Extra Heavy Tractor Chisel



KILLEFER
QUALITY



Now is the time to commence deep chiseling and subsoiling. Do it in time to prepare the ground thoroughly to receive the benefit of the winter rains. Break away from the old habit or mistaken idea of scratching the ground and expecting to harvest a crop.

Plow pan, although frequently referred to as mechanical hard pan, should not be confused with natural hard pan. However, so far as crop production is concerned, the effects of plow sole and hard pan are the same. Both must be destroyed before proper cultivation can be had, and the only difference in the two that will be considered here is in the method required for their destruction.

Plow sole offers less resistance to the available methods of breaking it up than hard pan, and, with the tractor and tool of sufficient

strength now available for tractor use, it can be broken up and subdued, bringing the land back to the point where a full yield may be expected.

Plow sole offers less resistance to tillage implements than does hard pan; both are in many cases impervious to horse teams and ordinary plows, and in some instances are difficult of handling with tractors and modern implements. Yet before a full yield may be expected, this condition must be subdued, and to date the only satisfactory means is by use of the chisel or subsoiler.

DEEP TILLAGE AND OTHER AGRICULTURAL IMPLEMENTS
EXTRA HEAVY TRACTOR PLOWS
AUTOMATIC DOUBLE TRACTOR DISCS
AUTOMATIC COVER CROP DISCS
TRACTOR CHISELS ORCHARD CULTIVATORS
MONARCH CULTIVATORS AUTOMATIC BEET PLOWS
CROSS KILLS OR CLOD CRUSHERS
GOPHER OR DRAINAGE PLOWS SUBSOIL PLOWS
(One, Two, Three and Five Standards.)

Send for Catalog and Prices.

The Killefer Manufacturing Co.

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LOS ANGELES, CAL.

USE YOUR FORD AS A 10-HORSE PORTABLE FARM ENGINE

The Perfection Belt Power Attachment is all you need.

Easy to line up with the machine you want to drive. Has an extra cooling fan.

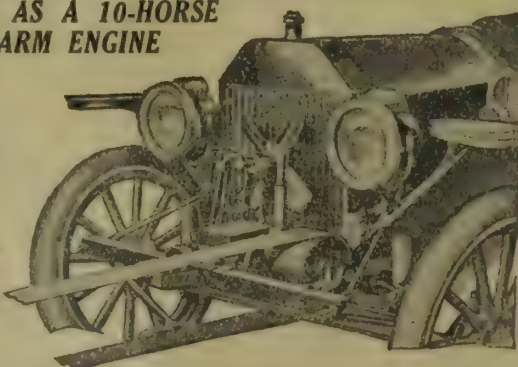
We also make The Ideal Power Jack for rear drive. Fits any car.

Ask us about them.

THE ASHLAND PRODUCTS COMPANY

320 Market Street,

San Francisco, Cal.



Best Pump On Earth

For shallow or extreme deep lift; one that will give more water for the power expended; more water from small diameter wells without any pit, and more pump for the money than

ANY PUMP ON EARTH

Write for catalog N. and price list of the
P.K.WOOD DEEP WELL PROPELLER PUMP

WOOD PUMP CO.

935 N. Main St.,
Los Angeles, Cal.



Monterey County Is Finding Herself

(Continued from first page.)

district on the other side of the valley and see more home-building based on the dairy industry. Above Greenfield notice the subdivision recently put under pump-and-cement pipe irrigation. It is now green with beans and other crops. Deep plowing on the unirrigated part of this subdivision has resulted in bushels of grain being produced where pecks were grown before.

Across the river is another irrigated district of considerable size, using water from the Salinas River. Another irrigation district of smaller size uses water from San Lorenzo Creek, which could be dammed to hold 12,000 acre feet. This country is tributary to King City, the metropolis of the upper part of Monterey county and a rapidly building town based entirely on the agricultural and livestock country around it.

Note as you go southward and the valley narrows that you are seldom out of sight of an alfalfa field lately planted to provide cattlemen not "against the rainy day," but against the dry days when cattle otherwise would starve in seasons of exceptionally light rainfall.

Near the southern end of the county turn up San Antonio creek and see some more evidences of the general awakening to fruit and agriculture.

On the opposite side of the valley but best entered by crossing into San Luis Obispo county and driving north-eastward from San Miguel is another rapidly developing district—the Cholame valley with Parkfield as its center of business. Dairying and field crop raising have been the chief occupations here, but over 100,000 fruit trees are said to have been planted here last winter.

Greater Possibilities with Present Crops.

Among the products of Monterey county, none has general human interest more than the "Salinas Burbank" potato. Luther Burbank had crossed the continent about 1870 with a few of the first progeny of his original Burbank tuber. About the year 1872 these had multiplied enough so that he had some to sell for seed. He advertised them in the Pacific Rural Press. A potato grower of Salinas bought a pound of the seed for a dollar. The new variety took like wildfire and soon displaced all other varieties here and spread generally to other parts of the Pacific Coast. The superior quality of the Salinas-grown Burbanks soon commanded a premium on the market that has continued to this day. But continuous cropping on the same ground was too much for even this variety and soil, so that in the past five years or more, potato growing has been on the wane. There is larger acreage this year than last, however; and with proper rotation of crops, there is reason to believe that the former prestige of this crop may be profitably regained.

The small-white bean crop for which the lower Salinas Valley seems well suited, attained great popularity last year, but a combination of rain damage and poor markets is responsible for smaller acreage this year. The yield in Salinas valley is considerably less per acre than in the Santa Maria valley of Santa Barbara county anyway, but there is no need of letting the southern valley excel. Growers are just beginning to realize the necessity of fine, deep seedbeds and finer cultivation.

Barley has been the leading field crop of the Salinas Valley and 100,000 tons have been produced here in one season. Last year the crop was 21,000 tons in the entire valley. This year it is 17,000 or 18,000 tons and will probably decrease as markets become less attractive and more intensive farming develops. The lower lands of this valley have become known afar for the Chevalier variety on which it has had almost a monopoly.

Wheat has been a more important crop than it is now, especially in the upper central section. The chief trouble with this as with barley has been the common lack of rotation and the common practice of plowing just enough to cover the grain. The plow-

pan which resulted has prevented winter rains from soaking into the ground. That the fertility for grain is not exhausted on land which had ceased to produce good crops is indicated by the greatly increased crops of grain obtained just below King City after deeper plowing. This deeper plowing has to be done judiciously, however. Not too much should be turned up each year, and the seedbed must be packed before or soon after planting.

Dairymen are among the most unceasingly prosperous people in the valley. Many of them have irrigation for alfalfa, either by gravity or pump, or both. Electricity is available, for pumping in most parts of the valley, and many gas engines have been installed. There is a peculiar failing among dairymen, however, in this land of plenty, for with an abundance of barley at hand to make a balanced economical ration with their alfalfa, they generally feed alfalfa alone, wasting a considerable part of the valuable protein in their hay and in some cases injuring the health of their cows. The barley they could feed in proper amounts would in most cases be more than repaid by increased milk, and would permit the cows to make full use of nutrients in the alfalfa. More cow testing and more registered bulls would increase the output per cow on the same feed.

Dairymen's markets could not be better. One of the big condensaries of the State is located at Gonzales, and butter factories are generally not too far away from Salinas valley farmers. In the smaller mountain valleys the traveler notes many a ranch cheese factory whence comes most of the famous Monterey cheese, comprising about a fifth of the entire cheese production of the State.

Cattlemen Providing Tame Feed.

The oldest and still the chief livestock industry of Monterey county is range cattle. A marked change is coming over this industry. A few years ago Monterey county saw her cattle starved to death in great numbers, though not so much as in many other districts. Some of the cattlemen had cut a little wild hay, but it fell far short of the amount required. Many and many of them have since those years planted alfalfa in bottom lands and have put up the hay against dry days that may come.

Corn silage for cattle produces a great tonnage per acre and a few beef cattlemen are feeding it. They are well pleased, and perhaps this prefigures a more intensive era of finishing the range cattle.

Better blood in the cattle is coming slowly but surely by introduction of purebred bulls throughout the ranges.

A Look Into Coming Years.

Looking forward to a day not far in the future we see Monterey county producing great numbers of cattle cheaply on her plentiful ranges, bringing them to the valleys to fatten on alfalfa, barley, and sorghum grains grown with stored and pumped water. Dairying will support thousands more of happy families on a greatly increased alfalfa acreage. There will be good hogs on every general or livestock farm and they will have plenty of Monterey-grown alfalfa and barley.

The foothill districts and many of the valleys will perfume the air in spring with the scent of apple blossoms, apricots, peaches, pears, almonds, prunes, and other fruits. The open fields will produce greatly increased yields of grain, beans, sugar beets, potatoes, and other field crops. Motor trucks and railroads will carry her products to the south and north and to the west where much shipping will make Monterey a chief port.

Kill Wateregrass In September

Now is the time to begin killing wateregrass, according to C. Nielson of Butte county. Plow it in September, then soak the ground, and let it dry about ten days or two weeks. By that time wateregrass will be well grown and should be plowed under. Plow again rather late in the spring, work the ground fine, and turn the water on.

TIMKEN TAPER TRIUMPHANT

Why did the Wallis Tractor Company put Timken Tapered Roller Bearings in rear wheels, at the differential and in the transmission of the "Wallis Cub, Jr."?

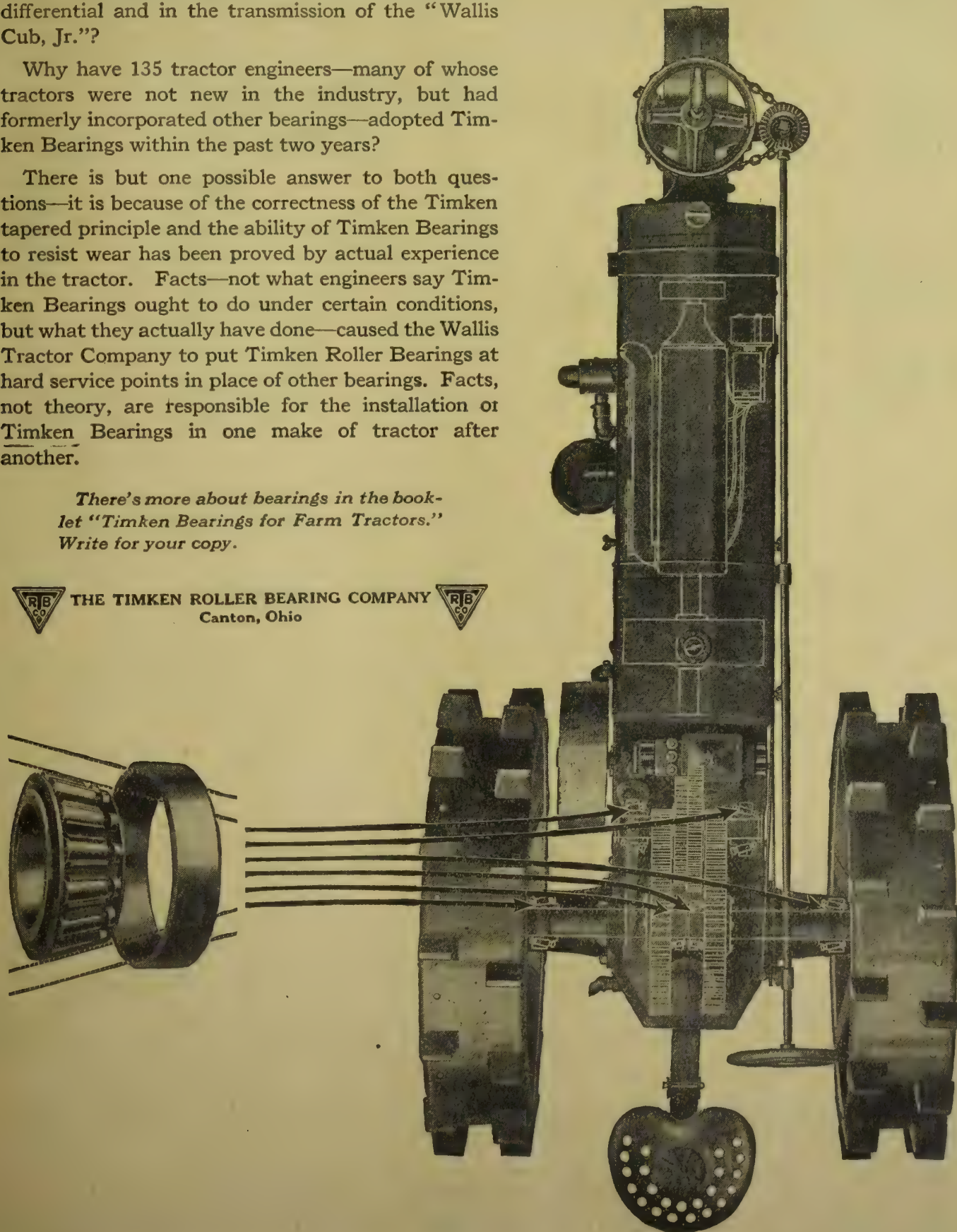
Why have 135 tractor engineers—many of whose tractors were not new in the industry, but had formerly incorporated other bearings—adopted Timken Bearings within the past two years?

There is but one possible answer to both questions—it is because of the correctness of the Timken tapered principle and the ability of Timken Bearings to resist wear has been proved by actual experience in the tractor. Facts—not what engineers say Timken Bearings ought to do under certain conditions, but what they actually have done—caused the Wallis Tractor Company to put Timken Roller Bearings at hard service points in place of other bearings. Facts, not theory, are responsible for the installation of Timken Bearings in one make of tractor after another.

There's more about bearings in the booklet "Timken Bearings for Farm Tractors." Write for your copy.



THE TIMKEN ROLLER BEARING COMPANY
Canton, Ohio

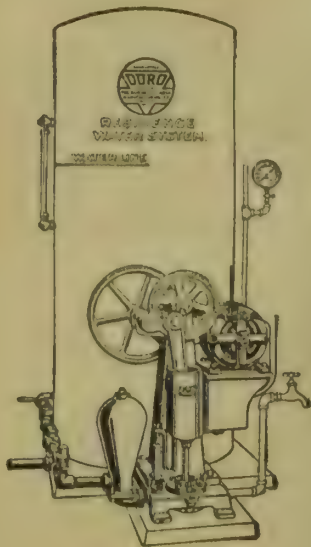


MODERN EQUIPMENT

For Farm and Dairy

Modern farm and dairy equipment pays. It pays in dollars and cents. It pays in labor saved. It pays in more comfortable living. It pays in many ways. Power machinery and the substitution of mechanical methods for hand labor have revolutionized modern farming, freeing the farmer and dairymen from the long tedious routine daylight-to-dark labor and giving him his share of the good things of life.

We specialize in modern farm and dairy equipment and handle more lines of farm and dairy ranch machinery than any other farm equipment house on the coast. The California Hydraulic Engineering and Supply Co. is known throughout the State for its activity in behalf of more efficiently equipped farms and dairy ranches. If you contemplate the purchase of modern equipment of any description, write to us. Years of experience are at your command. Every inquiry answered promptly and fully.



"DURO"

Deep Well Systems

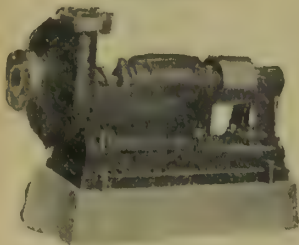
JUST the thing to bring suburban or country home right up to date.

Pumps water from wells, where depth to water level ranges from 22 to 150 feet, and supply it under pressure for all purposes about the house or grounds.

"Built like a battleship," economical and entirely automatic in operation.

Send for Duro booklet

AMERICAN PUMPS




We are distributors for American Standard Horizontal and Vertical Pumps—and Turbine Centrifugals.

They're the best pumps on the market. They cost a little more—but last longer and are decidedly cheaper in the long run.

American Pumps are famous for their large capacity and high efficiency.

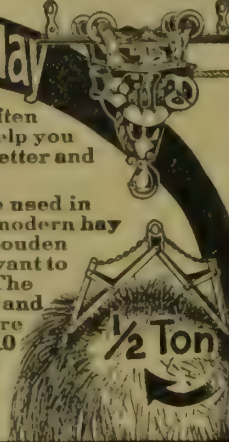
We also have special pumps for direct connection to motors.

Write for Pump Catalog.



Which Way do You Make Hay

Hay harvest usually catches you in rush season—and often short handed. Come in and let us help you figure out a way to handle your hay better and quicker. **LOUDEN HAY TOOLS** have been standard since 1867, and are used in every civilized country. Most of the modern hay tool ideas have originated in the Loudon factory at Fairfield, Iowa, and we want to tell you about some of the Best. The Loudon Hay Slings, Forks, Fork and Sling Carrier, and Power Hoist are unequalled. Whether you have 10 acres or 1000, Loudon Hay Tools will pay for themselves quickly.



SEND FOR FREE BOOK OF BARN PLANS AND COMPLETE LOUDEN CATALOG.



UNIVERSAL

Milking Machines

With a Universal Outfit, one man can do the work of three—thus actually eliminating the work and expense of two men. Solves the labor problem. Gets your milking done better and cheaper. Write for catalog.

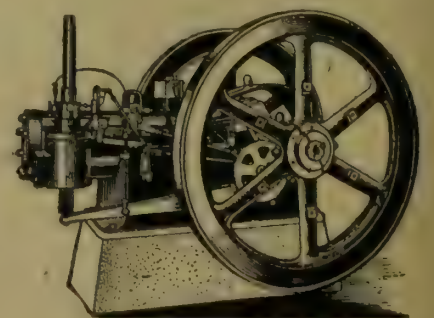


Louden Barn Equipment

Healthier cows, more milk, purer milk, less feed, and less labor—if you barn is Loudon equipped. The Loudon line includes Steel Stalls and Stanchions Feed and Litter Carriers, and everything needed for the dairy rancher. Write for catalog.

ENGINES in All Sizes

We have engines in every type and size—from 2½ H. P. to 100 H. P., operating on distillate or low grade fuel oil. Our lines include Western, Faultless, and Muncie Oil Engines. We'll show you how to get the most power and the best results at least cost—and that's what you want.



Come and see these various machines in operation. Ask questions. Talk your needs over with us. The suggestions we make may save you dollars—and trouble, as well.

California Hydraulic Engineering & Supply Co.

68 FREMONT ST., SAN FRANCISCO.

420 E. THIRD ST., Dept. A, LOS ANGELES.

MEASURE OF A GOOD BULL.

We see articles on the value of herd bulls written by our best talent, but still we can put in all our spare time studying on this one subject and then never learn it all, as some bulls will not do what they should and others will do more than is expected of them, says G. R. Jowell in the Hereford Journal. However, there are many external indications of individual excellence, and a good herd bull should possess the following characteristics:

Large, full nostrils; big full eyes and a mild expression; good width between the eyes, with a square forehead; a short, strong head and horn, plenty big at the head; a neck tying into the head neatly and smoothly, and into the shoulders the same way; a broad, flat shoulder, blending smoothly at both sides; a strong, big forearm, and a broad, flat knee; plenty of size in the shank bone; an exceptionally short ankle; full in the

heart and above; broad between the legs and properly filled in; a short, clean-cut neck; great depth in body and flank; a well-prung rib, short and loin, tied in well at both ends; plenty of length of hip, and as wide in the hips as anywhere; just as much width through the thigh as through the hips; a well-filled twist as that insures a deep flank; legs short, wide apart and straight; a hide not too thick or too thin—not too hard or too soft; masculine, but not coarse; a strong constitution and compact conformation; a brisk, agile movement; a bull that is hard to whip, but not quarrelsome; one that responds quickly to feed; a good disposition, by all means; a bull that weighs a ton in breeding condition; a bull that is prepotent in his good points.

KINGS COUNTY FAIR, 1919.

Twenty acres added so that it was possible to build an 80-foot mile track thrown up on the curves in the most approved manner, making it one of the fastest automobile dirt tracks in America, new swine sheds, new agricultural implement shed, new office, new restaurant building, and all buildings electrically lighted, is what Kings county has done to accommodate the exhibitors and patrons this year.

In the livestock line the dairy cattle and swine feature is a very large one, particularly in the Holstein-Friesian and Poland-China classes. Horses, jacks and mules were also much in evidence.

W. J. Higdon of Tulare is here with a fine string of his blue-ribbon cattle; A. B. Comfort, F. D. Ross and G. W. Clark, with their local herds that will contest places in the Holstein-Friesian department.

J. E. Thorpe of Lockeford is on deck as usual with 17 Jerseys and 12 Duroc-Jerseys, and is lamenting the lack of competition in his classes.

The list of exhibitors in the Poland-China classes is legion far too numerous to enumerate this week, but are all local breeders except Buckland & Son of Fowler, who are over with a nice showing.

On Tuesday awards were made in the community exhibits—first going to Grangeville on a really wonderful booth showing all their varied agricultural, horticultural and farm products to the very best advantage; second to Lemoore, third to the island north of Lemoore, and fourth to Corcoran, on a very pleasing booth, showing plenty of cotton and grains, but lacking in horticultural items.

MARSH-MCCRACKEN POLAND-CHINA SALE.

Those desiring big type Poland-Chinas that have been bred in this line for generations and sure to reproduce this very desirable fashionable kind, should not fail to attend this sale. From Mr. Marsh's herd, stock from such boars as Model Major, I. B. A. Wonder and Big Model mated to sows of Big Bone, Blue Valley, Giant-ess and A. Wonder blood lines.

Many females of the same breeding from the McCracken herd, which is headed by that wonderful sire and individual, Kings Big Bone Leader, than which there is no more popular herd leader in California at the present time. Probably no sale listed has any more good ones in it than this one. Those who know what uniformly promising stock is sired by King's Big Bone Leader, should be on hand to secure some of the sows and gilts bred to him. If you want prize winners or breeding stock, do not miss this chance. Go and see them and you will buy them.

Hogs occasionally get off their feed and this is generally brought about by over-feeding. At such times some breeders endeavor to tempt a hog's appetite by changing his feed and giving him something that he relishes, but probably the best way is to simply confine him where he can have nothing to eat and give him only water. Leave him in the pen until he gets up and appears real hungry when you call him. Then start him with a little thin slop and gradually get him back on his feed.

EDGEMOOR FARM GUERNSEYS



Imported Itchen May King 25174

PRETTY PRODUCTIVE PROFITABLE

Noted for the highest natural colored dairy products, the best flavored milk, the most economical production of cream and butter.

A Few Animals of Either Sex For Sale

SANTEE, CALIF.

W. H. Dupee

Pres.



Over 2,500,000 farmers display this sign of separator satisfaction

De Laval Dairy Supply Company
61 BEALE STREET, SAN FRANCISCO

Auction Sale

—at the—

T. D. CARNEAL RANCH

Between Livermore and Tassajara, 7 miles north of Livermore.

Thursday, October 2d

Commencing at 10 a. m.

J. I. CASE

THRESHING OUTFIT

fully equipped for bundled or stacked grain. 40 h. p. tractor, 28-inch Case separator, with top cleaner, blower, No. 4 Monitor recleaner with elevator and sack filler.

—FULL SET OF—

ROAD-MAKING MACHINERY

All sorts and kinds of MACHINERY, HARNESS, ETC., that go with a fully equipped farm.

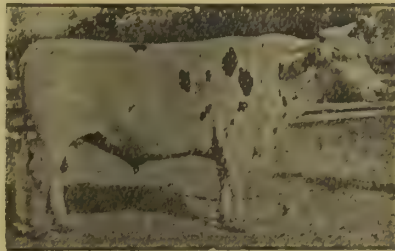
MILCH COWS AND HEIFERS

all bred to the bull, "NEWARK GALLANT" NO. 603,424, Milk strain of Short-horn or Durham, bred by Wm. Bond of Newark, Calif.

FREE LUNCH WILL BE SERVED
MURPHY & SMITH, Auctioneers.

Large Production and Fine Type

are combined in the get of
PRINCE RIVERSIDE
WALKER



Aaggie Acme of Riverside 2nd and Miss Valley Mead De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

King Korndyke Pontiac 20th, our young \$6,500 sire, whose great individuality, fine type, and backing of an unbroken line of great

producing dams are hard to beat. Come and see the result of this breeding, or write us for further particulars.

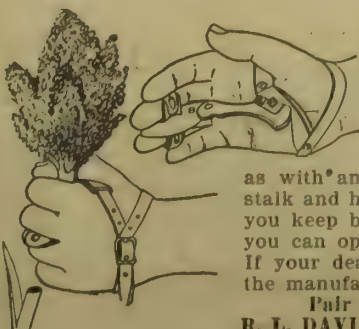
Our Entire Herd is Tuberculin Tested.

TULARE HOLSTEIN FARM

W. J. HIGDON, Owner

TULARE, CAL.

H. L. REDD, Herdsman



FOR HARVESTING EGYPTIAN CORN

You can use both hands and cut twice as much in a day with the

DAVID HEADING KNIFE

as with any other instrument. You cut off the stalk and hold the head with the same hand—and you keep both hands at work, cutting as fast as you can open and shut your fingers.

If your dealer cannot supply you send direct to the manufacturer.

Pair (right and left), \$2.50, postpaid.
R. L. DAVID, Dept. C., San Jose, California

Alfalfa Market in Dairy Steers

Egbert George, president of the Tulare Poultry Association, and farming 70 acres of alfalfa land south of Tulare, without help except for having and at occasional odd times using dairy steers, as the simplest and least laborious method, of marketing his alfalfa, claims that it brings him almost twice as much as hay alone would, sold at market price. He has four cows milking and a good deal of his time is taken with his poultry, and steer feeding is a simple proposition. He buys the young stock at from three to six months old, they costing him as a general thing from \$10 to \$20 each, depending upon size and quality and they are marketed at about a thousand pound average when somewhere near three years old. They are given the run of alfalfa pasture and in addition hay is fed every day in the year, no matter how good the pasture is. As a result the animals are always plump and the meat thick and of the best quality.

bringing a high price in the market.

Most of the animals are Holsteins from surrounding dairies. Some have a good deal of Shorthorn blood in them and they make fine steers. While beef breeds would develop quicker and better than dairy steers, they are not to be had, and it is far more profitable, according to Mr. George, to buy young stuff from dairies than to support beef breed cows for the sake of their calves. Asked if it would not be more profitable to buy heifer calves, Mr. George replied that it was too risky a business to depend upon finding a market for every heifer that came fresh, and he could not afford to add them to his dairy, and to top it all prices for a first-class, well-fed, fat Holstein steer were hard for any heifer to beat. About 15 steers are turned off per year, the number kept depending upon the amount of ditch water supplied to the ranch and the consequent size of the alfalfa crop.

PRESTON SCHOOL AYRSHIRE SALE.

This sale was a disappointment in the rather low average obtained. Many reasons have been assigned, but it was probably due more to the fact that people generally do not know the great worth of this Scotch breed of dairy cattle. For certain conditions they are unexcelled and the breeders of them should get their worth before the public. When they do so there will be no difficulty in holding successful Ayrshire sales.

The top price of the sale was \$400, paid by H. P. Faye of Knight's Landing for a junior 4-year-old, Cedar Hill Queen. The average for the 48 head sold was \$147.08.

BUTTE CITY RANCH COW SELLS FOR \$4,500.

Laurel Frantic 33rd sold last August at the Butte City Ranch sale for \$480, but now brings \$4,500 at the Jackson Farm Bureau picnic and purebred auction sale held at Medford, Oregon, September 13. The cow is seven years old and was bought by E. E. Beeson of Talent, Oregon, who was purchaser of other good ones at the same sale. This news comes via the Sacramento Bee, which quotes the "Oregonian," which also states that at the same sale four bulls made an average of \$401.25 and 11 females \$890.45.

It would seem from the above that our prices for registered stock are not high enough or not in keeping with other parts of the country. It certainly does not seem as though a seven-year-old cow could have increased so much in value in such a short time.

By the way, Thos. Harrison, the

well-known Milking Shorthorn breeder of Santa Rosa, states that he has Laurel Frantic 25th, 28th, 31st and 32nd at his ranch and that they are a great lot of females, hard to beat anywhere.

HENDERSON SALE OF BLACK AND WHITES.

A success from all view-points will in a few words tell the results of the great sale of Holstein-Friesians. Fifty-six animals sold for \$14,490, an average of \$258.75.

The top in the female list was Baby Lyons Tiffany, a senior 4-year-old, sold to W. J. Horan of Stockton for \$490. The bull, Model Domino Glista, sold to J. W. Scudder of Holt for \$425 and was the top on the male side.

The bulls were practically all youngsters, except Model Domino Glista, and he a senior 2-year-old. The nine bulls sold went to eight buyers, giving a wide distribution.

The buyers of females also were quite widely distributed. R. S. Holmes, the Modesto breeder, taking home a nice lot; F. H. Harvey 6 females and a bull; W. J. Horan of Stockton a good-sized delegation, and F. V. Dolcini of Davis two good ones.

The Henderson Co. are getting such large herds of Holsteins that those who are in need of such animals will do well to look out for their sales, as they will probably have more of them in the future.

The Bonita Stock Farm of Woodbridge, V. L. Heath, manager, one of the Henderson Co.'s farms carrying registered Holstein-Friesians, just made the highest average for butterfat production in the Sacramento Cow Testing Association for August, which speaks for itself as to the kind of cattle they raise.

Pork Production

BY ACTUAL TEST PURE HAWAIIAN CANE

MOLASSES

will increase pork production approximately five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price. Do you know of any other feed at any price that will do this?

Why not get all the profits out of your hogs?

Write us immediately for a copy of above test.

W. H. YOUNG COMPANY

58 SUTTER STREET,

SAN FRANCISCO

TOP SALE OF THE SEASON

OCTOBER 7th, 1919

Bassett, Crawshaw & Ross

Join Forces to Sell

75--Poland-Chinas--75

Bred Sows and Herd Boars.
Every animal double treated.

The greatest assemblage of the best blood produced in Poland-Chinadom.

Don't miss the opportunity to attend this sale and take home some of these fine hogs.

Kings County Fair Grounds

Auctioneer, Ord. L. Leachman

For Catalog or Information, write to
F. D. ROSS, Sec'y. HANFORD, CALIF.

Eighth Semi-Annual Sale

—of—

Kings County Poland-China Breeders Association

Saturday, October 11th, 1919.

KINGS COUNTY FAIR GROUNDS,
Hanford, Calif.

80 Bred Sows, Gilts and Boars

To be sold without reserve from the best herds in Kings County.

Consignors:

G. I. McCUNE	H. D. McCUNE,	C. G. DE RAAD,
G. NEHLS,	R. L. WALTZ,	W. D. TREWHITT,
C. L. NEWPORT,	C. A. VAUGHN,	C. DIMMICK,
H. E. McMAHAN,	W. T. DICE,	J. M. BERNSTEIN,
W. L. HAAG,	W. S. HUBBARD,	E. G. MEYER,
T. J. WOODWORTH,	J. A. CRAWSHAW,	W. BERNSTEIN,
R. G. HAMBLIN,	M. BASSETT,	F. D. ROSS,

Auctioneer, COL. BEN. A. RHOADES.

For catalog or information write to
F. D. Ross, Sec'y. HANFORD, CALIF.

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER GARDINER'S KING'S COL. Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH
ROUTE 4, BOX 735. SACRAMENTO, CAL.

BERNSTEIN-HAAG POLAND-CHINA SALE.

The day was as near right as they ever have been, even in Hanford, and, therefore, with the high quality of stock always found at a Kings County Poland-China sale, the average could not help but be high. Bernstein's sows and gilts averaged \$210.25, and Haag's \$167.93. The average of 41 head sold by both consignors, including 5 young boars, was \$182.98. The top of the sale came in a year-old open gilt, bred by St. John of Xenia, Ohio, from Mouw stock. John M. Bernstein brought her out last March and considered her one of the best. Thos. Caesar of Reedley finally carried off the prize for \$570, leading the next highest gilt, a splendid animal, sired by King's Big Bone Leader, by \$65. This last mentioned gilt was bought by Les McCracken, who owns her sire, for \$505. Few better ones of this type are seen anywhere.

While the average was high the sale was not as snappy and rapid as such stock would seem to warrant. The crowd was large, but many came to look on and enjoy the bountiful lunch always provided at Hanford.

JOHN M. BERNSTEIN.

Sows.	
Miss Smooth Wonder, Thos. Caesar.	\$570.00
K's Big Girl, H. S. Walz.	285.00
Big Lady M., Thos. Caesar.	402.50
Jumbo's Kid, A. Pieper.	127.50
Young Candy Kid, J. M. Case.	165.00
Pride of San Joaquin, C. T. Starr.	220.00
King's Maid, E. S. Myers.	260.00
Hanford Maid, Frank Johnson.	160.00
Long Maid 3rd, C. G. DeRaad.	200.00
Timm's Maid, H. D. McCune.	300.00
Annie Jones, E. W. Houston.	152.50
Annie Jones, 2nd, E. W. Houston.	145.00
Annie Jones, 3rd, W. O. Todd.	135.00
Blue Valley Beauty, Louis Myers.	125.00
Little sister of above, C. H. Myers.	75.00
Blue Valley Lady A, E. S. Myers.	390.00
Chief Lady Wonder, Roy Walz.	155.00
Gibson Gertie, Roy Walz.	137.50
Bill's Lady, H. T. Marsh.	120.00
Little sister of above, Les McCracken.	80.00
Boars.	
Spring boar, C. H. Myers.	\$100.00
" " W. T. Dice.	70.00
" " Chas. Lewellyn.	75.00
W. L. HAAG & SONS.	
Sows.	
Maid's Big Bone Orphan, Les McCracken.	\$505.00
Maiden Fruitful, Les McCracken.	150.00
Ever Good, H. I. Marsh.	130.00
Young Maid, E. W. Houston.	127.50
Sylvia, Geo. Durson.	150.00
Lela, C. G. De Raad.	150.00

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM.
P. O. Box 177, Lancaster, Cal.

TAMWORTHS

(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEY'S
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM
W. O. Pearson, Prop. Woodland, Cal.

WINSOR RANCH DUROCS

HOME OF WINSOR'S GIANT ORION

The largest Duroc Boar on the Pacific Coast.
82 inches from between eyes to root of tail, 40 inches high, weight 965 lbs.
weight 965 lbs.

Great Sensation III

12 months old, 65 inches long, 36 inches high—a giant.
By Great Sensation and Uneeda Lady, the highest-priced sow ever sold at public auction—a 900-pound sow.
40 BIG-TYPE FALL GILTS BY THE WORLD'S GREATEST SIRES
will be offered for private sale, bred to these two wonderful sires.

"Look up our State Fair Winnings this year."
Address R. K. WALKER, Bonita, San Diego Co.

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept. 704 Townsend St., San Francisco

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO. LOS ANGELES

Eva Jumbo, C. G. De Raad.	100.00
Lady of Golden Gate, W. T. Dice.	210.00
Bessie Black, 2nd, W. D. Trewhitt.	127.50
Jumbo Maid, C. T. Starr.	165.00
Miss Lendorris, Les McCracken.	137.50
Miss Dorris, Les McCracken.	137.50
Miss Len, Les McCracken.	137.50
Miss Lucerne, H. D. McCune.	150.00
Norma H. E. W. Houston.	155.00
Leona, H. I. Marsh.	155.00
Boars.	
Smooth Hadley, M. Lovelace.	\$ 90.00
Boar, A. Pieper.	75.00

SAN JOAQUIN CO. POLAND-CHINA SALE.

Thirteen head of boars sold for an average of \$93.84, and eighteen head of sows and gilts for an average of \$153.33.

The top of the sale on the boar side was the year old Governor, bred and consigned by Geo. V. Beckman & Sons, which was sold to the enterprising young breeders, Langhorst Bros. of Lodi, who surely know a good thing when they see it.

The top on the sow side was \$300 received for Orange Blossom, consigned by Eugene Miner and bought by Hale I. Marsh of Modesto. This sow is a good example of the big bone type, and is going into a great herd of the same kind.

Sows.	
California Miss, Les McCracken.	250.00
Lot 8, Les McCracken.	100.00
Barton's Darkness, R. E. Ray.	110.00
Long Model Price, H. T. Bailey.	235.00
Darkness B. H. C. Beckman.	275.00
Model Giantess, J. W. Stuckenbruck.	160.00
Jennie G. B. W. Doyle.	205.00
Fairview 1st, W. M. Fox.	115.00
Orange Blossom, H. I. Marsh.	300.00
Dottie Darkness, C. E. Steinler.	85.00
Lottie, H. I. Marsh.	100.00
Domez, E. McKindley.	180.00
Lot 8, H. T. Bailey.	150.00
Lot 48, Diamond Ranch Co.	70.00
Lot 49, Diamond Ranch Co.	70.00
Bob's Bess, C. E. Steinler.	95.00
Bob's Miss, C. N. Adams.	90.00
Big Bob's Model, N. K. Horan.	165.00

Boars.	
Governor, Langhorst Bros.	\$300.00
Hercules, C. N. Villenger.	75.00
Spotted Favorite, Les McCracken.	50.00
California Bob, Geo. C. Need.	90.00
Lot 10, C. N. Adams.	40.00
Lot 12, Ernest L. Carter.	40.00
Lot 25, Nettie E. Andrews.	100.00
Lot 26, H. I. Marsh.	200.00
Lot 27, J. W. Stuckenbruck.	50.00
Lot 29, G. F. Starrin.	30.00
Lot 38, A. M. Cooper.	70.00
Lot 44, Diamond Ranch Co.	85.00
Columbia King, Diamond Ranch Co.	90.00

Boars were not as ready sale as had been hoped they would be. Buyers were not plentiful and Col. Leachman had to be some auctioneer. The female side of the game went much better.

B. H. Wilkinson, manager of Falfadale Farms, Perris, on a recent trip through the East, purchased an exceptionally fine Duroc-Jersey boar under one year of age for \$2,000. This pig is of the ultra fashionable type, weighing 475 pounds and with an 8½-inch bone. Also a junior yearling sow, sired by Grand Model Supreme, grand champion at Missouri State Fair, 1918, and out of a Pathfinder sow. These animals will be a fine addition to a herd already noted for its excellence.

MONTELENA HERD OF LARGE YORKSHIRES



LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Due to the ever-increasing popularity of the breed, Yorkshire breeders are almost entirely sold out, and it would behoove the prospective purchaser to place his order soon. We are only able to offer at the present time a very exceptional lot of fall pigs, some sired by "Lake Park King," others by "Montelena Prince 2d." They are out of such sows as "Deer Creek Nena 8th," present Grand Champion sow of the State, who has averaged a fraction over 17 pigs per litter for nine consecutive litters; "Riverina Nena 9th," one of her best daughters, and "Lake Park Lady Frost 291st," the top sow at the Thomas H. Canfield sale last year.

We solicit your correspondence.

A. L. TUBBS CO.

CALISTOGA,

CALIFORNIA

LLANO VISTA HERD

Champion Hampshire Swine

Pure-bred Prize Winners

You will eventually buy and make big profits. Every animal in our herd is a Champion or their Sires or Dams have been Champions at some of the leading Expositions of the United States. Boars and Sows of all ages for sale at all times.



F. V. GORDON
Owner

PERRIS (Riverside Co.) Calif.

JUDITH—No. 126448
Sire: Calif. Lad, 45021. Dam: Mabel, 113078
F. A. LANGDON
Manager

Lendorris Ranch Poland - Chinas

GREAT HERD BOARS

YOUNG JUMBO (see cut), the great son of Jumbo Bob, is our Senior herd boar. We are breeding his gilts to LENDORRIS LIBERTY BOND, a son of Liberty Bond, for whom \$10,000 was refused.

This breeding combines great size and great quality—a combination hard to beat anywhere. A big demand, so write or call early.

W. L. HAAG & SON,
Hanford, Calif.



VALLEY VIEW FARMS

DUROC-JERSEYS

One of Glenn County's Foremost Herds.

Herd headed by Uneeda Sensational Defender, sired by Sensational Defender. Seven times Grand Champion. He is a line-bred, big-type boar of huge bone and extreme size, imported direct from McKee Brothers' herd in Kentucky. Mr. Boar-buyer, get your boar now. Boars will be at a premium this fall. Boars for the farmer, feeder and breeder at reasonable prices. Breeding stock and open gilts for sale at all times.

W. T. HOLLINGSHEAD & SONS

BOX 505,

ORLAND, CAL.



UNEEDA QUEEN MODEL,
Grand Champion State Fair, 1918.

UNEEDA GLENN COUNTY HERD OF Duroc-Jersey Hogs

KEY HERD OF PACIFIC COAST

Won at Sacramento:
Grand Champion Sow, Senior Champion Sow, Junior Champion Boar, seven Firsts, 23 other prizes.

CLASSY STOCK FOR SALE.

40 sows and gilts, many bred to our great eastern boar, Experimental Defender, by old Defender. Also a few choice service boars, and some toppy pigs of King's Col. and Defender breeding. Just the kind you need.

H. P. SLOCUM & SON
WILLOWS, CAL.

Livestock and Dairy Notes

Dairy.

Kenneth Abbott, formerly Holstein breeder of Northern California, is with the Burr Creamery Co. of Los Angeles temporarily.

J. W. Benoit of Modesto reports selling a Holstein bull to J. A. Edwards of Ceres. This bull's dam has a seven-day record of 21.22 lbs. butter at the age of three years. She is now on yearly test and making a good record.

The great herd of Milking Shorthorns, owned by Alexander and Kellogg of Suisun, have been leased to J. D. Rowe and Son of Davis. These gentlemen will take over the herd December 1st. This is one of the best herds of Dual-Purpose Shorthorns on the Pacific Coast, and contains many noted animals, both from point of performances and show records.

The Holstein-Friesian Breeders' Association of California recently elected the following officers: H. V. Bridgford, Patterson, president; De Lancy Lewis, Los Altos, first vice-president; Frank Helm, Fresno, second vice-president; C. L. Hughes, Sacramento, secretary; H. V. Bridgford, De Lancy Lewis, Frank Helm, Fred W. Kiesel, J. M. Henderson, Frank L. Morris, Gion Gibson, W. J. Higdon, A. R. Magruder, G. M. Brown, A. J. Stalder, W. H. Taylor, J. C. Peck, Owen Duffy and A. Fisher, directors.

According to S. N. Ayers, Secretary of the Associated Dairymen of California, they will shortly introduce through the medium of the "Milk Boss," to be started by the association in various places, new drinks made from whey. These drinks are not only pleasing to the palate but are nutritious as well. This will be one of the methods by which those parts of the milk which heretofore have been allowed to run down the sewer will be saved to the producer and in this way make it possible for the producer to receive more for his product without increasing the cost to the consumer.

Breeders of pure-bred dairy stock on the Pacific Coast will perceive by the premium list of the California International Livestock show that generous amounts have been set aside as prizes for this great industry, fully equalling the amounts for any other cattle class. Dairymen should see to it that the exhibit in their lines are good ones, as many eastern visitors will no doubt be in attendance and they would not want the impression to go forth that California was not adapted to dairying. General Manager True has been given the assurance by the A. W. Morris & Sons Corporation, noted Holstein-Friesian breeders of Woodland, that Tilly Alcartra, the world's champion milk and butter cow, will be on exhibition, which will be a great attraction in this line.

Swine.

Fred M. Johnson of Napa left this week to attend the National Swine Show at Des Moines. While in Iowa Mr. Johnson will visit the prominent herds of Durocs and buy a carload to bring home with him.

J. Francis O'Connor of Castleview Ranch, Santa Rosa, sold a prize winning young boar to D. J. Bastanchury, proprietor of the 30,000 acre Santa Catalina Rancho of Southern California. Mr. O'Connor is rapidly gaining an enviable reputation as a Berkshire breeder and the range of his sales are greatly extending due both to the excellence of his stock and the publicity which he gives his herd.

Mrs. Viola Renwick, owner of El Profito herd of Poland-Chinas at Santa Barbara, was at the Fair looking over the exhibit of her favorite breed and regretting that she did not have her great herd sire, El Profito, on exhibition. Mrs. Renwick reports recently receiving a bred gilt from E. D. Frazer's herd of Drexel Missouri that is very satisfactory. This gilt was sired by Big Bob and was bred to Buster's Model.

Clyde Horr of Susanville was at the State Fair with an excellent herd of

Poland-Chinas. Mr. Horr has the distinction of having the first exhibit of registered livestock at the State Fair from Lassen county. His sow, Horr's Big Orphan, was placed fifth in a very strong class. Mr. Horr knows there is a great future for blooded livestock in his country and has gotten in on the ground floor with his dandy herd of Poland-Chinas.

A report brought to Merced county hog raisers by Farm Advisor Glass from a meeting of the directors of the Farm Bureau Marketing Association, which was held at Visalia recently, was rather disquieting to some of the swine breeders. The representatives of the packing houses present at the meeting declared that big hogs are not desirable in the Coast markets, and will not bring as good prices as the smaller animals because of the greater amount of poor meat found on big-type swine.

Dwight Putman, Duroc breeder of Nebraska, and judge of all Duroc-Jersey classes at the State Fair this year, claims his greatest surprise came in the aged sow class. Eight sows scratched and only 10 of the 18 en-

tered were turned into the ring. According to him they were all world-beaters. Any state, he says, that can produce animals of such a typical breed type, is in the Duroc game for good and is easily up to corn belt standards. Ringside opinion agreed that if any one breeder owned all 10 sows he would have the finest herd in the West.

The annual meeting of the California Poland-China Breeders' Association was held at the Travelers Hotel, September 3rd. Election of officers resulted in the re-election of President Wm. Bernstein of Hanford and A. D. McCarty of San Francisco as secretary. The election of a director from each county association resulted in the election of M. Bassett from Kings county; A. J. Elliot, Tulare county; Fred Gatewood, Fresno county; Eugene Miner, San Joaquin county and R. P. Yates, Glenn county. Better than \$1,000 was raised by subscription for breed promotion purposes. Many questions bearing on breed publicity were discussed and much good will no doubt be the result. Arrangements were made to hold a consignment sale of 60 head of this great breed at Davis during Farmer's week the coming winter. Also it was decided to offer two silver loving cups for two classes of fat bar-

rows under 6 months and 12 months, respectively, as well as continuing the trophy for best futurity litter.

Miscellaneous.

The reasons for the Fourth Annual Ram Sale, held at Salt Lake city August 26th to 29th, inclusive, not being such a pronounced success as in previous years was due to the railway strike preventing shipping by Arizona and New Mexico breeders and the drought in Montana and Wyoming discouraging breeders from those states. The lack of success is only a seeming lack as the phenomenal success of the past makes an ordinary sale seem like "small potatoes."

REGISTERED HOLSTEINS

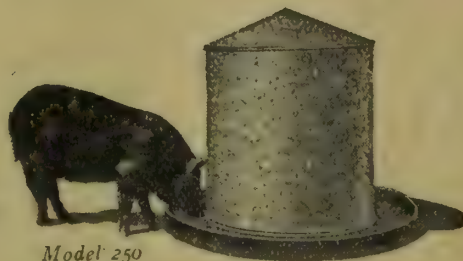
Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.
R. D. "A," Box 437.
Two miles out North First Street.

HOLMES STOCK FARM

WATERFORD RD., MODESTO, CALIF.
Registered Holstein Friesians.
YOUNG SERVICE BULL FOR SALE
Prince Abbecker Aralia Walker,
No. 204267—Three-quarters white.
Write for pedigree and price. Inspection invited and satisfaction guaranteed.

Calco - modern farm products



Model 250

Calco Automatic Grain Feeder



Model 244

Calco Hog Trough



Model 257

Calco Sheep Trough



Model 200

Calco Stock Watering Trough

CALCO PRODUCTS are made of all metal construction—built of Armco Iron and cast iron. Every piece is rigidly made, strong, durable, sanitary—built to give long service.

Calco Automatic Hog Grain Feeders are made with capacities from 2 to 14 bushels. Give automatic supply of clean, fresh grain. No waste. Long Service.

Calco Hog Troughs—for healthy hogs—are made in sizes from 24 to 120 inches in length. Armco Iron and cast iron construction throughout. Safe, clean, durable.

Calco Sheep Troughs—made for sheep, deep troughs with capacities from 51 to 131 gallons. Ready to go on supporting frame.

The Calco Stock Watering Trough is made for cattle and horses. Built ready to go on supporting frame. Capacities from 18 to 153 gallons—right prices.

Calco Automatic Hog Watering Fountains give constant supply of fresh water. Clean, durable and give long service. Diameter 44 inches.

These products are profit-producing, long-service, all-metal farm necessities. Write for price lists—**TODAY.**

California Corrugated Culvert Co.

LOS ANGELES
417 Leroy Street

BERKELEY
406 Parker Street



Model 252

Calco Automatic Hog Watering Fountain

The National Dairy Show to be held in Chicago, October 6-12 inclusive, will offer many interesting exhibits. A milking contest for cash prizes; the largest cheese ever manufactured, weighing 32,000 pounds, will be on exhibition; \$400 in scholarships, silver cups and gold medals will be offered as prizes to judging teams from the agricultural colleges, and above all the greatest show of dairy cattle ever staged in the United States.

Consignment of fine stock for the auction sale which will be held at the Southern California Fair are being received at the secretary's office and from the high grade of the stock listed it is assured that this first sale will be a great success. Among the consignments made are some finer Holstein Heifers from the ranch of Geo. A. Smith at Concoran, a car load of Guernseys from the famous Palo Alto Ranch, a fine string of Jerseys from some of the best herds in California and Shorthorns from the Hall Ranch at Perris and from recently received Eastern stock. The sale will be held on Friday and Saturday of the Fair and will be under the management of W. C. Lookingbill. Those interested in this sale should by writing to the secretary of the Fair, W. W. Van Pelt, Riverside, for information.

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SWINE.

Berkshires.

CASTLEVIEW
GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

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MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.
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Sired by Baron Duke 201st
Weight 780 pounds
Grand National Champion
Dammed by Rookwood Lady 100th
Weight 712 pounds
Grand National Champion

One and one-half years old. Big-boned, vigorous boar. Half-brother to 1919 Grand Champion that sold for \$1,000. I do not need this great breeder and he is being offered at a very low price. Sandercock Land Co., 23 Montgomery St., San Francisco. In charge of Natamas Land Sales.

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QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

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REAL GOOD BERKSHIRES—Cholera immune. Frank B. Anderson, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sires puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for fall pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route G, Fresno, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D., Box 180.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas — the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

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REAGANS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

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POLAND-CHINAS—Just the type you need. Mrs. C. H. Andrews, Modesto, Calif.

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CHESTER WHITES—BILLIKEN TYPE—The big winners at the State Fair. 15 extra choice spring boars, sired by the Grand Champion boar and out of Billiken sired sows. A few spring sow pigs; three bred Billiken sows and two gilts; all to farrow in October. Priced to sell; a chance to get the best type in the West at farmers' prices. Write for special catalogue and price list. C. B. Cunningham, Mills, Calif.

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DUROC-JERSEY BRED SOWS—A few very fine young sows bred for second litters. These animals farrowed from eight to twelve pigs, first litters. Prices, including crates and registration papers, very moderate. Correspondence invited. Geo. L. Horine, Winton, Cal.

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HAMPSHIRE—Fine quality. Weaned pigs, dandy young boars. Uneda Hampshire Swine Farm, Tom M. Bodger, Prop., Gardena, Cal.

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RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Calif., John Troup, Supt.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

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REGISTERED YEARLING SHORTHORN BULLS—Heavy boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

THE NEVADA HEREFORD RANCH, Jno. H. Casier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

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REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

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F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

J. A. SWALL, Bishop, Inyo Co., Cal.—Registered Angora Bucks, 100 grade Angora nannies

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KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale. Shorthorns; Shropshires; Berkshires; Ponies. Next sale April 17, 1920. All breeds.

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- swine
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Livestock Queries and Replies

Mange.

To the Editor: I have a horse that has a bad case of the mange. Please tell me what to do for it.—A. H. G., Mountain View.

(Answered by Dr. E. J. Creely, San Francisco.)

First, whitewash the stall every week. Scrub the harness with Pearson's Creoline and hot water. Second, scrub the affected parts with hot creoline water (especially the mane and tail). When dry apply Lugol's iodine solution and mix and apply the following once daily: Cottonseed oil, 23 ounces; milk sulphur, 4 ounces; turpentine, 2 ounces; Balsam Peru, 1 ounce; gasoline, 2 ounces. Water, curry comb, brushes, harness, etc., must be rendered sterile and be certain other animals are kept from contracting the disease. Report results in 30 days.

Mastitis.

To the Editor: I have a cow that developed a partly caked udder, then was all right for three or four days. Trouble returned in one quarter of the udder at a time. The right front quarter clogs up about every fourth milking. What is the trouble?—F. H., Kenwood, Sonoma Co.

(Answered by Dr. E. J. Creely, San Francisco.)

Mastitis. Anoint once daily with hot olive oil. Massage the affected udder thoroughly but gently. Hot water bathing benefits. Inject oxygen into the udder once daily after carefully milking. Begin by giving a good dose of salts. Give one tablespoonful sal-nitre in bran mash once daily. The milk is unfit for human consumption.

Cream Churns Hard.

To the Editor: We have a heifer that freshened recently and gives excellent milk and cream, but I cannot make good butter from it. It takes a long time to churn and when it does come the texture is soft and color white; in fact, not much better than whipped

cream. Does not get hard even when put in a cold place. The cow is in fine condition and is fed green corn, hay and some wind-fall pears. She seems to have an abnormal appetite, however, as she eats all the straw out of the horse manure in the corral and some of the manure also. Will look for an answer in your paper.—Mrs. E. P., San Lorenzo.

(Answered by Livestock Editor.)

Everything about the cow seems to be all right except the abnormal appetite. If not supplied with salt regularly I would advise placing a lump of rock salt where she could have free access to it. Her eating the manure is an indication that she does not receive saline matter enough. You do not say how you separate the cream from the milk, but I suppose by setting it in pans. Milk should be cooled to a point as low as 50 deg. by the ordinary thermometer as quickly as possible after milking and kept at that point until ready to skim. After skimming raise the temperature of the cream to about 70 deg. and hold at that point until sufficiently sour or thick, stirring occasionally. Then reduce the temperature to 60 deg. for churning and proceed as you have in the past. If this does not solve the problem there is something wrong that you have not discovered.

A BIG STOCK SHOW AT LOS ANGELES.

Manager C. R. Thomas of the Los Angeles Live Stock Show says the prospects for wonderful exhibits in all departments will be realized during the show week—October 18-26. Entries closed last Saturday and were far in excess of anticipation, and include stock from Washington, Oregon, Montana, Wyoming, Colorado, Arizona, New Mexico, as well as from all over California. The stock buildings are about completed and the track and

grounds are ready for the reception of exhibits. The poultry and pet stock show will be held under tents, and the horse show will be given afternoons

on the track between racing events. Mr. Thomas is more than enthusiastic now that the preliminaries have all been arranged.

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MARSH-McCRACKEN

POLAND-CHINA BRED SOW and GILT SALE

MODESTO, SATURDAY, OCT. 4th

HALE I. MARSH, Modesto LES McCRACKEN, Ripon

50 SOWS AND GILTS from two of the greatest herds of big type Poland-Chinas on the Pacific Coast, bred to such great boars as Big Model, sired by Model Major, Joe's King, sired by King's Joe; King's Big Bone Leader.



KING'S BIG BONE LEADER—1919 Grand Champion.

Blood lines of the sows include that of Big Bone, Blue Valley Giantess, A Wonder, Model Major, Lodi Giant, and others, making blood combinations unexcelled.

DO NOT MISS THIS CHANCE TO START A HERD RIGHT WITH "SURE ENOUGH" BIG TYPE STOCK.

You will not get as good stock if you send East for it. Better come and buy where you can see what you are getting and at your own price. Start your herd now and next year hold a sale of your own.

SALE STARTS AT 10:30 A. M. LUNCH SERVED AT NOON

Write for catalogue to HALE I. MARSH, Modesto, or LES McCRACKEN, Ripon.

Auctioneers: COL. GEO. W. BELL, ORD L. LEACHMAN, CY N. CLARK

BACK UP YOUR BULL.

Have you great faith in your herd bull? Do you want to establish a reputation for him? Then perhaps you will be interested in the plan of the Greystone Jersey Farm West Chester, Pa., in making a name for the \$60,-000 Jersey bull, Financial Sensation. Only Register of Merit cows will be bred to the bull and the highest service fee is placed on the cow with

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LADY OF THE GLEN.
Bred by us and acknowledge the best and most valuable individual of the breed.
Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.
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has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk - prevents scouring - promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data See actual figures showing you how to increase your calf profits.

COULSON CO. - Petaluma, Cal.

Herefords

LEADING HERD OF THE STATE.

My stock is the result of nearly 40 years of careful breeding and selection. Have for sale a carload of registered bulls and a carload of heifers—1917 calves, grandsons and granddaughters of Beau Donald 31 No. 109885 and Mr. Perfection No. 215575.

They will go quickly. Write or call at once.

Wm. Bemmerly - Woodland, Calif.

the lowest record, this being \$500 for a cow with a record of from 400 to 450 pounds butterfat. As the record increases each 50 pounds the service fee decreases \$50, according to which a cow with a record of 900 pounds or over is bred free of charge. Furthermore, an offer for six months old calves from such service is made to correspond with the record of the mother. For a calf from a cow with a record of from 400 to 450 pounds, \$600 is paid and the amount increases \$50 for each 50 pounds of fat up to 850 pounds. One thousand dollars is paid for a calf from a cow with such a record, but if a cow has a record of from 850 to 900 pounds, \$1,250 is offered for the calf, and if above 900 pounds, \$1,500 will be paid. The records are for full aged cows, and females of younger age with records correspondingly high will be bred at the same fees, and unbred heifers will be bred on the basis of the records of their dams.

Probably you are not in a position to command such service fees, or to duplicate these offers for calves, but think the plan over. Perhaps you can get some ideas from it that will work out well in establishing a reputation for your bull and your herd.

ADDITIONAL PREMIUMS AT THE CALIFORNIA LIVESTOCK SHOW.

In addition to the \$36,000 in premiums at the California International Livestock Show, many breed associations, as well as others, have put up attractive prizes insuring a fine showing of cattle, horses, sheep, swine and poultry. Among the added premiums for the big show which will be held from November 1st to 8th, in the California Building at the Panama-Pacific Exposition grounds, are the following:

American Shorthorn Breeders' Association, for beef classes, \$1500, and \$500 for milking Shorthorns; American Hereford Breeders' Association for beef classes, \$1500; American Aberdeen-Angus Association, \$500; Brown Swiss Cattle Breeders' Association, \$25; American Ayrshire Breeders' Association, medals; Percheron Society of America, silver medals and ribbons; Shire Horse Society of England, silver medals; National Spotted Poland-China Record Association, \$100; Western Berkshire Congress, \$200; Western Meat Co., San Francisco, for Junior Hog Feeding Classes, \$100; American Hampshire Sheep Association, ribbons; The Emporium, San Francisco, for beef and dairy cattle, \$250; California Central Creameries, for best grade cow with record by registered bull, \$225; and 74 cups for rabbit classes.

Entries close in the livestock division, October 1st, except carload steers, which may be entered up to October 18th, and rabbits and poultry, October 20th, and dairy products to 6 P. M., October 30th.

Owners of the Conejo Ranch, Newbury Park, have purchased and brought to the Coast the noted Duroc-Jersey herd of Waltemeyer Bros., Melbourne, Iowa. The purchase price is stated to have been \$16,800. Mr. George Waltemeyer, formerly a member of the firm of Waltemeyer Bros., has been engaged as manager of the swine department of the Conejo Ranch and will have charge of the herds of Duroc-Jersey and Hampshire swine at the Los Angeles, San Francisco, and Portland livestock shows.

HILLCREST STOCK FARM

Shorthorn Cattle

Shropshire Sheep

Merino Sheep

RAMS AND BULLS FOR SALE

Single or in Carload Lots

T. S. GLIDE, - Davis, Calif.

Live Oak Stock Farm

Importers and Breeders of

RED POLLED CATTLE,

SHROPSHIRE, AMERICAN MERINO and RAMBOUILLET SHEEP

FOR SALE:

150 purebred Shropshire rams.

150 American Merino and Rambouillet rams, yearlings and 2-year-olds.

Also 100 head ewes, ages 2 to 4 years old.

F. A. MECHAM ESTATE

PETALUMA, CAL.

Take electric cars at either Petaluma or Santa Rosa for Live Oak Station.

Important to Dairymen and Stockmen

You will be interested in our demonstration plot of

MILLETS

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Biloxi Soy Beans

Golden Millet

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GRASSES

*Para

*Napier

Guinea

Cocksfoot

*Fog

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The varieties marked * are by far the most valuable. Be sure to see them growing on the 1500 block, West Sixteenth street, Los Angeles. Send at once for our bulletin describing each one.

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ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, Grand Champion of Ormondale Maid, 2nd prize junior yearling at State Fair.

Every animal positively guaranteed. Prices on application.

SHORTHORN CATTLE

DUROC-JERSEY SWINE

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REDWOOD CITY, CAL.

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BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay.

Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.

A few yearling heifers of same breeding.

Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY,

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RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

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One mile east of town.

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AUCTIONS THAT PAY

Sell your livestock, farm equipment or real estate at public auction. I can get big prices for you. Have cried successful sales in all parts of the State. Customers always satisfied. Purebred sales a specialty.

Write or wire for terms and dates.

COL. ORD L. LEACHMAN, 1111 7th St., Sacramento

Poultry and Rabbits for Profit

CULL TO REDUCE COST.

Many owners of small flocks of fowls, that are kept on farms or in city lots, do not care to make a careful study of the Hogan Method of selecting and breeding for increasing egg production. For these poultry keepers the fall is the time to apply the more simple methods of culling.

In a circular letter James Dryden, Professor of Poultry Husbandry, Oregon Agricultural College, tells how this fall culling may be quickly and easily accomplished. Professor Dryden states:

"A good time to reduce the cost of eggs is now, the month of September, and the way to do it is to cull the poor layers that are eating up the profits of the good layers. It is now possible by looking at the hen and observing certain points to tell whether she is a good layer or not. It is a simple fact, that if the poultrymen had known in the last 50 years what they have learned in the last two years, it would have been possible to have saved several hundred million dollars' worth of good feed. Cull out the non-layers and the cost of producing eggs falls.

The system of culling out the poor layers is the result of a study of trap-nest records of individual hens. This study has shown that heavy egg production is correlated with certain physical characteristics of the hen. It is not requisite that the poultryman trap-nest his flock, but it is certain that no commercial poultry producer can afford to continue in the business and not cull.

The system is founded on the fact that the poor layer discontinues laying early in the season. The good layer continues to lay up until late in the fall. It is a question then largely of knowing how to pick out hens that have stopped laying early in the season, say in August or September.

The test for non-laying are as follows:

1. Shriveled condition of the comb, wattles, and ear lobes.
2. Closeness of pelvic bones, and keel bone.
3. Contracted or hardened condition of the abdomen.
4. Yellow shanks and beak in breeds that naturally have yellow shanks and beak such as the Leghorns and Plymouth Rocks.
5. Molting of the feathers.

If these different points are closely observed there is little trouble in picking out the non-layers. The hen that shows these characteristics not only is not laying but is a poor layer. She has been a poor layer through the year and will be a poor layer in the next year. No single one of these tests, however, is sufficient. For greatest accuracy they should all be considered.

The system then to follow in culling the poorest layers is to do the work in September and cull those that show (a) well developed molting with shriveled comb and wattles; (b) contracted abdomen and dry, puckered vent; (c) yellow shanks and beaks.

To select the very best layers in the flock it is better to do it from October 15 to November 15, as follows:

Take for breeding hens those showing:

1. Incomplete molt, red comb and wattles, and bright eyes.
2. Well-spread pelvic bones, good depth from pelvic bones to keel bone and soft abdomen.
3. Pale shanks and beak and vent, among breeds that have naturally yellow skin and shanks.

To make the test accurate the hen should have had good feeding and care throughout the year. If the hen does not get good care and feeding she may stop laying early though she is naturally a good layer. If, through accident, or mistake, in the feeding a large proportion of the flock stops laying, then the test cannot be very accurately made.

It used to be the theory that the

hen that molted early was ambitious to get the job over early and get ready for laying in the fall and winter, when eggs were high. But the actual fact is just the reverse, as has been demonstrated by poultry investigations in the past two or three years.

POULTRY FEEDING LEARNED FROM NATURE.

The nutriment in the feed of laying hens serves a twofold purpose—to repair waste and furnish heat to the body and to supply the egg-making materials. As only the surplus over what is needed for the body is available for egg production, the proper feeds should be fed in sufficient quantities to induce this production.

In supplying feed to fowls there are three kinds of constituents which should be present in certain fairly well fixed proportions if the desired results are to be obtained most economically. These constituents are mineral, nitrogenous, and carbonaceous, all of which are contained in corn, wheat, oats, and barley, but not in the right proportions to give the greatest egg yield. In addition some animal feed and green feed should be supplied.

In feeding poultry a valuable les-

son may be learned from nature. In the spring the production of eggs on the farm is an easy matter. Fowls which are at liberty to roam find an abundance of green and animal feed on their range, which with grain fur-

nishes a perfect ration for laying hens. In addition to this they get plenty of exercise and fresh air. So far as lies within his power, then, the feeder should aim to make the winter conditions springlike.

Rush Molting Hens Back to Work



THIS year of all years—with egg prices going the highest ever—get a big fall and winter egg yield. Get your hens through molting—when they're all expense and no income—as fast as you can. Get your pullets to laying early and regularly. Yes, get all the profit you can from the high egg prices. Give all your poultry.

Pratt's Poultry Regulator

AMERICA'S original poultry tonic and conditioner, the standard for nearly fifty years. It builds health and strength naturally. It stops losses from the strain of molting. It puts and keeps hens in the condition where a good ration is all they need to lay the biggest lot of eggs you ever got. See if it doesn't. At our risk—

"Your Money Back if YOU Are Not Satisfied"

P-1

Sold by 60,000 dealers. There's one near you

Write for Pratt's NEW Poultry Book—Free

PRATT FOOD COMPANY
Philadelphia Chicago Toronto

Makers of Pratt's Animal Regulator, Hog Tonic, Dip and Disinfectant, Veterinary Remedies.



160000 3½ inch Tires per Day

That is the production capacity of Firestone Plant No. 2, devoted solely to this size—the size used by more than half the car owners of America

The true value of the Firestone No. 2 Factory lies in the kind of 3½-in. tires it turns out.

All the floor acreage, the batteries of special tire machines, the carefully chosen and organized workers express themselves in one thing:

A better 3½-inch tire.

The reception given the new Firestone 3½-inch tire proves that Firestone could and did unite resources and volume to produce a quality previously unattainable.

The above are the boiled-down facts of a tire made in quantity so that every



Firestone 3½-inch Special Molded Tire

At These Prices

	Non-Skid	Gray Tube
30x3½	\$18 ⁰⁰	\$3 ²⁵
32x3½	\$21 ⁰⁰	\$3 ⁷⁰

6,000 Miles

one of its mile-giving qualities can be offered at the prices mentioned.

Look at the cross section of this tire at your Firestone dealer's.

From bead to tread, you find sound, enduring construction.

You can see the extra rubber between fabric layers.

You can feel the resilience in the tread. And you sense toughness there, too, in the spring and vigor of the live rubber.

Cushion, breaker-strip and sidewall are generous in size and in the quality of rubber.

Equip your car with these new 3½-in. tires, the latest example of most miles per dollar.

This is the
Firestone
Year

Attend the California
International Livestock
Show, San Francisco,
November 1st to 8th.

PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poul-
trymen to use High Protein
Beef Scraps is a benefactor to
his customers. The best is al-
ways the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee
which assures the poul-
tryman, high and uniform
quality.

Made in a government
inspected packing house.
Contains only blood and
offal.

Food elements plainly
marked on every sack.

Made and Guaranteed by

Western Meat Company

SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

WHITE OR BROWN?

The statement of an Oakland egg commission man that brown or colored eggs are now becoming more and more popular as opposed to the pure white eggs generally regarded as best and drawing biggest prices, is looked on as the opening gun in a campaign to kill off an unwarranted assumption of superiority in the pure white egg. There has been an ungrounded suspicion among egg users that the brown or colored egg is not so good as the white egg and because of its color has been regarded as old stock.

This public attitude toward the white and the non-white egg is particularly interesting when we realize that the opposite view of the desirability of eggs is held on the Atlantic coast. In New York and Boston the public generally prefers the brown or colored egg on the same ground that the pure white egg is preferred here. Back East it is assumed that the brown or colored egg is richer as a food and in the markets one finds buyers insisting on purchase of only colored eggs. Indeed, the pure white eggs are comparatively uncommon back there, probably because the breeders have clung to stock which produces the dark colored eggs.

Very probably there is not the slightest difference in food value in the white or colored egg. If, however, the public will come to regard the white or colored eggs as of equal value then many eggs that are not now salable at a good price would be disposed of without loss to their producers.

Every poultry raiser should make a study of the market demands. A uniform color of eggs and flesh in poultry is desirable. A mixed flock will not produce uniform eggs or meat, and eggs from such a flock are not desirable for hatching.

Our readers interested in the Belgian hare and rabbit industry should send for Farmers' Bulletin No. 496, Washington, D. C.

Do not raise ducks that lay green shelled eggs as the eggs are difficult to dispose of.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

BOOKING FOR WINTER, SPRING DELIVERY reduced—Hundreds of chicks open most weeks this fall. Seven popular breeds clearing customers \$5 yearly. Greatest profit next year and all found in strains like ours, laying winters and 200-290-egg scores of generations back. Half chicks go to former customers. Doubling our 70,000 hatching capacity. Rejected thousands of dollars for chicks we couldn't supply. **FEW HUNDRED BREEDERS**, laying, younger pullets going rapidly, 50c, \$2.00 underpriced. Circular with proof free. J. BEESON, Pasadena, Cal.

WARDS' S. C. RHODE ISLAND REDS caused a sensation at Sacramento by winning: 2nd cock, 1st and 3rd hens, 1st and 3rd cockerels, 1st and 3rd pullets, special for best-colored female. Cockerels, pens, trios. Hatching eggs. Write for circular. Wards' Poultry Farm, 39C South Lincoln Avenue, San Jose, California.

PEERLESS WHITE WIANDOTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

FIRST-CLASS PUREBRED S. C. BUFF Leghorn cockerels, only \$3.00 each. Just the bird you need to improve the laying ability of your flock. My motto is, "You must be satisfied." Oscar E. Wrieden, care Spiers Stage, Calistoga, Cal.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hoganized and Trapped stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

ANDERSON'S PEERLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels \$5 and up, 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

GET BABY CHICKS NOW—Write for free booklet on fall chicks. See why they pay. Several varieties very week. Only good, strong youngsters shipped. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto.

THE MISSION HATCHERY, Campbell.—Next three weeks, some R. I. Reds, White and Barred Rocks, Also White Leghorns. Want some? Priced reasonable. Booking orders for early 1920 delivery.

NEW ZEALAND REDS—4 does, bred; one buck; 30 half-grown. Fine strain, A-1 condition. Does and buck 14 months old. No better in State. \$40 takes the lot if bought at once. P. Dana, Los Altos.

EASTMAN'S BRED TO LAY—Hoganized and trapped Barred Poultry Rocks. September chicks. Fairmead Poultry Farm, Fairmead, Calif.

FALL BABY CHICKS—Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. Santa Clara Valley Hatchery, San Jose, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GEES, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

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is cheaper than second-hand, dollar for dollar of cost. Come in and see what we have to offer you in **HERCULES HARNESS**, Saddles, and Horse Collars. Our own make and fully guaranteed.

W. DAVIS & SONS

California's Pioneer Harness
Manufacturers

333 Market St., SAN FRANCISCO
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Catalogue of Harness, Saddlery, Trunks
and Traveling Bags sent free on request.

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KEEPS EGGS ONE YEAR
It costs only one cent per dozen eggs to use Egg-o-latium. There is no other expense. Eggs are kept in carton or box in cellar. Eggs may be boiled, poached or used in any other way, just like fresh eggs. Simply rubbed on the eggs—a dozen per minute. A 50c jar is sufficient for 50 dozen eggs. At Drug, Seed and Poultry Supply Stores or postpaid.
GEO. H. LEE CO., Dept. 528, OMAHA, NEB.

WRITE FOR SPECIAL PRICES on Fall chicks. Willow Glen Poultry Yards, 10 South Lincoln Ave., San Jose.

ROCK, RED OR LEGHORN baby chicks—large or small lots. Right prices. Madera Hatchery, Madera, Cal.

FALL BABY CHICKS from our large heavy-laying S. C. White Leghorns. Send for prices. Tupman Poultry Farm, Box 7A, Ceres, Calif.



Produced Cheapest by
LAYNE & BOWLER PUMPS

Balanced construction
Highest efficiency.
Bronze bearings
throughout.

Floated in bath of oil.
No plungers.

No packing glands
under surface of
ground.

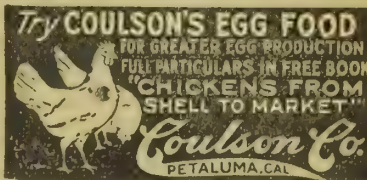
No pit required.
For 10-inch wells or
larger

Capacities 140 to 4500
gallons per minute.

Ask for Folder No. 25.

**Layne & Bowler
Corporation**

900 Santa Fe Avenue
Los Angeles



The grease lasts twice as long

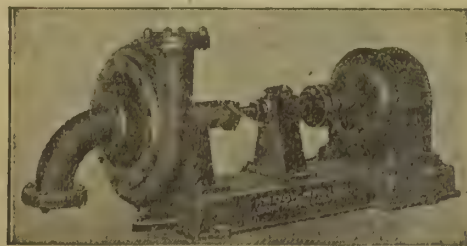
—because Mica Axle Grease contains powdered mica (practically wear- and heat-proof), which fills up all roughness in spindles and bearings, makes the grease work better and last twice as long. No hot boxes. Ask your dealer. Buy by the pail.

Standard Oil Company
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IRRIGATING PUMPS



Single Stage Motor Driven Pump

KROGH PUMPS

absolutely hydraulically and automatically water balanced. No end thrust whatsoever. Also DEEP WELL TURBINE PUMPS for bored wells 10-inch diameter and up.

Write for Bulletin—**KROGH PUMP & MACHINERY CO.**

149 Beale St., San Francisco, Cal.
Branch Sales Office at Los Angeles.

THE HOME CIRCLE

WHY BOYS LEAVE THE FARM.

Why did you leave the farm, my lad?
Why did you bolt and quit your dad?
Why did you beat it off to town,
And turn your poor old father down?
Thinkers of platform, pulpit, press,
Are wallowing in deep distress;
They seek to know the hidden cause
Why farmer boys desert their pas.
Some say they long to get a taste
Some say they long to get a taste
And some will say the silly chumps
Mistake the suit cards for their
trumps.

In waging fresh and germless air
Against the smoky thoroughfare.
We're all agreed the farm's the place,
So free your mind and state your case.

"Well, stranger, since you've been so
frank,
I'll roll aside the hazy bank,
The misty cloud of theories,
And tell you where the trouble lies.
I left my dad, his farm, his plow,
Because my calf became his cow;
I left my dad—'twas wrong, of course,
Because my colt became his horse.
I left my dad to sow and reap,
Because my lamb became his sheep.
I dropped my hoe and stuck my fork,
Because my pig became his pork.
The garden truck that I made grow,
'Twas his to sell, but mine to hoe.
It's not the smoke in the atmosphere,
Nor the taste for life that brought me
here;
Please tell the platform, pulpit, press,
No fear of toil or love of dress
Is driving off the farmer lads,
But just the methods of their dads."
—Anonymous.

THE BEARS THAT ESCAPED.

Sue pressed her face against the
car window and peered out into the
twilight. During the day she had
enjoyed herself; for what little girl
can help having a good time on a rail-
way trip if she is well and has a kind
mother who understands little girls
as a companion? But, as evening
came on, she began to remember how
far away she was from her old home
and from all her playmates, and she
felt very lonely and homestick.

Her father had been sent to be su-
perintendent in a new factory in a
Western town, and Sue and her
mother were to spend the summer
with him. But Sue did not want to
go. She wanted to stay at home and
have the same jolly picnics and play-
days that she had had the summer
before.

HIGH SCHOOL GRADUATES

and others
WANTED

This State wants teachers
NOW
Prepare in 4-10 months.

WESTERN NORMAL, BERKELEY, CALIF.



Free THIS NOVA-TONE TALKING MACHINE

Cigar-Machinery finish, enameled parts,
no motor to get out of order, excellent
reproducer, enjoyment for all. Sell 12
boxes Mento-Nova Salvo great for
colds, burns, influenza, etc. Return \$5
and the machine is yours. Guaranteed.
Records free. Order today. Address:

U. S. Co., Box 468—Greenville, Pa.



Send NO Money!

Simply send your size and these
wonderful Dress Shoes will
come to your home at once. You'll
be surprised to learn that these
of wear. Genuine oak leather
soles. Note the splendid extra
and comfort that is yours—these
must delight you or no money.

Pay only \$4.39
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We Guarantee
that these shoes
are of the highest
quality and value,
and that they will
give you the most
satisfactory wear,
or we will send a
new pair FREE.

Business Man's
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Boston Mail Order House, Dept. 441-T Boston, Mass.

Send shoes on approval. My money back if I want it. I risk nothing

Name.....Size.....

Address.....

Even the sight of her father's eager
face did not make Sue happy as she
stepped from the train. She cast
critical glances at everything, from
the small frame depot to the last twin-
kling yellow street-lamp that she could
see in the distance.

The long, bare, two-story building
into which they stepped five minutes
later, and which her father explained
was to be their home for the summer,
was worst of all to Sue. It had been
built for a hotel; but, as it was not
just then needed for that purpose, and
as houses were very scarce, it was di-
vided into apartments and rented to
several families. Sue's father had his
office in one of the big rooms down-
stairs. Mother was delighted with the
big, airy room, and began planning at
once where she would put the pretty
things that she had brought in her
trunk to make it "homey" and pleas-
ant. But Sue thought it was bare and
like a barn.

They were to take breakfast at a
hotel near by, but they needed some
things from a store which was only a
few doors away; so, while Sue took
off her wraps, her father and mother
hurried out on their errand.

Voices sounded from the room
across the hall,—childish voices,—and
presently Sue heard a boy call, "Who
let out my brown bear?"

"I didn't," came the prompt answer
in what sounded like a little girl's
voice. Then, in a distressed tone:
"Oh, oh! Mine is gone, too—my nice,
big, cinnamon bear!"

"They were here just before supper,
for I fed them," said the boy.

At the word "bears" Sue shivered
with terror. Bears right in that
house! What should she do? She
was terrified to stay there alone, and
she dared not run out to warn her
father and mother. They were gone
only a few minutes, but the time
seemed like hours to Sue; and, when
they did come back, she was so
frightened that it took her a long time
to make them understand what she
had heard.

Children were running about in the
long hall, so her father opened the
door and called, "What's all this I
hear about lost bears?"

"Oh, they're caterpillars that we
caught this afternoon," answered the
boy. "They were so fuzzy and big
that we called them our bears, and
we had them in two glasses, but they
got out. We'll get some more tomor-
row. Did your little girl come?"

"Yes, here she is. Come in and tell
her about your bears," said Sue's fa-
ther. Sue was so glad to hear that
the bears were of such a harmless
sort that she welcomed with a smile
the bright-faced boy and girl that fol-
lowed her father into the room.

"Mother wants you to come over to
our rooms for a warm supper," said
an older girl, appearing at the door
just then. "You must be tired and
hungry after your long ride."

The new friends were so pleasant
and kind, and the supper so delicious,
that Sue just couldn't keep on feeling
cross and unhappy. By bedtime she
had made so many plans for the next
day that there were not going to be
nearly hours enough in it to carry
them all out.

"We're going to catch some more
bears tomorrow," she laughed, as she
was undressing for bed. "I'm not
afraid of brown bears or cinnamon
ones either."

"They are very useful bears," said
her mother, smiling. "They have
helped to drive off two enemies that
were troubling my little girl,—home-
sickness and discontent."

Sue nodded sleepily, too tired to
answer, and soon she was sleeping so
soundly that she did not dream of
bears or anything else.—Louise M.
Oglevee.

GREEN GRAPE PIE.

Use small seedless grapes that are
about half ripe. Place in a pie pan
with the usual piecrust and sweeten.
Cover with piecrust and put into a
quick oven at first and then moderate
the heat.

PICKLES AND RELISHES.

Sour Cucumber Pickles—Select
small cucumbers, wash, sprinkle with
salt and cover with cold water. Use
one cup of salt to each gallon of
water. Let stand 12 or 14 hours, then
rinse and pack in fruit jars or crocks.
Add green or red peppers, also whole
spices. Cover with scalding vinegar.
If using fruit jars, sterilize and seal
carefully. If stored in an earthen-
ware crock, place a plate with a
weight on top to keep the pickles in
the vinegar, then cover the jar.

For sweet cucumber pickles, prepare
as for sour pickles, adding sugar,
ginger root, horse radish and must-
ard seeds to the hot vinegar.

Chili Sauce—Twelve ripe tomatoes,
one-half teaspoon pepper, three
onions, three green peppers, three

tablespoons sugar, two tablespoons
salt, two cups of vinegar, one tea-
spoon of cinnamon. Peel tomatoes
and onions and chop all vegetables
separately very fine. Combine ingredi-
ents and cook slowly about one hour
and a half.

Pickled String Beans—Remove ends
and strings from beans but keep them
full length. Cover with boiling water
and cook about fifteen minutes; drain,
rinse in cold water and drain again.
Pour over them scalding vinegar
enough to cover. These beans will
be ready to serve in twenty-four
hours.

If you have trouble with the flour
lumping when making gravy, use rice
flour for that purpose as it simply re-
fuses to lump.

DREADNAUGHT
BLAZING-AWAY-IN-COST-DEFENCE!

To Meet Every Need



The demand for a good fast water heater be-
came so urgent that we immediately responded
with our best effort—the result is faster than
that made for city use. The quick action is ob-
tained with our "Super-sixty" Burner, which op-
erates the same as the Dreadnaught for stoves.
The oil consumption is the same, but the heat
greater. A larger drying dome is responsible for
the increase in heat.

We are successfully meeting every demand
where oil is to be used in the making of clean gas
as a means of economy.

This little Burner for cookstoves still leads the
procession with the demand ever increasing. A
raise in price was necessary, but it still remains
the biggest little bargain on earth.

Write for circular—name your need. We will
gladly give details and prices.

BURNER AND VALVE—

FOR COOKSTOVE OR HEATER

ON AND AFTER SEPTEMBER 27TH—\$7.50

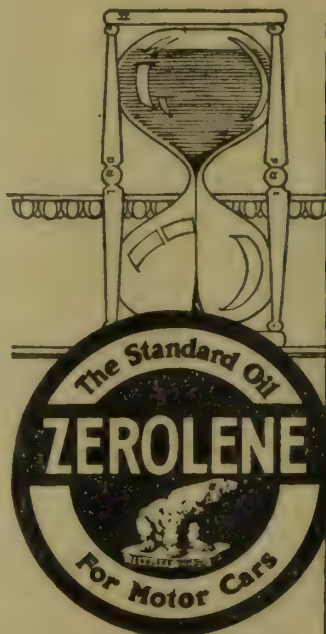
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MANUFACTURERS

310 South Hill Street,

Los Angeles, Cal.



LONGER LIFE FOR YOUR CAR

The correct grade
of Zerolene will add
years to the life of
your car. Gives bet-
ter lubrication with
least carbon. Get a
Correct Lubrication
Chart for your car.

STANDARD OIL COMPANY
(California)

UTILITY TRAILERS

Write for
Illustrated Catalog



A FLEET OF TRUCKS AND TRAILERS—operated by
the Kern Land Company of Bakersfield, California. These are
5-ton trailers connected to 3-ton trucks. This company declares
that Utility Trailers have doubled its trucks' efficiency
LOS ANGELES TRAILER CO.,
1328 PALMETTO ST.,
LOS ANGELES, CALIF.



Somebody asks "What is tannin?"

Tannin is what they tan leather with—pulls it together, makes it tough.

There's a lot of tannin in oak, hemlock—and in cheap coarse tea, but hardly a taste of tannin in fine tea unless you boil it.

Now do you want tannin-flavor or tea-flavor? Do you want to put tannin or tea into your stomach?

Schilling Tea is the fine practical tea with the real tea-flavor—the most economical beverage next to water.

There are four flavors of Schilling Tea—Japan, Ceylon-India, Oolong, English Breakfast. All one quality. In parchment-lined moisture-proof packages. At grocers everywhere.

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More Light Than 20 Oil Lanterns

AT LAST—the light of lights! A lantern that lights with common matches just like the old style oil lantern, but makes and burns its own gas from common gasoline, giving a brilliant, steady, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electric bulb. More light than 20 oil lanterns. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lantern. The



Coleman Quick-Lite

No wicks to trim. No globes to wash. No dirt or grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger if tipped over. Will last a lifetime. Write our office for Catalog 21-R. P.

THE COLEMAN LAMP CO.,
(Successors to)
COLE LITE & SALES CO.,
Los Angeles, Cal. 120 S. Los Angeles St.,

CASES FOR SILVER.

Silver that is not in constant use should be kept in cases. These cases may be procured where the silver is sold, but they may also be made at home. Use dark red or gray canton flannel, and bind the edges with braid or ribbons. Use the silver to measure the size of the holders; they must be double, with division lines of stitching, to prevent the silver touching. Make separate cases for knives, forks and spoons and allow extra material for a flap to fold over the top. Roll up and tie with tape.

FOOD AS MEDICINE.

Pills are one of the abominations of the age. The body is abused; the bowels become unable to eliminate the refuse. When this condition has continued to the point of discomfort, the victim takes a pill.

Continued pill-taking destroys the power of the bowels to act without stimulant or forcing. Most of the diseases of women are due to constipation, and yet constipation may be prevented by using the right kind of food.

Traced to its source, constipation is caused by a lack of exercise, lack of bulk in food, lack of water and overuse of condensed foods. To cure this trouble, drink plenty of water, at least eight glasses a day, and take at breakfast a tablespoonful or so bran, or a bran biscuit. Fruits, green vegetables, raisins, prunes, figs and dates are all laxatives. Coarse breads are better than fine white breads. Cream, butter and olive oil are all good. An apple eaten at bedtime is an aid in forming regular habits.

Foods that are constipating are cheese, spices, pickles, nuts, scalded milk, crackers, candy. A meal which is prescribed as a laxative meal is wheat grits and cream, bran muffins, bacon, hot water. To make the bran muffins, take one and one-half cups of bran, one-half cup of flour, one-half teaspoonful of soda, one teaspoonful of baking powder, one-half cup of sugar, one teaspoonful of salt, one egg, one cup of sour milk, one-third cup of melted butter or other shortening, two teaspoonfuls of sorghum. Sift the dry ingredients together. Beat the egg, add milk, melted butter, sorghum and the dry ingredients. Bake in gem pans in a moderate oven until well done.

Prunes soaked for twenty-four hours and eaten without sugar, or an orange, are good fruits for the laxative meal.—Exchange.

NEEDS OF THE HOME VS. THE BARN.

A woman on the farm can make her life about what she wishes it to be, for a great deal depends upon her attitude towards farm life and the work that it brings.

She is an equal partner with "dad" and they should work together. There can be no set and definite lines drawn between outdoor and indoor operations. The improvements that are necessary and can be afforded outside to save time, labor and money, can be afforded and are fully as necessary inside for the same reason.

Any farm that can afford running water to be piped into the barn for the old "red cow" can afford to furnish the house with the same necessity. If the farmer needs a gang plow, the farmer's wife needs a washing machine run by power. The woman is to blame because her home improvements do not keep pace with the outside improvements. She is too willing to keep doing without and using the tools her great grandmother had. Any man is willing if he is financially able to make the kitchen the right kind of workshop for the farm women, but she must study her problem and then both together must determine the greatest needs so that home improvements may be made.

Let us resolve to get away from primitive methods and plan and work to have well equipped, comfortable, convenient and sanitary farm homes. —Colorado Agricultural College.



Today's Dream—
Tomorrow's Reality

Electricity offers to the farmer of the present the means of eliminating the monotonous grind from the day's routine.

G-E Motors Save Labor

You can free yourself from the physical exhaustion resulting from farm drudgery if you use G-E motor-driven machinery to milk your cows, separate cream, churn butter, cut feed and ensilage, saw wood, thresh grain, pump water and perform the many other tasks which make up the necessary activities of the working day. The cost for power is less than the wages of one farm hand. Ask your lighting company or our nearest office for full particulars.

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comfort and
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No. 6 and Smaller Stoves\$12.50
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Outfits sent the same day we receive the order.

It's a pleasure to receive your inquiries.

VAUGHAN & MATTISON,

Pacific
Coast
Agents

225 Market Street,

San Francisco, Calif.



SAN FRANCISCO.

San Francisco, September 24, 1919.

WHEAT.

The supply of wheat seems ample for all demands in San Francisco, although it is stated that arrivals are slow. All grain markets are dull.

Per bushel—

No. 1 hard	.....\$2.20
No. 2	.....2.17
No. 3	.....2.13
No. 1 soft	.....2.18
No. 2	.....2.15
No. 3	.....2.11
Club or Sonora, No. 1	.....2.16
do, No. 2	.....2.13
do, No. 3	.....2.09
California, per ctl	.....\$3.65@3.70

BARLEY.

All the grain markets continue quiet with very little demand. Trading is of the hand-to-mouth variety with no changes in quotations.

Feed	.....\$3.00@3.05
Shipping	.....\$3.20@3.30

OATS.

There were no changes in the oat market which usually takes its cue from the barley market. Like the latter market the only local demand is for small quantities.

Red feed, per ctl	.....\$2.90@3.10
Red for seed	.....Nominal
Black for seed	.....Nominal
Reclaimed Red or Black for seed	.....Nominal

CORN.

There was some Egyptian choice on the street this week and it sold readily at \$3.70 to \$3.80. Some Milo was also offered, but it was of second grade, which sells for what it will bring on each transaction.

California	.....\$3.80@3.90
Egyptian, choice	.....\$3.70@3.80
Milo	.....Nominal

HAY.

Receipts of hay for the past week were 2,893 tons compared with 2722 the previous week. Receipts by rail were very small and over three-quarters of receipts came in from the bay and river sections. Farmers are making every effort to get their hay out of the fields as much hay was damaged last year about this time by rains, and while there are no immediate indications of rain the growers who are unable to ship are trying to get their crops under cover. The city market is slow as most of the big buyers have already laid in their winter supply.

No. 1 Wheat, or Wheat & Oat	.....\$15.00@18.00
No. 2 Wheat, or Wheat & Oat	.....\$12.00@15.00
Choice Texas Oat Hay	.....\$15.00@18.00
Wild Oat Hay	.....\$10.00@14.00
Barley Hay	.....\$12.00@16.00
No. 1 Alfalfa Hay	.....\$17.00@22.00
Stock Hay	.....\$ 8.00@12.00
No. 1 Barley Straw, per bale	.....\$ 50@ 80

FEEDSTUFFS.

The only change in the feedstuff market is the widening of the range on alfalfa products. Alfalfa molasses always sells at a higher price than the meal, and as the former becomes more plentiful it is necessary to include its quotation in the range for alfalfa products.

Rolled Barley	.....\$63.00@64.00
Roller Oats	.....\$62.00@63.00
Cocanut Meal	.....\$48.00
Cracked Corn	.....\$79.00@81.00
Alfalfa Products	.....\$38.00@45.00

POTATOES, ONIONS, ETC.

The strike of the waterfront men has interfered with the receipts of both potatoes and onions in this market. Outside of this market both are rather weak, especially potatoes, but here, owing to the few arrivals, the market may be regarded as temporarily strong. It is reported that Texas is being flooded with potatoes from Colorado and Idaho at a lower price than that they can be shipped from this State. As that is usually an important outlet for California potatoes at this season the report has materially weakened the market. The waterfront strike has also interfered with the receipts of all kinds of vegetables, but enough have come in on motor trucks and otherwise to keep the market supplied.

String Beans	.....\$3@4c
Pears	.....8@9c
Carrots, per sack	.....\$1.00@1.25
Rhubarb, Strawberry, box	.....Nominal
Cucumbers	.....50@70c
Eggplant, box	.....50@75c
Lettuce, per crate	.....75c@1.25
Tomatoes, River, per large box	.....50@65c
do, Early Annas	.....50@75c
do, Stone	.....75c@1.00
Summer Squash, lug, Alameda	.....85@85c
Green Corn, Alameda, sack	.....\$1.50@2.00
Potatoes, Garnets	.....\$2.00@2.35c
do, local whites	.....\$2.25@2.50
do, Rivers	.....\$2.00@2.35
do, Sweet, new, lb.	.....3½@4c
Onions, new red	.....Nominal
do, Browns	.....\$2.50@2.75
do, Yellow	.....\$2.25@2.40
do, Green, Alameda	.....\$1.50
Garlic	.....20@25c

BEANS.

No method of distributing the surplus of last year's bean crop in this State has as yet been devised, and in the meantime the new crop will soon be on the market. Already there have been some small shipments and enough is known to assert that the new crop will be of excellent quality, although it is yet too early to predict its quantity.

Beans, per ctl	.....\$6.25@6.50
Blackeyes	.....\$5.50@5.75
Cranberry	.....\$6.20@6.50
Limas (South, reclaimed)	.....\$12.25
Pinks	.....\$6.25@6.50
Mexican Reds	.....\$5.50@5.75
Tepary beans	.....\$2.50@2.75
Garbanzos	.....\$10.00@10.50
Large whites	.....\$6.50@6.80
Small whites	.....\$7.25@7.50

POULTRY.

The strike of the poultry pickers was settled this week and the men have returned to work at the old scale of wages. However, the

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

tie-up, which lasted practically two weeks, makes the present market very irregular, and it will take another week to work off the accumulated stock and get the market on a more stable basis. The Jewish holidays created a demand for geese and certain other descriptions. Quotations showed a wide variation in different shops on the same day. The market will undoubtedly steady down by another week.

Turkeys, dressed, young spring, lb.	.....50@52c
Broilers, 1½ lbs. and under	.....32@34c
do, 1½ to 2 lbs.	.....30@31c
Fries, 2 to 3 lbs.	.....30@31c
Hens, extra, per lb. colored	.....33@34c
Smooth young roosters, per lb. (3 lbs. and over)	.....32@34c
do, Leghorn	.....30@32c
Old roosters, colored, per lb.	.....22@23c
Geese, young, per lb.	.....26@27c
do, old, per lb.	.....22@23c
Squabs, per lb.	.....48@50c
Ducks, young	.....20@25c
do, old, per lb.	.....20c
Belgian hares	.....17@18c
Jack rabbits	.....\$1.50@3.50

BUTTER.

Butter receipts continue light. The daily fluctuations have been very small. While some butter continues to go into storage it is practically only that butter for which there was not immediate sale and the withdrawals daily average at least twice the amount sent to the ice house. It is reported that no butter is being shipped to the East from this State, but small shipments of a few thousand pounds are being made almost daily to Central America and overseas.

Thurs. Fri. Sat. Mon. Tu. Wed.	
Extra	.....60½ 61 61 60 60½ 60½

EGGS.

Eggs continue to advance in price. While no shipments are being made to the East from San Francisco practically daily shipments are being made from Petaluma and other points

of production. On Saturday, September 20, three cars were shipped from production points to New York. These eggs are carefully selected and are eagerly sought in the eastern market. The New York price is about 10 cents higher than San Francisco, and added to that the producer saves the commission charged by the San Francisco merchants. It costs about 9 cents to make the shipment in carload lots so the producer is saving something better than the commission by shipping his eggs outside the State.

Thurs. Fri. Sat. Mon. Tu. Wed.	
Extras	.....62½ 62 61 63 64 64
Ex. pullets	.....55 58 56½ 57½ 58 58
Undersized	.....37½ 41½ 38½ 39½ 39½ 39½

CHEESE.

The market for cheese is very quiet. A few sales of California flats were made but otherwise there was no demand. Fancy California Y. A. are not even quoted this week. California Flats, fancy

do, Firsts	.....Nominal
Y. A. Fancy	.....Nominal
Oregon Triplet	.....29½c
do, Y. A.	.....32½c

FRESH FRUITS.

Gravensteins on the market at present are dead ripe and the price has been reduced to move them. The apple market is expanding and the later varieties are getting the bulk of the trade. Cantaloupes are getting scarcer and sell at higher prices. The berry season is drawing to a close and it is expected that there will be few more berries after the first of October. It is explained that untimely weather is the cause for a shortening of the season this year. The fruit market has been hampered this week by the waterfront strike, but the supply has been ample.

Apples—Gravensteins	.....75c@2.25
do, Alexanders	.....\$1.25@1.75
do, Jonathan	.....\$1.50@2.65
do, King	.....\$1.50@2.00

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., September 23, 1919.

Shipments of fruits have been seriously curtailed during the past week, owing to the car shortage that prevailed in all districts, and though Eastern receipts were moderate, fruit selling at good prices, buyers were aware of the light supply enroute, which resulted in active bidding and a strong market.

There has been a noticeable inquiry for storage stock pears but a large percentage of the Bartlett from Northern California arrived in the East showing ripe and unfit for storage. Fruit has been moving, however, at good prices, though not as high as the week previous, owing to the quality.

The market for Clingstone peaches, regardless of the sugar shortage, has shown an upward tendency. The offerings are not heavy and the demand is greatly in excess of the supply. Freestone peaches are moving at average prices.

Late plums met an unexpected demand, due possibly to the light offerings of other varieties, the market on all varieties of late plums being unusually strong.

Both Malagas and Tokays are selling at prices nearly as high as the week previous, the demand for Malagas remaining firm, with an unusually strong request for Tokays.

If weather conditions remain favorable for the next two weeks, no serious damage will happen to the grape crop, except that a more liberal proportion should be marketed at this time in the event that rains should set in during the next thirty days.

The very heavy movement of wine grapes has seriously interfered with the car supply and speculation is rife as to what action the Government will take regarding this matter if the shortage continues during the balance of the season.

Averages for the week:
NEW YORK: Bartlett Pears, \$1.68; B. Hardy, \$3.84; B. Clingstone, \$3.78; Winter Nellis, \$3.76; Levi Cling Peaches, \$1.86; Orange Cling, \$1.75; Phillips, \$1.52; Salways, \$1.38; Muscat Grapes, \$1.82; Malagas, \$2.16; Tokays, \$2.60; Thompson Seedless, \$2.00; Zinfandel, \$1.82; Alicante Bouchet, \$2.27; Gros Plums, \$2.05; Grand Duke, \$1.75; Giants, \$1.48; Hungarian, \$1.69.

BOSTON: Tokay Grapes, \$2.70; Cornichon, \$2.15; Muscats, \$1.76; Zinfandel, \$1.82; Malagas, \$2.32; Alicante Bouchet, \$1.88; Salway Peaches, \$1.12; Bartlett Pears, \$3.70.

CHICAGO: Muscat Grapes, \$1.42; Tokays, \$2.15; Zinfandels, \$1.52; Malaga, \$1.92; Thompson Seedless, \$1.81; Black Prince, \$1.57; Hungarian Plums, \$1.65.

Special Livestock Market Report

San Francisco, Sept. 24, 1919.

CATTLE.—There has been little change in the beef trade, and the tendency seems to be toward lower prices. The supply is rather plentiful, and buyers are exacting as to quality and bearish as to price. There is no change in quotations.

Steers, No. 1, 950-1100 lbs.	.....10 @ 10½c
do, No. 1, 1100-1300 lbs.	.....9½ @ 10c
do, 2nd quality	.....8½ @ 8½c
do, thin	.....6 @ 7c
Cows and Heifers, No. 1	.....8 @ 8½c
do, 2nd quality	.....6½ @ 7½c
do, common to thin	.....4 @ 5c
Bulls and Stags, good	.....5½ @ 6½c
do, fair	.....4½ @ 5½c
do, thin	.....3½ @ 4½c
Calves, lightweight	.....12 @ 12½c
do, medium	.....11 @ 11½c
do, heavy	.....8 @ 9c

SHEEP.—Owing to the continued high level of wool prices, sheep growers are still measurably indifferent about marketing their stock. The limited demand, however, is readily supplied. Quotations stand.

Lambs, Yearling	.....10c
do, Milk	.....12 @ 12½c
Sheep, wethers	.....8½c @ 9c
do, ewes	.....6½ @ 7c
HOGS.—Generally speaking, hogs have held steady this week, though dealers are still expecting a further decline. Buyers are restricting their purchases and feeling their way conservatively. Quotations unchanged.	
Hogs, hard, grain-fed, 100-250	.....16c
do, 250-300	.....15½c
do, 300-400	.....14½c

Los Angeles, Sept. 23, 1919.

CATTLE.—Steers are in light supply but a good demand is reported for them. Cows are coming in freely and market is weak. All prices the same as a week ago.

Per cwt. f. o. b. Los Angeles:	
Beef steers, 1000@1100 lbs.	.....\$9.50@11.00
Prime cows and heifers	.....\$8.00@ 9.00

Good cows and heifers\$7.50@ 8.00
Canners\$5.00@ 5.50
Calves\$10.50@13.00
HOGS.—No change in prices to report in this market. It is steady and reported good demand.

Per cwt. f. o. b. Los Angeles:
Heavy averag'g 275@350 lbs. \$12.50@14.00
Heavy averag'g 225@275 lbs. \$14.50@15.50
Light\$15.50@16.00
Rough docked 20 lbs. piggy sows 40 lbs. and stags, 40 per cent.

SHEEP.—Receipts light and the market steady and all prices the same as a week ago. Demand good.
Prime wethers\$8.50@ 9.50
Yearlings\$8.50@ 9.50
Prime ewes\$8.00@ 8.50
Lambs\$12.50@13.50

EASTERN.

Chicago, September 23, 1919.

HOGS.—Receipts 23,000; estimated tomorrow, 113,000; steady to 25c lower. Heavy, \$16.50@18; medium, \$16.75@18.15; light, \$17@18.25; light light, \$16@17.50; heavy packing sows, smooth, \$16@16.50; packing sows, rough, \$15.25@15.75; pigs, \$15@16.25.

CATTLE.—Receipts, 12,000; estimated tomorrow, 12,000; firm. Beef steers, medium and heavy-weight, choice and prime, \$15.25@17.75; medium and good, \$10.75@15.25; common, \$8.25@10.75; light-weight, good and choice, \$14@16.75; common and medium, \$8@10.75. Butcher cattle—Heifers, \$6.50@14.75; cows, \$6.25@13.35; canners and cutters, \$5.25@6.25; veal calves, \$20.25@21.50; feeder steers, \$7@12.25; stocker steers, \$6.25@10; western range steers, \$8@15; cows and heifers, \$6.25@13.

SHEEP.—Receipts, 35,000; estimated tomorrow, 35,000; strong. Lambs, \$12.25@15.25; culls and common, \$7.50@12; ewes, medium, good and choice, \$6@7.25; culls \$15.25; culls and common, \$7@12; culls and common, \$2@5.75; breeding, \$6.75@12.50.

do, Bellflower	.....\$1.35@1.60
Figs	.....\$1.00@1.25
do, white	.....60c@1.00
Plums, box	.....75c@1.50
Grapes, Seedless	.....\$1.00@1.25
do, Malaga	.....\$1.25
Blackberries	.....\$10.00@12.00
Cantaloupes, Standards	.....\$2.00@2.25
do, Ponies	.....\$1.50@2.00
do, flats	.....85c
do, Persian, lb.	.....Nominal
Watermelon, lb.	.....1@1½c
Quinces	.....\$1.00@1.25

CITRUS FRUITS.

Best grapefruit sold at a higher price this week, but otherwise there were no changes in the citrus market.

Oranges, Valencia	.....\$4.25@5.50
Lemons, fancy	.....\$6.50@7.50
do, choice	.....\$5.50@6.50
do, standard	.....\$4.50@5.50
Lemonettes	.....\$3.50@4.50
Grapefruit	.....\$4.00@6.00

DRIED FRUITS.

Buyers report there is no change in the dried fruit market. Prices are being shaded in some instances, but the bulk of the pack is bringing the market quotations.

Apples	.....17@20c
Pears	.....16@18½c
Peaches	.....17@18½c
Apricots	.....21@28c
Prunes	.....12@13½c
Figs, Adriatic	.....14@20c
do, Calimyrna	.....16@23c

HONEY.

There has been less demand for honey than was anticipated with the shortage of sugar. While prices have not been lowered, the market is decidedly weaker on the small demand.

RICE.

The warm weather and winds are ripening rice more rapidly than expected and the crop may be harvested somewhat sooner than was expected. It is reported that inquiry for export is constantly showing decided increase and this demand has a decidedly strengthening influence on the market. Quotations are nominally unchanged.

LOS ANGELES.

Los Angeles, September 23, 1919.

BUTTER.

This market continues to advance. The price is up 4c since quoted last week. Receipts a little lighter, but demand holding up well. For the week, receipts were 280,500 lbs.

California, extra creamery	.....66c
do, prime first	.....64c
do, first	.....63c

EGGS.

Receipts only slightly above last week, but an advance in price of 5c on fresh ranch and pullets over a week ago, while on case count 1c above last quotations. Demand is good and receipts for the week, 440 cases.

Fresh ranch, extra	.....63c
do, case count	.....58c
do, pullets	.....54c

POULTRY.

The demand is reported to be very good for all items quoted and at an advanced price over last week. Receipts, however, are light.

Broilers, 1 to 1½ lbs.	.....38c
Broilers, 1½ to 2½ lbs.	.....38c
Fries, 2 to 3 lbs.	.....32c
Roosters (soft bone) 3 lbs. and up	.....32c
Stags and old roosters, per lb.	.....19c
Turkeys	.....40@42c
Hens	.....32@35c
Ducks	.....23@27c
Geese	.....27c

FRUIT.

All choice to fancy stock in very good demand. Apples quoted lower. Poor and off stuff very hard to move. Receipts about normal.

Peaches	.....4@5c
Strawberries	.....\$5.00@5.50
30 basket crates, fancy	.....\$3.00@3.25
Poor to choice	.....\$2.25@2.50
Blackberries, case 30 boxes	.....\$5.00@5.25
Raspberries, case 30 boxes	.....\$5.00@5.25
Plums—Sugar, lb.	.....5@6c
do Nectarines, lb.	.....6@7c
Apples, White and Red Astrakhan, lb	.....4@7c
Grapes, Malaga, lb.	.....5@6c
do, Muscat	.....3½@4c
do, Tokays	.....6@7c
do, Rose Peru, lb.	.....3½@4c
do, Hamburgs, lb.	.....3½@4c
Crabapples	.....5@7c
Pears, Bartlett, lb.	.....6@9c
Apples, Bellefleur, 4 tier	.....\$1.40@1.50
do, 4½ tier	.....\$1.35
do, 3½ tier	.....\$1.35@1.45
do, Alexander, 4 tier	.....\$2.00@2.25
do, Gravenstein, 4 tier	.....\$2.25@2.50
do, Skinner Seedlings, per tier	.....\$1.75@2.00

VEGETABLES.

Offerings better and prices of many things lower. All choice to fancy in very good demand. On poor stuff there is little call and it is generally dull.

Potatoes, local, per cwt.	.....\$2.00@2.25
do, Northern Burbanks	.....\$2.25@2.50
Sweet Potatoes	.....\$2.25@2.50
Onions, Stockton, yellow, cwt.	.....\$2.75@2.80
do, White Globe, cwt.	.....\$2.40@2.65
Cabbage, per 100 lbs.	.....\$1.00@1.25
Lettuce, crate	.....\$1.00@1.25
Rhubarb, per 30-lb. box	.....75c@1.25
Summer squash, lug	.....30@40c
Pears, per lb.	.....9@10c
Kentucky Wonders	.....5@6c
String Beans, wax	.....5@6c
do, Green	.....4@5c
Tomatoes, lug box	.....25@35c
Lima Beans, local, lb.	.....5@6c
Cucumbers, local, lug box	.....40@50c
Cantaloupes, Tip-tops, Stand. crates 90@100	.....\$1.00

BEANS.

Limas and blackeyes are in very fair demand with prices steady. On all others the market reports slow sale.

mas, per cwt.	\$11.00 @ 11.50
large white, per cwt.	\$6.25
small white, per cwt.	\$6.50
blackeyes, per cwt.	\$5.00 @ 5.25
spary, per cwt.	\$3.00 @ 3.25
nk, per cwt.	\$6.25

HAY.

Receipts are very liberal, but buyers hold back. Sales reported to be very slow. All prices the same as quoted last week.

arley hay, per ton	\$18.50 @ 21.50
at hay, per ton	\$22.00 @ 25.00
alfalfa, Northern, per ton	\$24.00 @ 25.00
alfalfa, local, per ton	\$25.00 @ 27.00
traw, per ton	\$ 9.00 @ 10.00

AGRICULTURAL NOTES.

Austria recently made an urgent demand for 20,000 tons each of beans, peas, wheat and rice, according to the U. S. Bureau of Commerce.

The Imperial summer crop of milo maize has been moving rapidly at a ruling price around \$49. Probably two-thirds of the crop has been sold by growers.

Kern county has reduced her bean acreage of 500 last year to 100 acres this year, while wheat acreage has increased by 10,000 acres over last year as has alfalfa.

The sweet potato dehydrator promises to solve the most difficult problem of the grower—saving his crop so that people can eat "sweet" throughout the year without cellar losses.

Rice growers in the north are making an effort to have the Bureau of Biology prosecute violators of the duck-shooting rule rather than have a blanket order issued rescinding all permits.

E. L. Maddox, near Sacramento, two years ago put one ton crushed limestone to the acre on his olives and almonds and is so well pleased with the results that he is going to use two tons this year. He states the young trees made a better growth and the soil was much more friable.

Six hundred and fifty acres of barley on Union Island has yielded some 22,000 sacks of grain this year—an average of 35 sacks to the acre. The Delta dealt a good hand this year—as it generally does.

Rice growers in Sutter county are being advised to store their straw instead of burning it. It is said that rice straw can be used in the manufacture of insulation and a company is investigating its possibilities.

Imperial valley has answered the world's call for bread in a substantial way. In 1916 her total wheat acreage was 1906, while this year she has in 37,288 acres! The estimate is placed at 30 bushels to the acre.

Turlock growers of Egyptian corn are rather disappointed at prices on the new crop, which opened around \$58 a ton with light demand. The quality is excellent and this seems to be a chance for the chicken men to get busy.

A total cotton production of 11,230,000 bales is forecast by the U. S. Bureau of Crop Estimates for 1919. The production last year was 12,040,532 bales. Cotton picking is proceeding in Texas, Alabama, Georgia and Florida.

A. E. Imbler at Delano (Kern county) obtained 720 pounds of No. 1 onion seed from 1.6 acre test plot. He contracted this to a seedhouse at \$1.25 to \$2 a pound, depending on market. At the minimum price this would yield \$500 an acre.

There is a 1200-acre field of corn on Union Island (San Joaquin county) on the Old River Farms Company's land. It stands 12 feet high and promises a very heavy yield. This is probably the largest field of corn ever grown in the West—nearly two sections.

The Cudahy Packing Company was fined \$2,300 at Milwaukee for violating the food law pertaining to the storage of food. District Attorney W. C. Zabel said the company had stored 800,000 pounds of meat for over a year without notifying the dairy and food commission.

Classified Advertisements

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MISCELLANEOUS.

WANT RESPONSIBLE AND EXPERIENCED fruit alfalfa or grain irrigation farmers to work on crop share basis. Land is river bottom tulle land, plenty of water, good living conditions and good markets. Will enter into one or two years' contract with right men and might extend same into option of purchase. Party should have some implements, live stock, or money with which to buy them. Please state age, farming experience, from whom you have rented amount of livestock and implements you own, financial condition, and size and age of family. State when your services will be available and amount of land you can handle. Address: Herman Janss, San Joaquin, Fresno county, California.

PRUNING — College graduate. University Farm experience, familiar with latest methods, would prune large deciduous orchard this winter. Can bring two good assistants. \$6 per day, board; assistants, \$4.00, board. N. C. Wilson, 205 First Savings Bank Building, Oakland.

REMANUFACTURED PIPE. All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Welsbach Pipe Works, 160 Eleventh street, San Francisco.

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AGENTS — Mason sold 18 sprayers and Autowashers one Saturday. Profits, \$2.50 each. Square deal. Particulars FREE. RUSLER COMPANY, JOHNSTOWN, OHIO.

WANTED MARRIED MAN, no children. Man to milk a few cows and attend to chores around the place, wife to cook for small family. Wages, \$90 and board. T. Harrison, Santa Rosa Stock Farm, Santa Rosa, Cal.

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ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

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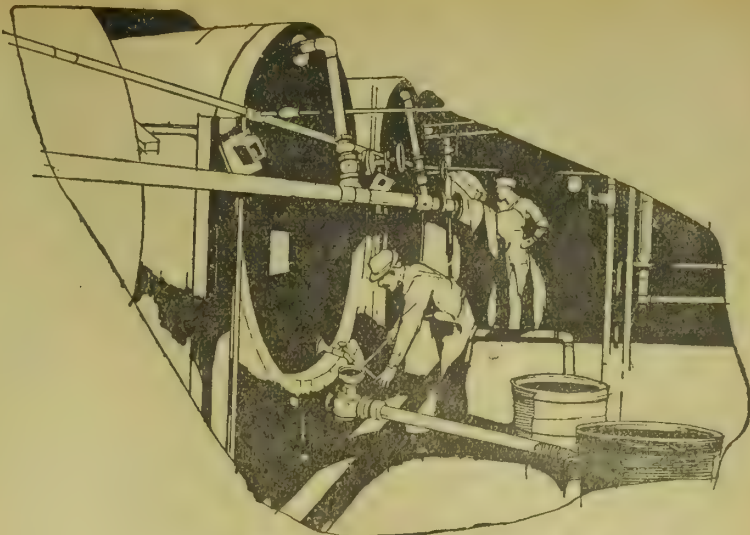
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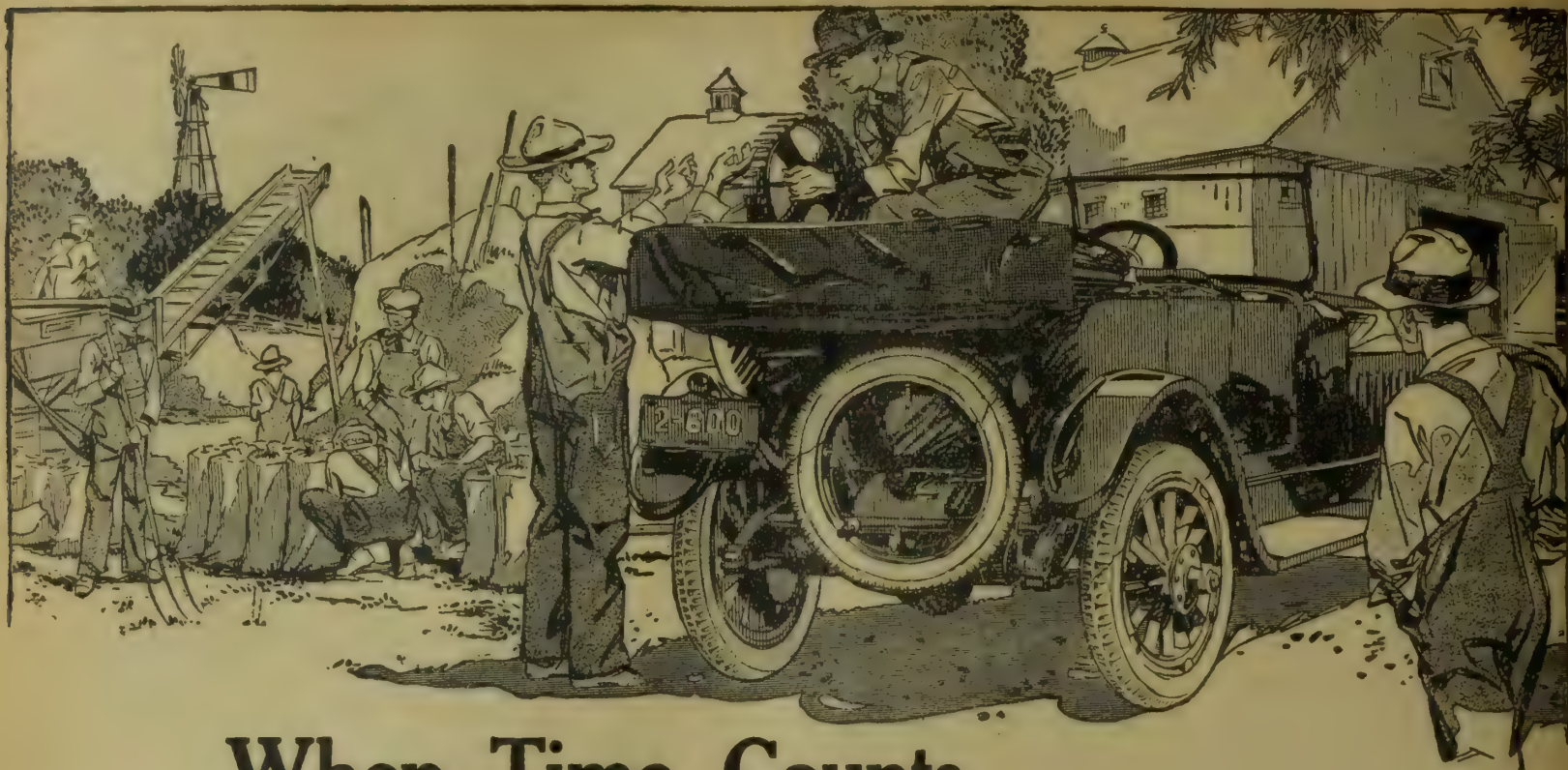
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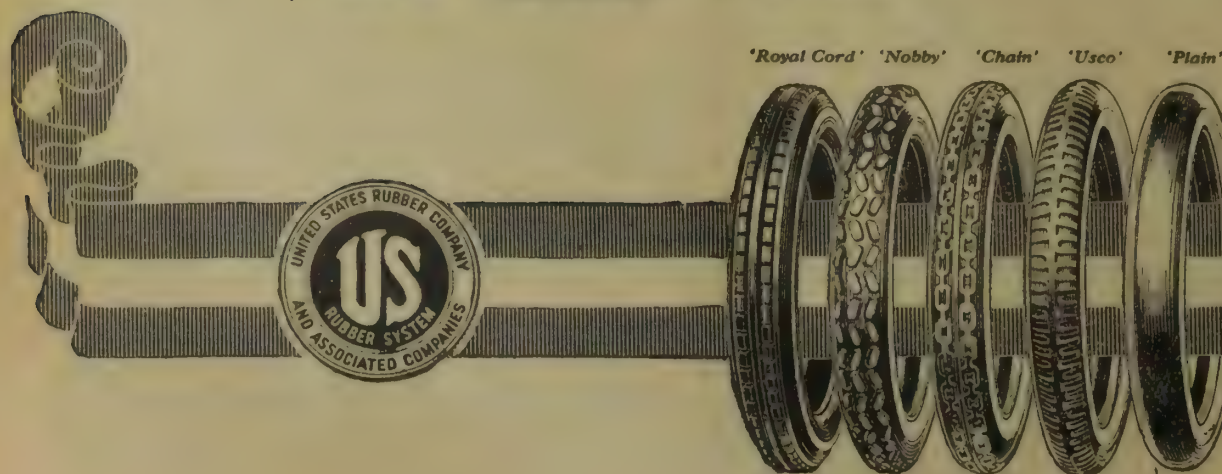
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THE PACIFIC RURAL PRESS

SAN FRANCISCO

OCTOBER 4, 1919

LOS ANGELES

The June Drop of Oranges in Tulare

Written for Pacific Rural Press by D. J. Whitney.



ONE OF THE BIG TROUBLES that keeps the citrus grower in Central California (and elsewhere) interested and alive to his business is the June drop, which is very much in evidence at the present time, after the middle of August, in spite of the months it is named after. Formerly the orange grower in this section seemed to be mostly interested in a location where he could dodge frost, or in the race to get his navels to market before the frost spoiled them. Now the main puzzle seems to be how much, or little, fruit the June drop is going to leave on his trees. The June drop is a pleasant thing to write about—one can guess so many things about it and yet be safe, because so much and so little is known of its cause. If any man proves your guesses wrong, you can retaliate by proving his guesses wrong also.

Persistence of the Drop.

Tulare county thinks this problem so important that she has secured an expert plant pathologist to study the subject. When he has completed his work we doubtless will know more, but doubtless the drop will still be with us. The plain, simple facts of the matter are that a great deal of the fruit of a Washington navel tree is due to drop in early summer. This, that, or the other thing is recommended to check it—but drop, drop, it goes anyhow. Groves of ideal condition, which are given ideal treatment for all that can be seen, very naturally set more and finer fruit than common groves, yet a lot of the fruit drops off anyhow. Every little helps and makes the good grower more successful than the poor grower in the value of the final crop, but until something radically different than common sense and experience seem to suggest, the June drop apparently is a condition that will have to be faced. Harvests have come and gone and money has been made in the face of it, so the industry can still endure and prosper in spite of it all.

Drop Outruns the June Period.

The thing of special note for the summer of 1919 is that the June drop did not quit in June. It used to be thought that an orange reaching the size of an overgrown marble was safe, but this season they are dropping when nearly half grown, and dropping on good groves as well as poor ones. There will be no crop failure, but the extremely good prospects of spring are far from as good now. May rains and a cool, early summer, followed by high heat later, is sometimes blamed for it.

Now for details. The drop in citrus fruits is limited essentially to the Washington navel. Some Valencias and other seed varieties will drop, just as prunes will drop, but serious injury to the Valencia crop is not common from this cause. Consequently, the guess is made that pollination has something to do with it. However, for all that can be seen, navel trees near Valencias or common seedlings seem to drop as badly as other navels. The sexual parts of a navel orange are defective, and very rarely could the finest pollen in the world get into action, so it does not seem that the solution is here.

More to the point is the fact that the navel, being seedless, therefore unnatural, artificial, and a freak which Nature has no use for, is naturally more high strung and freakish in habits than a normal fruit, by which term is meant, a fruit that is pollenized and sets seeds the way Nature originally intended all fruits to do.

Proper Irrigation.

Fundamental in importance in making good fruit is irrigation. It has been proved time and time again that when a navel tree suffers for moisture the fruit is robbed by leaves and twigs and drops off easily when irrigation supplies the next good drink. A year ago this explanation was the great explanation. It is a good one to the extent that an orchard irregularly irrigated will have a heavier June drop as a rule than a properly irrigated orchard, but nevertheless the drop will continue with groves given the most careful irrigation possible, which never, for all that can be seen, have a deficiency of moisture, and never have an excess of moisture. We can therefore rule this out as a very vital guess, and mark it down as merely a step in keeping a grove in good condition, knowing that a well-cared-for grove will hold and mature more fruit than a poor one.

Permanent Cover Crops.

Another great big guess as to the cure of the drop was that permanent cover crops, like alfalfa or sweet clover, would provide moisture in the atmosphere, thus preventing the strain of hot, dry air on the small fruit, but last season in Southern California, when the atmosphere was a little more humid than usual, the oranges seemed to drop faster than usual, the cause for that year being guessed as bacterial action, induced partly by more than normally humid conditions. A rule that the weather is likely to start working backwards has serious faults. This permanent cover crop idea, or failing in that, the summer cover crop idea, seems to have lots of good features. In many cases by adding strength to soil and trees, it seems beyond question to give a heavier set of fruit than the orchards had before. However, proper fertilization, irrigation and cultivation do just the same thing. There is nothing that will justify summer cover cropping in being considered more than an item in helping trees that need this kind of care.

Spring Plowing.

"There is too much of a shock to the trees by cutting off the small feeding roots in spring plowing," say some, "just when the bloom is on, or about to come. The tree needs all its strength at this time

to give the fruit a fair start." True enough, as far as it goes. The right combination of soil handling in the spring helps a great deal in the amount and quality of the crop harvest the next fall and winter. To that extent it makes the fruit stick, just the same as good irrigation, fertilization and everything else makes the fruit stick, but the June drop goes on just the same on orchards given every kind of soil culture that the experts can suggest. What we are trying to say in this line is this: Every little helps. All of the good advice given relates to ways of making the fruit set in general, and good trees are normally going to set more fruit than poor ones, but in spite of everything the June drop continues on good groves as well as on poor ones.

Some persons are becoming quite convinced that the thrips is extremely guilty; that practically every fruit of more than normal dropping size (everybody admits that the loss of a certain portion of the fruit in spring is natural and inevitable), which drops off when it apparently should stay on, was injured when younger by thrips. Actually this theory has the same basis as the others—that something has weakened the fruits and so they

(Continued on page 448.)



Vigorous young trees, as strong and thrifty-looking as this, are not exempt from "June drop" of the fruit.

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R. E. HOIGES - Assistant Editor
JNO. J. FOX - Horticulture
THOS. F. MCCONNELL - Livestock

EDITORIAL.

SAVE CALIFORNIA'S CROWN!

WHETHER the forest fires of last month were actually greater and more destructive than is normal for September we are not sure, but that they were more widely spread and encroached more deeply into public attention and apprehension is probably true. Probably Mr. Du Bois, who has charge of our district of the national forests, and Mr. Homans, our California State Forester, will tell us ere long how this year's experience stands related to their systematic work for fire-prevention, and what may still need to be done to render preventive efforts more efficient. It is surely a great question, and it will naturally become greater in importance as we proceed with the development of homes and industrial establishments in the vicinity of forested areas, which we must learn to safely retain. For we have no idea that we must denude our State to free our achievements and investments from fire-menaces. We wish all coming generations of California to live in a State ever glorious and famous for its trees—resting in their shade and lifting their aspirations above the tops of them; or, as Longfellow had it:

Enter! the pavement carpeted with leaves
Gives back a softened echo to thy tread!
Listen! the choir is singing; all the birds
In leafy galleries beneath the caves
Are singing! listen, ere the sound be fled,
And learn there may be worship without words!

MUST RAIN BE THE BEST FIRE FIGHTER?

The fire fighters did nobly! Out they went by thousands from all haunts of men, braving all perils to protect and preserve the attainments and requirements of civilized life. On many places they won their battle and subdued the flames in the face of wind and measureless areas of inflammability. And yet, in spite of all the human science of fire-fighting, they seemed here and there to be on the edge of defeat—until Nature sent her own forces to their assistance. It is, of course, no impeachment of man's efforts for prevention and conquest of fire that the rains saved wide and rich areas of Southern California from great losses and prolonged distress: it is only a sharp warning that we must make our science of fire-fighting broader and more exact, and our practice of it more efficient, and that we must provide more liberally for both in our national and State expenditures. Our lesson, then, is one, not of humility alone, but of greater, more systematic and efficient effort. We have been saved from great losses, not for later destruction, but for struggle more creditable and commensurate. We are compelled to acknowledge that it was a higher power than our own which saved us—saved us, not to loll in a sense of security, but that we might better learn to protect ourselves. It was an intervention which we have no right to expect, because we are endowed with intelligence and power to save ourselves. And yet, we have to admit that, in spite of all our attainments hitherto, rain is a fire fighter beyond the present powers of man to emulate. Shall we always thus remain dependent, for the safety of our civil-

ized attainments, upon the intervention which Nature employs to preserve her own wild life and substance from utter destruction? Such a thought is not only an impeachment of man as a creature, but of his idea of the wisdom of his Creator—for man's idea of both was earliest recorded in these words: "Let them have dominion * * * over all the earth and of everything that is upon the earth." If we insert the word "creeping," which the translators supplied, it does not really limit the assignment. The earth was given to man to do whatever he could with it, and if he should allow the forces of Nature to destroy even every "creeping thing upon the earth," he would be recreant and responsible. When the Supreme Council made Man mandatory of the Earth and the contents thereof, it was surely no call to passivism!

HOW THE RAIN CAME.

The record is most dramatic, thus:

Los Angeles, September 27.—Thursday night the people of Pomona gathered in churches and offered prayers for rain. They were prompted by the announcement that rain was the only thing that would stop the devastating forest fires in that vicinity. Last night their prayers were answered. Well before midnight the heaviest rain for this season of the year that has fallen in Southern California for many years, began. It continued throughout the night. Reports from the forest fire region early today were that the rain was rapidly quenching the last strongholds of the fire.

Of course, the most obvious and important aspects of the foregoing sequence of events are transcendental, but, as we hold no commission in sky-pilotage, we cannot elucidate them. There is, however, quite enough within range of a secular shot to warrant a cartridge or two. For the sake of the spirit of man, which since the war has become quite freely secularized, it is much better and more rational to pray to God Almighty for rain and to believe that you get it by praying than it is to appeal to and place faith in soothsayers, clairvoyants, weather-prophets and rain-makers, who hasten to do evil that goods may come to themselves. We hear from all sides, as a teaching of the war, that man must become spiritualized by forsaking his worship of self and other material affairs, and it is unquestionably true—but if he swap seven devils for one by satisfying his soul with spiritualistic fallacy, vapidty and deceit, his last state will be worse than the first. It is true, of course, that we are more in danger of making such exchange in our social and industrial affairs than in our meteorological transactions, but the lesson is the same. It is much safer to carry our social burdens to the church than to the soap-box—still considering them both as merely secular institutions.

And another affair of the spirit has arisen from the war, and that is what is called morale. American morale must be continued in us as it was engendered in our fathers by devotion to the highest things which inspired patriotism, industry and true humanity. The Pomona people did well; they exalted their spirits; they uplifted and strengthened their morale; they put out the fire! There is an efficiency in spiritual affairs—from a secular point of view at least.

FARMERS LARGELY OUT OF IT.

And so the great conference between employers and employed will come on in Washington on October sixth, with scant participation by agricultural employers. It is true that in the list of twenty-two patriots appointed by President Wilson to "represent the general public," there is an agricultural editor from Iowa (who may be counted a near-farmer); the president of the Ohio Farm Bureau (whose relation to practical farming may be either actual or academic); and one man from Carbonate, Colorado, who is really put down as "a farmer"—and we accept him as such with proper gratitude, though from his residential sound he may be cousin to a coal mine. Supposing we accept these three as agriculturally representative, as doubtless they are in different ways, why should we complain? Well, it is this way: Farms in the United States in 1910 were worth forty-one billions of dollars—two-thirds lands, one-third buildings and equipment. This property was operated for food production by six and one-third millions of farmers directly employing or keeping busy a rural

population of forty-nine millions, or fifty-three and one-third per cent of the population of the United States at that date—losing sight of the fact that the remaining forty-six and two-thirds per cent of the population was considerably employed in manufacturing for and otherwise serving the six and one-third millions of farmers who are employers. Now, when the president of the United States appoints twenty-two representatives of the "public interest" to take part in the discussion of the relations between employers and employees, he decides to name three who are more or less representatives of agricultural employers and nineteen who are representative of everything else in the United States, all the way from trust-magnatism to socialistic propaganda—less than one-seventh to represent more than one-half of the population and more than six-sevenths to represent the opinions and interests of the other less than half of the population.

It is true that agriculture will have larger representation when it is considered that a number of those who are appointed as financiers are also large owners and operators of farming lands, and may do much to support the agricultural view of the current condition of affairs, but their agriculture is apparently incidental, and their appointment is credited on the published lists to their preponderating interest in other affairs. In our notion, agricultural representation should not be incidental. To whatever number may be considered feasible to appoint farmers to represent the public interest, the incumbents should be real producing and employing farmers, whose farming industry predominates in their industrial affairs.

Aside from those appointed in the "public interest," farmers may appear as delegates from agricultural associations, but the number so far announced is pitifully disproportionate. In these tests the representatives of organized labor seem to number fifteen, while representatives of agricultural associations do not exceed five. Two things are possible: other representatives may be named later, or those in authority may not find country-wide associations enough to name a larger number. The agricultural importance of the affair seems to be problematical.

CALIFORNIA DEVELOPMENT.

California is full of people, and a larger than the usual throng of winter residents is coming, the touristologists say. Everybody seems to be running about trying to buy something large to irrigate it, plant it—for the sake of its production, or to cut it up and take out the unearned increment later. In growing towns inclosed by large areas of improvable lands, it seems to be nip and tuck to get a nap even by night. It is reported from Fresno that a reputable family found itself cosily lodged in the county jail because they accepted entertainment from an enterprising hotel keeper who said he had "only outside rooms." The long, dry spell seems to have emptied the jails of their regular occupants and increased our hotel capacity. These well-protected domiciles may be in demand by those who shrink from the attentions of real-estate agents. But on the whole, our own people and our visitors seem to like the game of buying, ditching, planting and cutting up. One of our metropolitan banks has been buying branches nearly everywhere, and advertises that it is ready to finance a lot of farming. A prominent metropolitan mortgage company, which has formerly largely confined its activities to such trifles as municipal bonds, now announces by circular:

Investors seem to favor loans on good income country property, and following the inclination of investors, our company is devoting much attention to loans of this character. There seems to be nothing in the market more substantial than farm lands during the situation of the country at this time, and there is every reason for the feeling of security on mortgages secured by land."

Just think of it: these are the very people who a few years ago would rather put tens of thousands in a suburban site for a brickyard than a few hundreds in the deepest loam the country afforded. They have had an awakening. The Federal Loan Banks and their gilt-edge bonds have surely put them wise as to what investors consider desirable and secure.

We are receiving from Eastern agricultural economists very interesting essays on the economic danger of farming lands rising too high in price.

Many of their postulates seem well drawn. They might be of some influence if addressed to buyers, and they should have weight in the case of a farmer who wishes to go on farming, for to such a man a rise in land values, will mean more cost in the way of taxes, etc. But such an appeal to keep prices down to a land owner who has long wished to sell, is like asking a small boy to refuse an ice-cream ticket for fear of giving his grandmother a chill. Besides, good California land, with a climate over it, is really in a class, by itself—from the point of view of variety and volume of production. Everybody seems to be wanting good California land, and some of them may get what is not as good as it ought to be for the money they are paying for it, but there is no comfort in dissuading them. Most buyers will get the worth of their money, and California is the place to do it.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

A Cure for Wormy Wicksons.

To the Editor: Why are the Wickson plums so wormy. I am a new comer and they tell me that the Wicksons have more or less worms every year. If that is the case there must be a cause and some remedy. Please explain.—T. G. L., Auburn.

The worms you speak of are the larvae of the "peach moth" or the "peach twig-borer" (*Anarsia lineatella*). The way to head off this pest is to spray the trees, just as the buds begin to swell toward the end of winter, with lime-sulphur, diluted 1 to 10. Be sure to cover the rough bark in the forkings of the branches, etc., for it is there that the larvae hibernate and you have to catch them as they emerge. The fruit is bored at the stem end by the worms of a later brood, but the way to get them is to kill their possible parents.

Rooting Mulberry Cuttings.

To the Editor: I planted some mulberry cuttings from good, well-developed, young wood. Most put out leaves until the size of a half dollar, then slowly died. They had plenty of water. Should they have been packed in damp sand or what?—C. C., Simi.

You do not give information enough. If the cuttings were soft wood (that is, green wood of current season's growth), they probably had too little heat. If they were hard wood cuttings (that is wood of the previous year's growth) they probably had too much water. If they had (in either case) been inverted to damp sand, so as to bring the bottom of the cuttings just below the surface of the sand so that a callus had been formed, they would probably have developed roots before they made leaves, and that is what is necessary in starting a cutting. After callusing they should, of course, be planted right end up.

Certified Seed Potatoes.

To the Editor: Under the requirements of the new potato certification law may I plant my potatoes on my own land and sell the product for food and use as much of it as necessary for re-seeding the next year and keep on doing so, selling for food only each time, without having certified seed?—L. C. M., Valley Ford.

Seed potato certification does not interfere with your doing your spud business as usual if you choose to. If you try to market diseased or infested potatoes, you are liable to condemnation by other laws and regulations. The seed certification law is simply for the purpose of making it sure that planters can get seed of good type, well grown and free from pests—if they desire such seed. It is hoped that all planters will have that desire and find it profitable to indulge in.

Better Early than Never.

To the Editor: I have an old apple orchard that has not been pruned or plowed for five years. The trouble is that I have to depend on my neighbors to plow it and they have their own work to do when mine should be done and the ground is too dry to plow when they can do it. Would it do to plow it this fall after it has rained enough so I can plow it, and can it be pruned as soon as the apples are picked?—Farmerette, Santa Rosa.

Surely: go to it this fall, both in plowing and pruning. Plow up the land rough and let it lie as late as you can, and then have it well harrowed down before your neighbors' land is dry enough for them to plow—for a few windy spring days will fix your rough land to carry a harrow while

theirs is still in the wet. Of course, your example may teach some of the rest of them that fall plowing is a good thing (except on hill land too apt to wash in your heavy rainfall), and this may make them too busy to plow for you in the fall—but you have to take your chances of that.

Pruning Cut-Back Bartletts.

To the Editor: I wish to know about what pruning I should do this winter on Bartlett trees 18 years old, which I sawed out and cut out heavily last fall and now have plenty of young growth. How shall I prune for a medium-sized crop?—J. W. T., Healdsburg.

It is hard to tell without seeing. If you have a stub-growth of rather short shoots thin them out so that those you leave will have a chance to develop leaves and fruit spurs. If you have also short shoots well scattered on old branches, let them alone. If you have long shoots going skyward cut them back—say one-half on the average. Always cut back to a side shoot if you can; if not, cut back anyway and force out laterals nearer the earth. There is not much danger of your getting more than a medium crop next year if you really cut back last winter, as your description might indicate.

Sorghum Silage.

To the Editor: I have ten acres of sorghum which I wish to put in my silo, and having had no experience, I wish to know how much salt, water, etc., to use and how much tramping.—L. W., Perkins.

Sorghum should be siloed when the seed is ripe—later than corn. Green sorghum silage develops a very sharp acid. As the stalk remains green longer than corn you can wait until the seed is ripe and still have the stalk in good condition. Cut into the silo in half-inch pieces. Spread and tramp thoroughly—even tamping can be done to advantage. No salt is necessary, though many use a little sprinkle for their own peace of mind rather than because the stuff needs it. Water is used according to the dryness of the stalks. There can be no exact rule for one has to use judgment according to the condition of the stuff he is cutting in. If very dry, it should be thoroughly wet, but not to get much run off.

The Danger in "Firing" Sorghum.

To the Editor: I have 140 acres of barley stubble on which I am going to turn 300 head of cattle. Adjoining the barley there is 20 acres of white Egyptian corn, which has not had enough water and is "firing." I am told this firing corn is poisonous to cattle. Can you tell me if this is so?—S. J. G., Pixley.

To the Editor: Will it injure milk cows to pasture them in a field of sorghum that does not head out, owing to being too dry? Would like to turn them in part of the time and let them eat it, but am told it is injurious to cattle in this stage. Kindly let me know.—H. S., Ripon.

The only danger we know of in feeding "fired" or drouth-perishing sorghum lies in the filling of the over-hungry animals with indigestible material, which may be serious. If they are fairly fed they are not likely to take more of it than they can dispose of. It is not dry sorghum which is actually poisonous. Poison is only developed in very rank growth of green sorghum—which is apt to come after cutting a crop from stubble which has moisture enough to make rank growth.

Feeding Cull Raisins.

To the Editor: Having an opportunity to get raisins unfit for table use because of being broken or crushed, at \$35 per ton, I desire information on the feeding value of these for hogs. Could one get equally good results as from barley, in fattening hogs for market, provided the raisins were soaked? If not, would the raisins still be cheaper fattening feed because of the difference in price? Would they tend to produce a scouring condition?—Subscriber, Ojai.

Professor Jaffa concluded some years ago by analysis that cull raisins were practically equal to barley weight for weight, and subsequently Professor Woll announced that "raisins that are not marketable will make an excellent feed for fattening hogs if they do not make up over one-half of the grain ration; fed more heavily they are likely to cause scouring and will produce unsatisfactory gains. According to experiments at the University Farm, raisins fed as stated possess a similar feeding value to barley." You must therefore feed raisins with grain half and half and provide pastur-

age or other succulent food also to get the best results from raisins.

An Irregular Grafter.

To the Editor: Can I graft the peach on the French prune? What will take persimmon graft? After digging out cherry trees infected with root-knot would it be safe to plant French prune on myrobolan in the same place? There are several silver prune trees in my French prune orchard that I grafted to French last year. They seem to be doing nicely, but my neighbor tells me that they will die after the second year. If this is true I will save time and get them out now.—Reader, Napa.

It seems necessary once in a while to answer an anonymous querist simply for the purpose of reminding readers that we have no respect for a communication which does not give the full name and address of the writer. We seldom use full names, but we must have them.

You can plant in the place of the cherries as you propose. Dig or blow out the stumps: dig a large hole, scattering the contents over the surface, picking out and burning all root fragments; lime the hole and let it lie open; refill with fresh soil at time of planting the trees. We should keep the grafts on the silver prunes. They are by no means sure to fail. Persimmons can only be grafted on persimmon wood. The peach will grow on the French prune, but we should not consider any considerable operation in that line desirable.

Avocados in the San Joaquin.

To the Editor: How about avocados for the San Joaquin valley? Do you think one would be wasting his time in trying to grow them here in this climate? What measures would you recommend one to use in trying to coax them to live with us here if this climate is not suited to their best interests? I see that the Fuere, a Mexican variety, is recommended for planting in the northern part of the State, on account of its hardiness. If it would grow here, would one be justified in planting, considering the market standpoint?—D. E. C., Reedley.

The last time we were in Visalia we saw an avocado tree about thirty feet in height and spread, which the resident of the house-lot in which it is growing reported to be productive. It looked as though it was not less than twenty years old. We judge you need not apprehend climatic danger to any of the hardier or thin-skinned varieties, and the San Joaquin Valley has as good a chance with the thick-skinned or more popular commercial varieties as have many other sections where they are being planted. It is surely enterprising for planters to try them out; that is the only way to determine the facts. As for coaxing them to live in unsuitable regions (after that is determined), we should not do it, and as to an opinion as to the future commercial chances with the fruit we have none. That, also, has to be determined by experience.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending September 30, 1919.

Stations—	Rainfall		Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest Lowest
Eureka .....	.00	.93	1.32	66 44
Red Bluff .....	.00	.51	.82	96 46
Sacramento .....	.02	.51	.40	92 48
San Francisco .....	.00	.40	.30	68 52
San Jose .....	.00	.26	.36	88 48
Fresno .....	.04	.27	.27	100 52
San Luis Obispo .....	.10	.40	.49	94 50
Los Angeles .....	.26	1.25	.06	88 58
San Diego12	.26	.06	80 58
Winnemucca36	.36	.68	86 32
Reno01	.09	.66	84 42
Tonopah10	.45	1.20	80 42

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Pacific Rural Press, San Francisco

California Sugar Beet Markets Are Busy

Written for Pacific Rural Press by R. E. Hodges.

ABOUT 225,000 tons of sugar beets to be sliced at the factory, which will put out more sugar than any other in the State—that of the Spreckels Sugar Company near Salinas in Monterey county. This is about ten per cent increase over last year's tonnage for this factory, according to Resident Manager C. L. Pioda, but it is far short of the tonnage expected next season. The factory will take beets from about 30,000 acres, of which about five-sixths are in Monterey county and the rest in Santa Clara and San Joaquin. In the latter county the Manteca factory will not run and probably the Tracy factory will not operate this season. The average tonnage per acre is light, due to blight in southern Monterey and the San Joaquin districts. Due to this, the general condition of the beet crop as a whole is estimated at 75 per cent of normal, but no one would hope for a better crop than is general in the northern end of the Salinas valley, especially where they were irrigated. The Spreckels factory started slicing early in September. The early beets are said to be lowest in sugar, but the first week's tests averaged over 18 per cent.

Beet Laborers Scarce.

A particular shortage and inefficiency of beet labor is reported. Some of the expert Japanese beet toppers are making over \$10 per day, Japanese being the best beet laborers available, when under adequate supervision. But Mr. Pioda suggests that while they enjoy the protection of our laws and the benefits of our schools, they ought to help pay the taxes; and the best way to accomplish this is to levy on them an income tax about four times as great as that levied on American citizens.

More Tractors Being Used.

A progressive movement is noted in the greater number of tractors used to plow and prepare the deep seedbeds necessary for beets, but motor cultivators have not yet been tried out here. Tractors are being used to haul wagon trains of beets out of the fields to nearby unloading stations. Where a long haul is necessary motor trucks have proved economical. One man in Santa Clara county hauls a truckload of beets out of the field, then pulls a trailer load out by horses and hitched it to a truck for a 3½-mile haul on the road.

Beet Topper-Digger Needed.

A great deal of hand labor could be saved in topping beets by use of one of the several mechanical toppers now on the market. One of these is being tried out on the Spreckels ranches. Another has been tried and found unsatisfactory. But they all top the beets without digging them, and thus deprive them of the natural handles (the leaves) by which they are pulled out after the digging machines have loosened and partially raised them. On adobe ground it is hard to get them out without the leaves.

Patents are being issued all the time on various devices tending to bring about the much-desired combination topper and digger, and a fortune is awaiting the successful inventor.

At Betteravia in Santa Barbara County.

Beet plowing for the Betteravia factory, which uses the crop from about 8,000 acres in Santa Barbara county began August 4 and the factory started to run August 11. By their closing date, which will be around the first of December, Manager H. S. Truscott estimates that they will have cut over 100,000 tons of beets. These come largely from the lower end of the Santa Maria valley, but a great many come from Lompoc Valley, Arroyo Grande, and Los Banos Valley. The sugar test has been running

SUGAR-BEET ROTATION INCREASES ALL CROPS.

Sugar beets were responsible for the long duration of the European war, says Manager H. S. Truscott of the Union Sugar Co. at Betteravia. Without sugar beets and the increased yield of other crops due to rotation with sugar beets, and the better cultural methods of farming which were developed as a result of sugar-beet raising. Germany could not have supported her population of three-fourths as many people as live in the United States on a territory less than the size of Texas during the years when the blockade threw Germany on her own resources for food. German farmers in 1909 harvested 3,000,000,000 bushels of wheat, oats, barley, rye, and potatoes from 42,000,000 acres, while American farmers harvested but 2,300,000,000 bushels from 92,000,000 acres. Germany on old soil produced a great deal more than twice the yield per acre that Americans produced from relatively virgin soil. Credit is largely due to rotation with sugar beets and the lessons learned from it.

Wherever in the United States sugar beets have been grown in rotation with other crops, the acre yields of all the crops concerned have been greatly increased, often exceeding the German yields.

In California, such rotation has been gaining favor recently. "This company has had easily twice the returns from cereals after sugar beets," says Mr. Truscott. "Then after the cereals, our beets have produced two or three times as much as they had previously, especially where they had been grown repeatedly without change."

Agricultural Superintendent G. E. Benschel of the Oxnard factory of the American Beet Sugar Co. points out a notable progressive tendency among bean and beet farmers who previously have not rotated. Some of the best bean farmers who have refused to grow beets heretofore did so last season. In this they have already been quite fortunate aside from the benefits of rotation, in that the average beet crop is much nearer normal than the average bean crop, and the market is assured at profitable prices.

around 18 and 18½ per cent. The factory, which had a capacity of about 1,000 tons of beets per day last year, has been enlarged to take care of 1,200 tons a day this season. The Union Sugar Company, which operates this factory, raises on its own property about three-fourths of the total crop used, and pays contract growers \$10 per ton flat rate. The same price

will receive \$12 per ton for 15 per cent beets and \$16 per ton for 20 per cent beets. The first payment to growers is \$10.25 per ton on delivery, the remaining payments being made as conditions warrant.

Tractors are quite generally used here in preparing seed-beds and a great many are used in pulling beet diggers. The old cable outfits by



Plowing a beet field in Los Angeles county.

The 6-mule team and the tractor do equal work.

is proposed for next year, and prospective acreage is on a par with previous years.

At Oxnard in Ventura County.

The Oxnard factory of the American Sugar Company began its run August 9 and is expected to close about October 12. Over 5,000 acres had been cut before the middle of September and the average sugar test had been 20.54 per cent, according to Agricultural Superintendent G. E. Benschel. The total acreage to be harvested for this factory is 15,837, but the yield is light on account of lack of rain and no irrigation. Mr. Benschel estimates that there will be about 160,000 tons to slice. Thirty thousand acres, averaging ten tons per acre, would be necessary to run the Oxnard factory to its full capacity of 3,500 tons per 24 hours through a full season. Beets are received here from Newhall, San Fernando Valley, the Oxnard district and the Chino district of San Bernardino county, where the factory is closed for lack of adequate tonnage.

Price Especially Favorable.

The price to growers here is especially favorable, being based on the net price received by the company. For example, if the company nets 9 cents per pound for sugar, growers

which a big steam tractor at each end of the row would pull plows or beet diggers across and back by means of cables are practically all replaced by gas tractors.

Increased Sentiment for Drainage.

A great progressive change in sentiment is noted by Mr. Benschel in the attitude of farmers toward drainage of the lower beet lands. Drainage projects have been voted down previously, but the benefits of tile drainage on the Patterson ranch and of gopher drainage on other ranches have convinced growers of its profitability. The Patterson Drainage District has been organized to provide for ultimate disposal of its drainage water, and three other drainage districts are about to be organized.

Labor Conditions Greatly Improved.

The acute labor shortage which kept the factory running far short of capacity last year is not worrying the management this season. Mr. Benschel ascribes a great deal of the improvement to the policy of providing houses and garden plots for Mexicans. The Sugar Company has put up about 100 such houses and about a dozen ranchers have provided similar quarters. A Mexican likes to have a place he can call home, where he can raise a garden and keep his family. When

this is provided, as at Oxnard, he writes to his many friends and relatives, who also are attracted with the good results mentioned. They are said to prefer adobe houses and there is the advantage that the Mexicans can build their own adobe homes during seasons of slack work. One house for two families costs about \$400. Some frame houses also have been built for the same purpose.

The campaign for next year's contracts has not been started; but prospects are favorable, not only on account of high sugar prices, but also on account of the unsatisfactory bean yield this season, and the unknown future bean market. Since Americans consume about 4,000,000 tons of sugar per year and produce but 2,500,000 tons under our own flag, the market prospects look good.

350 TONS OF GRAPES ON 5-YEAR VINES.

(Written for Pacific Rural Press.)

Last week we met Eph. Light of Calistoga (Napa county) and his son Ed going up on the boat, and asked about this year's crop of grapes. Light & Sons are among the oldest vineyardists and winemakers in the county and have themselves provided a market for many small growers of wine grapes in the past. "We shall have about 1,000 tons of grapes on our 140 acres of vineyard," said Mr. Light. "No, we don't know yet what we are going to do with them. We have a 350-ton crop of grapes on that 40 acres you saw us grafting over three years ago. The vines are large and strong—as vigorous as any vineyard of any age." As we saw this work done we know it will prove of interest to other vineyardists.

Three years ago on the 7th of May a frost came along and swept this vineyard clean. It was the best two-year-old vineyard a man ever clapped his eyes on, all staked and tied. The vines were split by the frost clear to the ground and had to be grafted over.

They are all valuable black varieties—about half Petite Syrah, one-fourth Zinfandel and one-fourth St. Macaire and Barbara grapes on Rupestris, St. George and Lenoir roots, with a few No. 1608. Fortunately, when the frost came the Lights had about 10,000 scions buried in lugs

about two feet deep, and they were in good condition. Ed Light and his brothers and hired men started cutting off the frosted tops and grafting on about May 15 and finished July 28. They obtained a 98 per cent stand, the last grafts inserted showing two or three shorts three feet long by September 1. Some vines that were split to the ground had only a strip of bark next to the stake left alive. This piece of bark grew round itself and healed over with the old heart sticking out at an angle like a hat-peg. No one would ever guess that this peg was once the body of the vine. Ed Light is going to cut one of these vines off and send it down here to the office as a curiosity and a proof of the wonderful vitality of a vine.

Few people can realize how a vineyardist's heartstrings are bound to his vines. Sometimes the sympathy accorded the grower of wine grapes reminds me of how patiently a certain man once listened to a tale of suffering, where a friend had lost his wife and children in one catastrophe, and then he said, "My, too bad—are you going to the races?"

Turlock's huge shipments of melons is over. About 4,500 carloads were shipped, it is estimated, according to the Turlock Tribune.

Latest Developments in Walnut Situation

(Written for Pacific Rural Press.)

The walnut crop of California is safe from all further danger of damage except discoloration from possible rains. The largest crop in the history of the State is about ready for harvest. It is estimated at 46,000,000 pounds this year, according to H. H. Warner, who has left the U. S. Bureau of Markets and joined the Field Department of the California Walnut Growers' Association during the past year. The first car will start East about September 25th from Capistrano, which shipped the first car last year. The present crop is about 7,000,000 pounds greater than that of last year and its quality is as good as it ever was.

Opening Prices October 1.

General Manager Thorpe of the Association is in the East at this writing, but will be back before this is published and will make a detailed report to the Association directors on the market conditions in the East and the crop conditions abroad. This will furnish the basis for Association opening prices, which will be set October 1. Greater importations may reasonably be expected on account of more ships being available. There is keen speculation as to the prices, in view of those set by the raisin growers on their crop being nearly doubled this year. Walnut growers also have encountered increased costs of production, not the least of which has been the unusual amount of irrigation required on account of our previous dry seasons. The Association has been urging growers to irrigate all summer in order to give size and weight to the heavy crop which set. The response was gratifying, and as a result there will be a smaller percentage of Number 2's, although there will be more of the second size than there were last year.

More Budded Nuts.

This year's crop shares the steady increase in proportion of budded nuts on account of young orchards coming into heavier bearing. The differential last year between budded nuts and the Softshells was 3½ cents a pound. That this is justified is shown by Mr. Werner's statement that there is actually 15 per cent more weight of meats in the budded nuts. This has not been entirely realized by consumers who have thought they ought to get budded nuts at Softshell prices.

Walnut Meats in Tin Cans.

Canned walnut meats will be a new departure this year. The demand for meats has been increasing right along and last year's walnut meats were all sold long ago. But while the California nuts are not so oily as those from abroad, and therefore do not so easily become rancid, this year assurance will be made doubly sure and the meats will retain their sweetness indefinitely. This is due to the plan to put up about 75 tons of the meats this season in half-pound "thermo-cap" tin cans. The meats will be hermetically sealed in a vacuum. The machinery is being set up now. The cracking plants at Santa Ana, Goleta, and Los Angeles will begin operations about October 15.

New Growers' Dust-Spray Factory.

Another new move of the Association is to organize a subsidiary corporation, stock in which is held by local and State Walnut Associations, to set up its own dust-spray manufacturing plant in Los Angeles. Prof. R. E. Smith of the University of California, who has been carrying on dust-spray experiments for two or three years at least, has obtained a leave of absence from the University and will manage the new plant. Prof. Smith devised machinery at the Goleta plant for this purpose, and used it last summer. That machinery may become part of the new Los Angeles plant.

The experiments demonstrated the efficiency and economy of dust spray for aphids. Red spider also seems to be well controlled by the dust; but codling worm experiments were begun too late last spring to demonstrate

their efficiency. They will begin earlier next season. Prof. Smith hopes to get enough tobacco grown in Southern California for use in the sprays where it is required.

Individual Nuts to be Branded.

The machine for branding individual nuts with the Diamond Brand of the Association has not yet been devised, although \$10,000 awaits the successful inventor and many people have been working on the problem.

THE YUCAIPA APPLE CROP DOUBLED.

(Written for Pacific Rural Press.)

The Yucaipa Apple Growers' Association will pack 100 per cent more apples this year than last, as estimated by Secretary F. B. Henney. The pack this year is likely to total about 125,000 boxes, chiefly of Delicious, King David, Winesap, Jonathan, and Rome Beauty. The Association handles about three-fourths of the crop of the entire Valley, as it did last year. The increase is largely due to the young orchards of this district coming through with their first real heavy crop. They were well cared for, some being sprayed six or eight times. Codling worms are scarce and red spider has not bothered. There has been water enough to put the trees in good shape for next year; but growers felt the pinch and there is talk of developing more water, both by gravity flow and by pumping. The consulting engineer of the Water Co. is making an investigation now for the purpose.

Apples have been coming to the packing-house near Yucaipa since the middle of August and will continue until mid-November. As most of them are winter varieties, they are going into cold storage. The culls have been sold to the cannery at Wineville and are hauled thither by motor trucks and trailers. The cannery at Yucaipa is not running. Very few of the apples are going into cider or vinegar. The windfalls are of fine quality, quite a few having been shaken off by an unusual wind late in September.

The Apple Growers' Association packing house is a busy place these days, although a great deal of labor-saving machinery was installed this summer. Two new Cutler apple graders, an elevator, a labeling machine, and a 15-ton wagon scale are some of the improvements.

THE Y. M. C. A. AND FRUIT PICKING.

(Written for Pacific Rural Press.)

Students and young men and boys from the Y. M. C. A. have been a very important factor in harvesting the summer fruit crop. As an instance, the Losse Estate at San Jose started by getting boys and young men from the Y. M. C. A. at Oakland. This year they sent for 150 boys with their own leader, to pick the apricot crop. Six hundred tons of apricots were picked and sent to the cannery. There are 400 acres of fruit on this estate.

Good housing conditions are essential and were provided by the Losse Estate. A quantity of lumber was brought from the cottonments at Camp Fremont, and suitable quarters were erected for the pickers, who brought their own cooks and superintendent. The latter is most essential. The work and deportment of this party of young folks gave good satisfaction. It is a good outing for them, great value to the State and provides the workers with substantial funds to "carry on."

If the company wants more help, a phone message is sent to the Y. M. C. A., and it is promptly provided. The party is harmonious and business-like and the work goes right along. The system, with all educational establishments, is being widened and developed and should go far to solve the problem of supplying labor in the harvest when the demand is greatest.



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Use the Finest of Sublimed Sulphur

(Written for Pacific Rural Press.)

To the Editor: Just a line to ask why so much grief with sulphur for dry dusting of red spiders this season and every season. This season on my young almonds and prunes we dusted with an American dusting machine and by sack not less than six times and without any effect at all, until we got disgusted and went at the bottom of the whys and wherefores of sulphur. The merchants in this town have been selling Anchor sulphur ever since I have been using sulphur, and that has been eight years now. I took the matter up with one of the merchants here, who said he did not know of any difference in sulphur—sulphur was sulphur to him. The California Sulphur company shipped out some which was branded on the face of each sack, "Dusting Sulphur." This cooked the spider and our troubles were over for the season. Our troubles were not due to the weather conditions, as we started early in May and went back at it at regular intervals. In using the wet spray what kind of sulphur is best or can a Rex solution be used if diluted properly? Again what means should be taken and when should a person start the fight on the red-hump caterpillar on the prunes. They certainly raised the devil this season. In the past they have only hit me on the edges of the orchard.—J. H. S., Chico.

We cannot understand your getting no effect at all by dusting for red spider with sulphur, especially so since you started early in May. If

you had shaken the sulphur on with a sack, we could understand the situation, but you say you used an American dusting machine. A coarse, heavy sulphur is, of course, not nearly so effective as a finely ground sulphur, a hundred-pound sack of which will bulk half as large again as the coarse sulphur used for sulphuring dried fruit.

It is quite positive that you should have controlled the mites entirely by starting early in May and following in a week or so with subsequent dustings. Therefore, it would seem that your material was faulty—not necessarily in quality, but for the purpose.

If you want to use lime-sulphur, 2½ gallons to 100 gallons of water is all right, or you can use atomic or milled (vegetable) sulphur, say 12 pounds to 100 gallons.

The red-humped caterpillar comes in odd clusters and I have never known them to attack an entire orchard, though they are worse this year than usual. When they first appear in June and July on the young trees, the easiest way is to strip them off the branch they are on and drop them into a pan with a little water and coal oil in it. On large trees that can't be reached, spray with arsenate lead paste, 5-6 pounds to 100 gallons when they are small, or they have to eat a lot before you get them. If you get this first brood you probably won't be troubled much with the September brood.

A Large French Prune--A Sport

(Written for Pacific Rural Press.)

Never before has so much interest centered in the prune—everything connected with it, but particularly in its size. The reason for this is, of course, because of the exceptionally high basis for large sizes in addition to the extra bonus offered for them. And so everybody is keen on getting trees that produce large prunes and lots of them every year.

We were taken to the Lloyd Cox orchard at Saratoga of "Improved" prunes recently by Horticultural Commissioner Cody, and were much struck with the uniformly large size of the fruit in spite of a large crop. The trees are five years old and are planted in alternate rows with sugars—a very good combination on this class of ground and an insurance of large sizes. The prunes are round shouldered—more the shape of an Imperial, but they are true French in foliage and quality of fruit. From there we went to see the parent tree owned by F. B. Smith of Saratoga and of which mention was made in the Pacific Rural Press two years ago.

History of the Prunes.

This large prune was produced from only one branch of one particular tree and a few nursery trees were budded from the wood which had sported. Later some trees were blown out to interplant walnuts, and this tree was destroyed at the same

time by mistake, to make room for a walnut. However, one tree had been planted budded from this large prune wood, and it exists today. Its wood was contracted for five years to a prominent nurseryman. We saw in this same orchard an old peach tree that had been worked over to this prune. It was full of very large fruit and we gathered one from the ground that measured 2 inches in diameter from end to end and 1½ inches through. There were some high up in the tree that appeared still larger, though the crop was a large one. It is a good red prune and the old tree had made quite a lot of wood, besides producing a good crop of large fruit—no small ones at all. Mr. Smith said they would run 13 to the pound green!

How Orchard Is Worked.

Until two years ago this orchard of 32 acres was never irrigated. Then as the trees showed the result of dry seasons a pumping plant was installed and the whole place is thoroughly irrigated in May. This spring was delayed in plowing for three weeks because the tractor man who had contracted to do the work did not show up and a very heavy cover crop hardened up the ground and sapped the moisture. However, he irrigated immediately afterwards and the trees look well. He will sow a cover crop of vetches with the first early rains.

The Farmer's Cost of Production

To the Editor: Your issue of August 23 caused me to cry out, "Rejoice, oh, my soul; lift up the gates, for the agricultural worm has turned at last!" The farmers' demand at Washington that autocracy cease and that the Government take its clumsy hand off the farmer is the best music that has been heard for many moons. It comes just as arrangements were making to limit our prices regardless of the cost of production. Let us lift the curtain on the high cost of living. My taxes amount to 10 per cent on my income from my ranch. Last year and this on my property Japanese and Chinese farm labor is paid \$100 per month, because white men won't work. Sacks, twine, everything used in my industry, cost from 50 to 100 per cent above prices five years ago. Yet I

have been expected to sell the products of my soil at the prices of 1912! We farmers have let others dictate what kind of labor we must employ, when there is no labor of that kind to be had. All that we buy has doubled in price because the labor that produces it does one day's work for two days' pay. As our produce leaves our hands it must bring us our taxes and the cost of production and enough profit to keep our plows moving. The buyer must add to it his taxes and the two days' wage he pays for one day's work. This process must be repeated in every process of transportation and distribution, and it will go on, in spite of all statutes until we force economy in government and industrial labor is forced to work two days for two days' wages.—John P. Irish, Stockton.



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When you plant prune trees, plant the best—trees that will grow, and produce, and pay! We make it a practice to bud our prune trees from parent stock of proven productiveness and quality. The scions are carefully selected by trained experts and the budding is done in the most skillful and scientific way.

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Send for complete list.

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You will be interested in this year's catalog. Let us have your name and address now.

California Nursery Company
NILES, California
P. O. BOX 404

HORTICULTURAL JOTTINGS.

A firm at Lodi has tried shipping grapes to Chicago in a box car.

El Quito olive orchard in Santa Clara county was sold recently for \$80,000 to G. Brucia.

Thirteen hundred carloads of fresh fruit left California during one week in August, it is said.

It is said that the demand for cars this season in California has shown a growth of 500 per cent.

Thirty-five thousand cash has been paid for a forty-acre peach orchard in Sutter county, it is said.

Live Oak (Sutter county) is hoping to establish a cannery to take care of next year's crop of peaches, etc.

A good many cider mills are being sold through the State, it is said. Their use has not yet been "verboten."

"Malaga grape shipments are in full blast and the quality is good," says A. L. Rutherford of Stanislaus county. There is little trouble in inspection.

Orange shippers at Porterville have been assured by railroad officials that there will be plenty of cars for transporting the coming citrus crop.

Yucaipa Valley (San Bernardino county) will have a crop of more than 250,000 boxes of apples this year. Apple packing is proceeding rapidly.

During the past three months shipments of products from California were almost 50 per cent greater than for the corresponding period last year.

The general effect of the war in Italy on the lemon industry has been decreased exports. Box prices have doubled and cost of labor trebled since 1914.

The State's pear crop for this season yields \$7,000,000 approximately, according to Frank T. Swett, President of the California Pear Growers' Association.

The wholly unprecedented quantity of wine grapes shipped, which was formerly made into wine, has helped to create a demand for which, even in normal times, cars could not be built fast enough.

Quite a little activity in prospective peach planting is reported in Porterville (Tulare county). The demand for dried peaches is steady and satisfactory. Dried fruit is moving as fast as circumstances permit.

Mr. Hinsey, manager of the Almond Growers' Association at Fair Oaks (Sacramento county) reports about 85 per cent of a crop. The almonds are of excellent quality and in strong demand. Harvest is about over.

George W. Whitman, a prominent fruit grower of Ygnacio Valley (Contra Costa county) has just died at the age of 45. He came here in 1881 and was a pioneer and a leader in every progressive movement, especially in the fruit industry.

The McHenry Bros. of Modesto (Bald Eagle Ranch) will have about 240 tons of dried figs from their 40 acres of bearing trees. This at 17 cents a pound means big business. This orchard is the oldest and best kept in the county.

The rather unusual number of split oranges appearing this year may develop sufficiently to use in the marmalade and by-product factories. The theory for this condition in the fruit is unevenness of soil moisture through the season.

Practically all Lake county pears have been dried this season. There has been no inducement to ship. Nearly all pear orchards were "strawed" this year to prevent bruising of windfalls, according to Horticultural Commissioner Stokes.

The State's peach crop will reach about 435,000 tons, according to E. E. Kaufman, Bureau of Crop Estimates, the reduction being chiefly due to shortage of water in some districts. The season has been successful, though there was some delay due to labor shortage.

Now, Mr. Consumer, look at our figures in last week's issue and note that Imperial county's cantaloupe crop sold for \$9,208,080, out of which the grower netted \$1,710,072. The growers made a fair wage and the

rest of the money helped to provide a fair wage for getting it to market to those engaged in the transportation business.

Healdsburg wineries plan to crush grapes for growers, allowing the latter 100 gallons of wine per ton of grapes delivered. If wartime prohibition is lifted in time the wine can be sold in 30 days; otherwise it will be denatured under the new process. In case of loss, both sides of the contract carry their own troubles.

Alameda county has never had a more promising outlook for grape men. Growers are finding a ready market at good prices. One grower, who has 400 acres in grapes, sold his entire crop to an Eastern firm to be packed in Los Angeles lugs for shipment. "We can grow the stuff—it is up to the other man to carry it away."

One hundred and sixty thousand people paid for admission to the State Fair this year. In spite of the fact that grape and prune growers were in the midst of harvest, and many peach, apple and pear men were still busy, the money taken at the gate was \$14,000 more than last year, according to Geo. C. Roeding, President of the State Agricultural Association.

Senor Ricardo Videla of Buenos Ayres has called upon G. H. Hecke, State Director of Agriculture, for information regarding our system of inspection, pest control, standardization and general development. Dr. Velimir Stoykovitch, representative of the Minister of Agriculture of Serbia, visited the Director for the same purpose.

SECOND ANNUAL**Northern California Apple Show****EUREKA, October 13 to 18,****700,000 OF THE WORLD'S CHOICEST APPLES ON DISPLAY****Exhibits from Hood River, Rogue River, Watsonville and Sebastopol Sections****Lectures by Leading Pomologists
Band Concerts****Spraying and Pruning Demonstrations****Wonderful New Productions from
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A SHOW IN ITSELF****THE ONLY APPLE SHOW IN THE STATE
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Here and There in the Fruit Business

Australian Dried-Fruit Men Organize.

Fruit growers in the Murray River districts along the South Australian and Victorian border, who represent 95 per cent of the producers of dried fruits in Australia, have organized under the name of the Australian Dried Fruit Association. Like most co-operative concerns the Association is financed solely by and in the interests of the growers themselves. Marketing conditions and administration are entirely in the hands of the members.

Cost of Lemons Increasing in Sicily.

New York has always been the largest market for Sicilian lemons, says the American vice-consul at Palermo. More than half of this season's crop, or 650,000 boxes, have already been shipped to New York. The cost of production has more than doubled since 1914 when a packer was paid 69 cents for a 9-hour day. Now he receives \$1.64 for an 8-hour day. Under this agreement they were to pack not less than 40 boxes a day, though they rarely ever pack over 30 to 32 boxes. Pickers formerly received 58 cents for a 10-hour day where they now get \$1.55 for an 8-hour day. Laborers' and pruners' wages have risen from 58 cents to \$1.93 a day. The cost of material has of course increased. However, the high rate of exchange against the Italian lira has been of benefit to the exporter.

Dusting for Codling-Moth.

Many deciduous fruit growers are anxiously awaiting results from the arsenical dusting experiments in progress in the South in an attempt to control codling moth on walnuts. It is too early to determine definitely the extent of control. We understand, however, that there is abundant evidence of a material reduction in the number of wormy walnuts through the dusting with lead arsenate, and the growers feel that the method is going to be satisfactory.

The Raisin Men Pull Together.

There are about 9,500 growers under contract to deliver their raisin crops to the California Associated Raisin Co. The 1918 (gross) crop sales amounted to about \$24,000,000. Out of this sum the growers received about \$17,000,000. The 1919 sales will total about \$40,000,000, out of which the growers should receive \$30,000,000. These figures represent the business done by the "Associated," which handles about 88 per cent of the crop. They work out an average of approximately \$166 per acre. This leaves an ample margin from which to pay cultural expenses and still leave a good profit if land is not valued too high. It must be remembered that raisin growers had many lean heart-breaking years to make up before they united into an association and thus pulled themselves out of the mire.

The Dependence of Citrus Values.

"The industry must not be misled as to the net value of high prices," says Harold G. Powell, President of the California Fruit Growers' Exchange. "The advance in prices on all citrus fruits since the beginning of the war has not kept pace with the rise in prices of commodities in general—particularly those purchased by the producer. The value of citrus property in California may be said to depend very largely upon the success with which each crop is marketed. The distribution of the California citrus fruit crop through the California Fruit Growers' Exchange represents the most highly developed system of marketing to be found in American agriculture."

State Fruit Growers' Convention.

At a recent preliminary meeting at Chico to arrange the program for the State Fruit Growers and Farmers' Convention to be held in that city in November many counties were represented. November 10 and 11 the County Horticultural Commissioners will hold their meetings. The Farmers' and Fruit Growers' first day will be Wednesday, the 12th, and con-

tinue to Saturday, the 15th. The first day will be devoted to "Standardization," as it pertains to the production, grading, packing, labeling and marketing of fruits and nuts. Growers' co-operative selling organizations and their importance to the industries and further aims will be discussed by members from each industry. Thursday, the meetings will be at Oroville and will be devoted largely to the olive and orange industries. Friday will be devoted to cultural and protective subjects on deciduous fruits, and Saturday the meeting will be at the Durham State Land Settlement Colony, 6 miles south of Chico. A very large attendance is anticipated as the highways are like a billiard table.

Citrus Growers' Fine Showing.

During the last 16 years the California Fruit Growers' Exchange alone has returned to the State \$317,000,000. The losses from bad debts, uncollected bills, and in the transmission of funds have been only about \$8,000, or about 1/400 of one per cent of the f. o. b. returns.

The Farmers' Foreign Trade.

The foreign trade of this country in agricultural products for the year ending June 30, 1919, totaled \$5,770,917,553, or 57 per cent of our entire foreign trade. The farmer may not be a politician, but his business amounts to more than all the other industries put together. When his education has been completed he will make his voice heard in Congress. At present, like Mrs. Ram's husband, all he has to do is to keep quiet and pay the bills; raise what he is told and eat and drink what Mrs. Ram provides. It is about time we had more farmers to represent us both at Sacramento and Washington.

Butte County Prosperous.

The total of the peach, almond and prune crops around Chico is placed at 8,770 tons by Sherman Reynolds of E. T. Reynolds and Son, fruit packers. This tonnage will bring Chico growers \$2,760,000 in round numbers, as follows: Peaches, 1770 tons, value \$510,000; almonds, 2,000 tons, value \$1,000,000; prunes, 5,000 tons, value \$1,250,000.

JUNE DROP OF ORANGES IN TULARE.

(Continued from first page.)

drop off. However, fruit continues to drop in groves where thrips are bad and where thrips are not bad.

The owner of this place recently remarked to the writer, "I have just been reading the latest and most authoritative word about the June drop. It seems decided that the June crop will not be very serious if soil is good, trees thrifty, moisture content of the soil kept just right, cultivation done properly, and no extremes of weather set in; yet, as far as I know everything on my place has been as near right as it was possible to make it, and still the oranges are dropping."

The guess has been made that dry winters have had a bad effect on the June drop. They may have had a general bad effect on many groves, but cannot be blamed for the June drop on trees that are in the pink of condition to all appearances, with a heavy set of fine fruit, but with some of that fruit yellowing and falling.

It is just about here that the subject has to be left at present. Everything that will encourage the health and vigor of the tree should be done, and it will result in the harvesting of a bigger and better crop than if the trees are poorly attended to. On the first-class grove enough fruit will survive the drop to bring in first-class profits, and after all is said and done, that is what people are after.

Citrus Culture Experiments Planned.

It has been just publicly announced that a plan has been perfected for a series of citrus culture experiments in Tulare county. A committee representing the various citrus exchanges has entered into a legal agreement with the Regents of the University of

California, under which these experiments will be conducted on tracts especially selected for the purpose. To defray the expenses of this work an

assessment of not more than one quarter of a cent on each packed box will be levied on citrus fruits grown in the county.



It Helped Me Get My Start

Boys, when I took this place it was a wreck—old, worn out fruit trees and land as tight as your fist. Not fifty boxes of fruit in the whole shooting match. Mostly runts at that. I nearly killed myself the first three years cutting old trees, grubbing stumps, and digging holes for my new trees. Went flat broke and things looked pretty blue until I saw an advertisement of

HERCULES DYNAMITE

I sent for a copy of "Progressive Cultivation". Bought some Hercules dynamite and went to it. It was a cinch! You'll scarcely believe it when I tell you that I did more work that Spring with one helper than I'd done in three years with four men and a team—but it's a fact. You boys were youngsters then and didn't know much about it, but dynamite gave me my start and it'll help you to keep up the good work. The Hercules Powder Co. sends "Progressive Cultivation" free to any farmer or orchardist who will sign and send in the coupon that they print with every one of their advertisements.



HERCULES POWDER CO.

1025 Chronicle Building
San Francisco California



Hercules Powder Company, 1025 Chronicle Building, San Francisco, Cal.

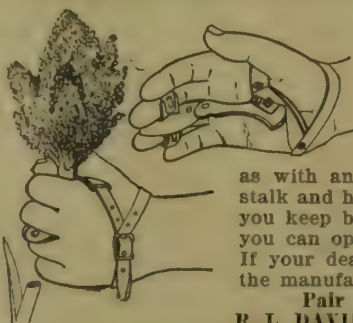


Gentlemen: Please send me a copy of "Progressive Cultivation."

I am interested in dynamite for.....

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Address.....



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You can use both hands and cut twice as much in a day with the

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as with any other instrument. You cut off the stalk and hold the head with the same hand—and you keep both hands at work, cutting as fast as you can open and shut your fingers.

If your dealer cannot supply you send direct to the manufacturer.

Pair (right and left), \$2.50, postpaid.

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Buy only Melilotus seed that has a quality tag on each sack. It protects you against the low germination seed so general on the market this season. This seed is above 99 per cent pure and above 90 per cent germination.

HOW FAR HAS THE ORIENT
INVADED OUR BORDERS?

(Written for Pacific Rural Press.)

The Hindus in our rice lands are doing very nicely. So they are in the rich farming sections of the Delta. The Japanese are almost in command of the truck and berry situation. There's lots of money in it, and they are now about strong enough to hold command. In the fruit section around Vacaville and in the great San Joaquin Valley in many of the best paying sections, they are crowding the white man out. It is dead easy. When a bunch of them have secured a footing in any district the white man is deprived of neighbors whose ways he understands and his wife won't stand for Orientals as neighbors. Then another lease or sale to a native-born Japanese baby takes place. And we look on—perfectly satisfied so long as we get supplies—just as ancient Rome did under the slave system.

We recently asked Dr. Geo. P. Clements of the Department of Agriculture how Southern California fared at the hands of the Oriental. He said: "I can give you definite figures on that so far as truck crops are concerned with the percentage of whites and Japanese engaged in the various productions." The following are the figures he sent us:

CANTALOUPE.	
Japanese	.85 per cent
Americans	.10 per cent
CAULIFLOWER.	
Japanese	.25 per cent
Chinese	.40 per cent
Americans	.35 per cent
POTATOES.	
Japanese	.20 per cent
Chinese	.20 per cent
Americans	.60 per cent
LETTUCE.	
Japanese	.85 per cent
Americans	.15 per cent
CABBAGE.	
Japanese	.40 per cent
Americans	.60 per cent
CELERY.	
Japanese	.65 per cent
Americans	.35 per cent
ASPARAGUS.	
Americans	.95 per cent
Japanese	.05 per cent
CITY MARKET SPACE.	
Japanese	.75 per cent

The above figures are approximate for Southern California.

Now about our agreement with Japan. The expressed desire for a "gentlemen's agreement" between strangers always looks slippery, and is to be regarded with suspicion. It always leaves room for encroachment and sharp practice. White men like contracts in big affairs to avoid mistakes.

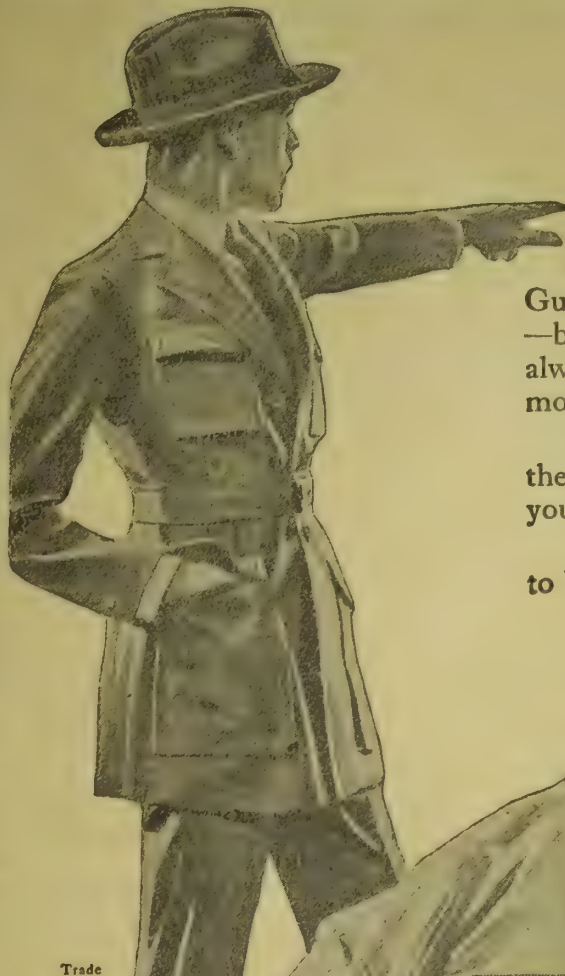
We have recently heard in public speeches, the following statement in effect, generally given with the proud superior smile of the dominant race. "Our boys do not want to work with their hands—they all want to use their heads and employ the immigrant for the drudgery of muscular labor." We've got to forget this and bend our backs to a man's job. Any decent productive labor is honorable. "To labor is to pray," said the old teachers of men. Do we want to grow utterly dependent on what truck the alien can grow for us? There's nothing to be proud of about that. The sooner the market gardening business is put on a higher footing and special attention paid to training our own boys and girls in this vocation, the greater will be the manly strength of our State become—both physically and morally—and financially.

NEW BLOOD IN THE NURSERY
BUSINESS.

H. A. Hyde, the well-known florist, grower and nurseryman at Watsonville, has taken his two sons into the business with him and they will continue to flourish under the new name of "H. A. Hyde Co." The elder son, Harold A. Hyde, was formerly 1st Lieutenant, U. S. Army, and is a graduate of the University of California. The younger son, Clifford M. Hyde, graduated at Watsonville High School this year. Good luck to the new firm at the old stand.

In spite of the shortage of labor in the San Joaquin the harvesting of the raisin crop has been proceeding rapidly. The weather has been propitious.

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They have the
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Styleplus have correct style. All wool-fabrics. Guaranteed quality. Smart suits and overcoats—both in great variety. Styleplus values are always exceptional. The prices are known and moderate: "The sleeve ticket tells the price."

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Buy more clothes than usual. Prices are sure to be higher next season.

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An ideal Motor-Driven outfit, one of our numerous complete units.

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Everybody knows Leader-Trahern water systems because of the *completeness* of the Leader-Trahern line. For every imaginable need, in storing and pumping water, there is a Leader-Trahern Product.

The Leader-Trahern line of Tanks, Pumps, Power Equipment, and Complete Water Systems, electric motor or gas engine drives, for deep or shallow wells—any capacity—is the most comprehensive in America.

"Everybody knows
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Everybody knows Leader-Trahern water systems for the *perfection* of their units. Highest quality, highest durability—these are the factors that have given satisfaction to all Leader-Trahern customers and universal fame to the Leader-Trahern line.

Everybody knows Leader-Trahern water systems because of the unfailing cooperation between their manufacturer and their distributor, to give the customer just what he wants for his *local* needs.

If you want a water system to last a lifetime, write us today.

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We challenge anyone to find a tougher tread. Try a Norwalk and watch your mileage grow.

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FERGUSON CO.**
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Local Bank Courts Farm Loans

(Written for Pacific Rural Press by E. E. Hodges.)

"How are you, Jim?" said Manager E. R. Green of the Gilroy branch of the Garden City Bank, as a farmer stepped in while we were talking. Mr. Green's compartment was located where he could greet every customer who came in. The frequency with which our conversation was so interrupted might have been annoying had it not illustrated a cardinal principle in connecting up a local bank with the farmers in its vicinity.

"I have a chance to make a turn-over on some more cows. How much can you finance me," said "Jim," after greetings were over.

"All you need. What is the deal?" inquired Mr. Green, and it was agreed that Jim should come and arrange for the money when he wanted it.

After he left, Mr. Green remarked that he had borrowed money from the bank for other projects—he was level-headed; he kept his place in good shape; and he paid his accounts on time. Mr. Green knew all about the man's business that he needed to know and he knew the man's personality also. There lies a secret of the bank's extra good growth—favor with farmers in its territory.

Deposits Increased 555 Per Cent.

The bank was organized in 1912 as the First National Bank just after a strong competitor entered the same field. Mr. Green became cashier of the new institution and it thrived. In January, 1918, the First National became a branch of the Garden City Bank of San Jose. Summarizing its business preparatory to the change, it was found that in the 39 months between August 15, 1914, and November 20, 1917, this bank's deposits had gained 555 per cent. These deposits were mostly farmers' accounts. A 33 per cent gain in number of accounts was made in one year, and a 15 per cent gain in another, due largely to farmers starting new accounts. The town's people's accounts had been practically stationary. Since the Garden City bank absorbed the one at Gilroy, business has been good, largely on account of the farmer's connection with the Prune and Apricot Growers' Association and in spite of the bond campaigns and war conditions.

Mr. Green has been a bank cashier twenty years. He is proud of the fact that in ten years of Nebraska banking he never lost over \$300, and in seven years of California banking \$300 would cover all of his losses. He is prouder still of the fact that he has never foreclosed a mortgage and has never sued or been sued at law.

Farmers at Home in This Bank.

He found in California that farmers generally found it hard to approach bankers. He found farmers sensitive about any proposition where they might be turned down. He went out at once for the farmers' trade. It has been his object to make farmers enjoy coming into the bank. He called on ranchers in his territory at their homes and learned their first names and when their cows or crops were for sale and why. He became acquainted with their difficulties and

their hopes. He showed them where they could invest money in their business and make it pay more than high interest rates. He passed on to them the lesson that banks have learned in the past ten years—as it is good business for a bank to borrow money to carry its patrons, so it is for farmers to borrow money to carry their business over certain periods so they could do more of it. He gave everybody to understand that the bank would finance them for profit-making investments. He used newspapers all the time to convey his message. He used personal letters very largely. People soon came to know that the bank was interested in them and would help them to help themselves.

Character—Most Satisfactory Security.

"I would rather lend money on a man's character in a majority of cases than on ordinary security," said Mr. Green in substance (part of his \$300 losses had been on supposedly secured claims). Very few men would not be good for a loan of \$150 to \$200 on their own personal security, and where we know a man from previous dealings, we are safe in lending greater amounts for specified profit-making purposes.

"A stranger wanting financial help to plant an orchard would have to give references at least. One man south of town bought twenty acres and paid for it. He wanted \$1,000 with which to plant trees. In such a case he did not need to give a mortgage to secure the \$1,000, but it was necessary for him to furnish a statement of his financial condition. Such a statement is made to a bank without objection when the borrower understands it is to be held confidential.

"One man borrowed money to buy his land. He didn't hesitate to borrow more money to buy more land and good livestock. He usually made enough from his farms to clean up once a year. Most of the farmers here aim to clean up all their loans once a year except those on real estate. Many of them pay a percentage down on tractors and give their notes for the balance either to us or to the dealer who then turns over the notes to us. A tractor is subject to rapid depreciation in the hands of careless or incompetent parties, so the ease with which a farmer can get that kind of a loan depends on his success in previous ventures. The same thing is true in a general way with all loans. If a man has shown that he does not usually succeed in his projects, we do not want to lend to him on the best security there is, because we don't want to have to foreclose on anyone. But if he is a fair-minded, reasonably successful farmer, we feel he is entitled to all the financial help we can give him for profit-making enterprises."

BEAN AND WEED CUTTER.

Beside this was a simple bean and weed cutter for two horses, invented by J. J. Pim of San Joaquin County. This has a single beam with the cutter bars projecting backward and out-

ward from its front end. A wheel with a central flange carries the weight in front and the front end is raised and lowered by a lever. The rear end rests on an eccentric axle and two wheels. It is adjusted for height by another lever. The operator rides.

FUMIGATING GRAIN WEEVILS.

To the Editor: How can we kill weevils in stored grain?—C. W. B., Warm Springs.

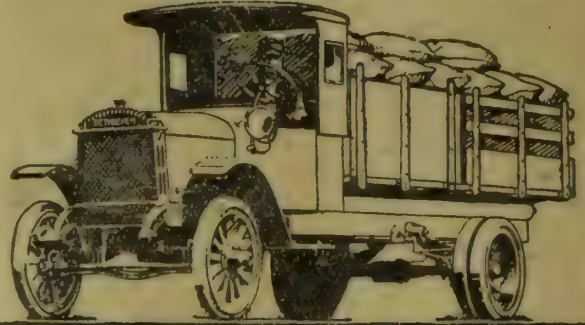
Fumigate with carbon bisulphide, 10 to 30 pounds per thousand cubic feet of space in the granary (including the grain). Calk the cracks and holes or it will not be effective. Spread the grain out to as little depth as practicable. Place a shallow pan

on top of the grain or on a shelf above it, pour the carbon bisulphide into it, and get out quickly, closing the door tight. Allow no fire around it. Leave the granary closed as long as convenient, not less than 24 hours.

The grape growers in three hill districts in Napa county have sold their wine grapes to an Eastern buyer for \$28.50 a ton, delivered at shipping point—lug boxes furnished by buyers. The contract is for 1,000 tons.

RHUBARB

WAGNERS IMPROVED
PLANT NOW
Growers making \$1000 and over per acre annually. Splendid results in six months. Special prices for immediate planting. Also berries and small fruit, etc. Write to the originator, J. B. WAGNER, Rhubarb and Berry Specialist, Pasadena, Calif.



Chassis Prices
1 1/2 ton \$1965
2 1/2 ton \$2365
3 1/2 ton \$3465
F.O.B. Allentown



The Motor Truck bought to-day without electric starting and lighting will be out-of-date to-morrow

Bethlehem—The Shortest Delivery Distance Between You and Your Market

A Bethlehem Motor Truck on your farm would shorten your hauling day, cut your hauling and production costs and add to your yearly profits.

Bethlehem Dependability is a known quantity—thousands of Bethlehem owners have solved thousands of farm transportation problems with Bethlehem Dependable Delivery.

The husky, enduringly powerful, economical engine is built for the bad road and the over load. Electric Starting and Lighting means economy of operation and makes night work practical. The Internal Gear Drive delivers all the power where it belongs—at the rear wheels. The nearest Bethlehem Dealer has the answer to your hauling problem. Examine a Bethlehem.

BETHLEHEM
— INTERNAL GEAR DRIVE —
MOTOR TRUCKS
— DEPENDABLE DELIVERY —
BETHLEHEM MOTORS CORP. ALLENTOWN, PA.

Samson Sieve Grip Tractors



New Model—30-X—More Power on Draw Bar than any other SAMSON. Order your SAMSON now and insure getting yours at the present price—when your work is ready. Liberal terms or cash.

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Forkner Tillers Planet Jr. Cultivators
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PERFECT FARM MACHINERY

SULPHUR



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 6 times they will not be affected by MILDews or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also EAGLE Brand, Fleur de Soufre, packed in double sacks, are the finest and PUREST sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, LEAVING NO ASH.

VENTILATED Sublimed Sulphur—Impalpable Powder, 100% pure, in double sacks, for Dry Dusting and making Paste—(Atomic Sulphur).

For LIME-SULPHUR SOLUTION, use our DIAMOND "S" BRAND REFINED FLOUR SULPHUR. We can furnish you this Sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out in labor for spraying your orchard, even if you pay your men \$4 per day for making the solution and applying same.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre DIAMOND "S" BRAND POWDERED SULPHUR, 100% pure. This has increased various crops up to 500%.

Also PREPARED DRY DUSTING MATERIALS, Tobacco Dust, Dry Bordeaux, Dusting Sulphur Mixtures, etc. And "Anchor" Brand Standard LIME-SULPHUR SOLUTION 33 deg. Be., Sulphur Paste, Nicotine, Black Leaf 40, etc. Fungicides and Insecticides. Carried in stock and mixed to order.

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We are equipped to make immediate shipments. Send for "ILLUSTRATED BOOKLET"; also booklet "NEW USES FOR SULPHUR." Price-list, and Samples.

Please state for what purpose you use the sulphur, quantity needed, and date of shipment preferred.

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The Best Rubber Belt Made

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Send me samples of Belting that you will guarantee to give satisfactory service on my work, and quote prices delivered at _____

Station	
Horse Power	Diameter in Inches
Elec. Motor	Driven Pulley
Steam Engine	Driving Pulley
Gas Engine	
Kind of Drive	
Cross	Straight
Perpendicular	
Width of Belt	Ply
Distance between centers of Pulleys	
Rev. per minute of Driving Pulley	
Kind of Machinery Driven	
My dealer's name	
My name	
Address	

The McKay Disc Plow and Subsoiler

The Sensation of the 1919 Tractor Show.



Especially adapted to hard ground and difficult plowing. No shares to sharpen—no spring beams. If you want a real plow, see our agents or write for full information. Plows ready for immediate delivery.

ARNOTT & COMPANY, INC.
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THE CALIFORNIA WALNUT GROWERS' ASSOCIATION.

(Written for Pacific Rural Press.)

The circular report of the Association dated August 20 gives the estimated crop for this season from present conditions as 46,000,000 pounds as against 39,000,000 last year. Within 90 days "the Association has been offered much business it felt necessary to decline, as its estimated output of No. 1 Soft Shells and Budded has been long since contracted for." The Association is still in position to accept orders for a limited quality of No. 2's. It is expected that the price put on No. 2 walnuts will be so comparatively low as to greatly stimulate their sale. The heavy percentage of No. 2's is attributed to insufficient rains where no artificial irrigation was available—only 9 inches instead of 17 in the walnut sections. "However, 80 per cent of the walnut groves are under irrigation and most of these will return excellent crops." Three times the normal amount of water has been used, trebling the irrigation costs of production.

To the new acreage coming into bearing together with improved cultural methods may be attributed the large crop in sight. "There are now 77,000 acres of walnuts in California. The crop will show about 17 per cent No. 2's and the No. 1's will not be as large as in 1918."

Budded Nuts Take the Lead.

"Practically the entire increase in production will be of the Budded variety, which will be of the usual fine size, as most of the plantings for the last ten years have been Buds and young trees always produce the largest nuts. The Budded is the coming California walnut. It is larger, has a smoother shell, a plumper, heavier meat and a more exquisite flavor than the soft-shell. Some day there will be ten pounds of Buds produced to one pound of Soft-Shells."

Brands and Prices.

"We are putting 'Diamond Brand' in a class by itself. It will be the Association's policy to pack nothing but the highest grades of nuts under this nationally advertised brand. Goods of only standard grade will be sold in unbranded bags as formerly. Our standards and inspection will this year be more thorough than ever. Goods that are below standard quality will be cracked and sold as walnut meats. Each of our 26 packing houses will this season be either new or remodeled and enlarged, and have sufficient capacity to clean, grade and pack all the walnuts gathered in its section each day—even at the very peak of the harvesting season."

"No man living is capable of making an accurate prediction of opening prices at this early date—ideas often change three or four cents a pound within the week preceding the announcing of our opening prices—the price will be justified by supply and demand."

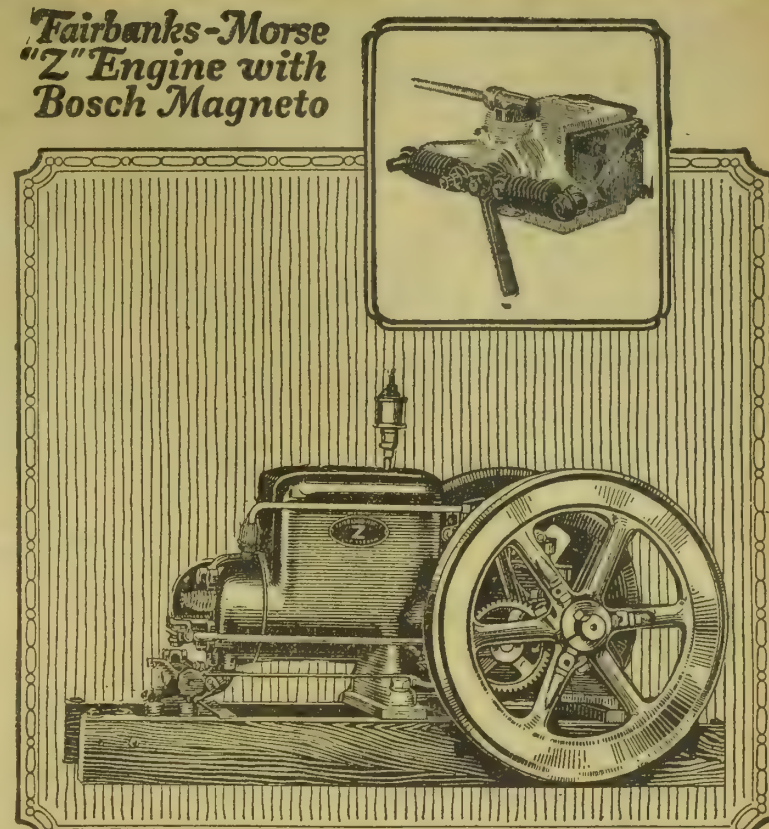
Inflation of Currency.

"The value of a dollar today in purchasing commodities, including labor, is hardly half what it was in normal times. Thus, when one figures a dollar as simply a medium of exchange, prices can hardly be considered higher now than they were during the pre-war period. As a concrete illustration, the farmer today can only exchange a couple of bags of walnuts for the same suit of clothes, set of harness or bill of groceries that he could exchange two bags for in 1914."

The State's Raisin Crop has now dropped to an estimate of 180,000 tons, according to E. E. Kaufman, Bureau of Crop Estimates. The hot spells in July and August were directly responsible for most of the damage by sunburn, and the berries in many districts run smaller than usual. The fine drying season has done much to alleviate the shortness of labor in the field, but the harvesting has proceeded nicely. Growers will have had a stiff season of it though at that, for they are constantly "on the job."

The Greatest Combination

Fairbanks-Morse "Z" Engine with Bosch Magneto



WHEN the full meaning of this "Z" message is realized—mighty few farmers in America will fail to at once call on the nearest "Z" engine dealer. ¶ This example of master engine-building must be seen. ¶ Type and pictures can but suggest this value establishing achievement. ¶ By adding this one possible betterment—Bosch high tension, oscillating magneto—we complete a rare engine service, fully maintained by over 200 Bosch Service Stations in co-operation with every "Z" engine dealer—for all "Z" engine owners. ¶ Prices—1½ H. P. \$75.00—3 H. P. \$125.00—6 H. P. \$200.00—All F.O.B. Factory.

Fairbanks, Morse & Co.

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For Tough Jobs

← Leave This Weight In

Remove it and the "Ground Hog" is ready for work in light soils.

PLOW NOW

DON'T WAIT FOR RAIN WE MAY HAVE A LONG DRY SPELL

PLEASE NOTE: That we also manufacture Power Lift Plows, Hop and Vineyard Plows, and many other Tractor Implements, among them "Cunningham" Pulverizers, Disc Harrows, Cultivators, etc.

ALL SIZES. GET OUR PRICES.

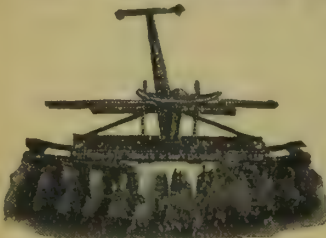
WRITE TODAY FOR FULL PARTICULARS AND NAME OF NEAREST AGENT

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LIGHT SERVICE TRACTOR HARROW



SINGLE ACTION HORSE HARROW



BUSH AND BOG PLOW



RIGHT LAP PLOW



CALIFORNIA ORCHARD PLOW

Thoroughly Pulverize Every Inch of Ground

CLARK "CUTAWAY" Double Action Harrows thoroughly dig, mix and pulverize every inch of soil. A perfect seedbed is prepared by their forged sharp cutout disks made of toughest cutlery steel that does not chip, crack or break. "Once over" does the trick. Same as going over your ground twice. In the

Clark
"CUTAWAY"

Harrows
and
Plows

the rear gangs are forced to cut exactly midway between the track of the front gang disks. The Improved CLARK Main Frame of special steel holds all gangs in their appointed place as in a vice. Slewling and trailing is impossible. Each disk does its duty—cuts its own way.

CLARK "CUTAWAY" Tillage Machines contain the most advanced, most practical features of construction. They stand foremost in quality and service. They have many valuable, exclusive features. They work out their price the first season, in better cultivation and greater crop yields.

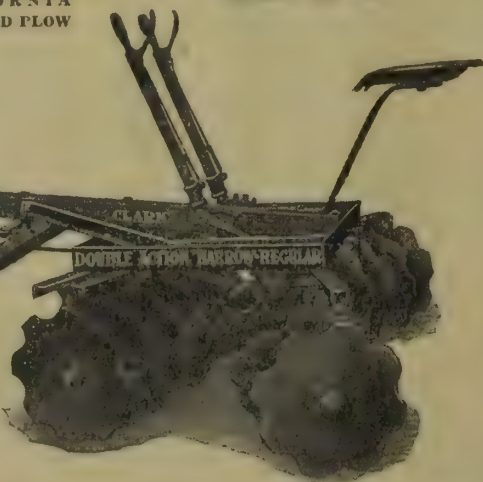
Have your dealer show you CLARK "CUTAWAY" Harrows and other tillage machines illustrated on this page. An inspection of the CLARK "CUTAWAY" line will convince you that a CLARK machine is the one to buy.

The Cutaway Harrow Co.

629 Main Street
Higginum, Connecticut

"Maker of the Original CLARK Disk Harrows and Plow."

Write for valuable free book, "The Soil and Its Tillage," and complete catalog.



The Odorous Onion and Its High Price

(By Albert Lindley, Chairman of the State Organization, Farm Owners' and Operators' Association.)

Having shown in previous articles, based on actual investigation, that the farmer received, under contract dated August 4, 1919, after deducting 16 cents paid to him for the sack container, only \$1.91 per hundred pounds for potatoes, for which the housewife of San Francisco was paying at the rate of \$4.16, the patron of the cheaper restaurants \$11.40, and the cafes and hotels as high as \$40 per hundred, the agents of the Farm Owners' and Operators' Association then took up the onion as their next subject. They secured original contracts, bills and receipts and followed the onion from the delta farmer to the San Joaquin river bank, then down the river by steamer and on until distributed as food to the final consumers in San Francisco.

It was found that the farmer received on a large shipment of onions on August 20, 1919, \$1.75 for each sack to contain not less than 105 pounds of Australian brown onions. These onions he raised and by contract delivered them, sorted and sacked, on the river bank, only 80 miles from San Francisco, and where they lay at his risk until picked up by the river boat to be carried to the San Francisco produce dealer.

Deducting the 16 cents which the farmer pays for the sack container, his return is \$1.59 for a sack of 105 pounds, or \$1.51 per hundredweight. In the case of onions, as with potatoes, the jobber buys by the sack and sells by the one hundred pounds. By this switch he gains 5 pounds on every sack, the opening wedge in the advance of price from the farmer to the consumer.

The jobbers' selling price for the 105 pounds of onions, for which he paid the farmer \$1.75, was \$2.50 the hundredweight, showing an advance of 75 cents over the price paid the farmer, with 5 pounds acquired, or added, for which he paid the farmer nothing and sold at 2½ cents a pound, or 12½ cents, making his actual advance per hundred 87½ cents, or 50 per cent gross on his investment. The price, like the onion, grows stronger as the product advances to the consumer.

The retailer then purchased these onions from the wholesaler at \$2.50 per hundred. He distributed them to his customers at the rate of six pounds for 25 cents, or \$4.16 per hundredweight, or a gross advance of \$1.66. It will be observed that the retailer's advance alone is more than the gross price per hundred actually received by the farmer, who provided the land, seed, labor, and all other expenses, to which must be added occasional hazard of crop failures and a glutted market.

The farmer's \$1.51 onions have now first touched the consumer with the price of \$4.16 per hundredweight when sold in household quantities. When served in the cheaper restaurants, even raw or sliced, these onions bought at the low average of 10 cents a portion of one onion, bring an aggregate of about \$20 the hundred pounds. When served raw in the better class of hotels the portions served aggregate in price about \$30 per hundredweight. The patrons served in these fine places are eating onions at a cost to them of 1900 per cent over and above the price paid the farmer.

Mariout Barley Not for Wet Locations

The article on Mariout barley written by Prof. G. W. Hendry of University Farm and published in our issue of August 9, has occasioned some embarrassment because so many of our readers have asked for seed and the seed is hardly to be obtained. A letter addressed to Prof. Hendry from a Stockton grain dealer asks whether this barley has been tried on black adobe or on peat soils such as characterize the Delta Islands. Several farmers had asked the dealer for seed. Prof. Hendry gives the following advice:

"Our 14 years of experience with Mariout barley have shown it to have the greatest advantage over common barley on dry soils, in dry seasons, and especially when late planting is practiced. Under such circumstances it generally has produced 5 to 10 sacks per acre above the common sort. Last year we had light spring rains in this section, and Mariout was much superior in yield, both on fall and spring planted land and on both heavy and light soil types. We should say that it will outyield the common variety on either a heavy or light soil under dry conditions, but that on low-

lying heavy soils, on which the water stands during the winter, it is not so good as the common variety.

"Regarding peat soils, we have no data upon which to form an opinion, but would think that if plenty of moisture were available that common barley could not be improved upon, but if the peat is apt to dry out early in the spring, we should prefer Mariout. Again, if a summer crop, such as corn or beans, is to follow barley, we should choose Mariout because it will ripen about 2 weeks ahead of common barley sown at the same time. Mariout is essentially an arid hot-climate crop, and succeeds with less rain than common barley.

"Summing up, I would advise Mariout for: (1) Dry upland soils, either heavy or light; (2) dry peat soils, either early or late planting; (3) moist peat soils, late planting; (4) any peat soils where double cropping is used.

"I would not advise Mariout for: (1) Low heavy soils, fall seeding, where water stands; (2) moist peat soil, fall seeding, no summer crop; (3) cool, moist climate near coast or at high elevations in North."

MOST WHEAT WITH LEAST RAIN.

The best wheat crop ever raised in recent years in the Annette district of Kern county, and northern San Luis Obispo grain districts grew this season on the light rainfall of four inches at Annette and about seven inches at Linne, according to Ben Quigley, a rancher of the latter district. Better cultural methods explain this unexpectedly good crop, according to Mr. Quigley, who points to the better working of summer fallow and getting seedbeds refined in time for earlier sowing. But last winter's moisture did not get down to that of the previous year, so if we don't get good soaking rains this winter, look out for a short crop next season!

EGYPTIAN COTTON GINS READY.

Arizonans have a tremendous cotton acreage this year, according to F. M. Blake, who has the Oliver implement agency at Phoenix. It is mostly the Egyptian variety, and this year the people will not be caught short of ginning facilities as they were last year. A large number of the most up-to-date Egyptian cotton gins have been installed this season. Alfalfa acreage has been shortened by the cotton craze. There is plenty of water for all crops and the country is exceptionally prosperous.

The whole world is looking to California for fruit—fresh, dried and canned. All right—they shall have it.

E. P. BOSBYSELL CO. General Agents
Dealer in Farm Implements, Vehicles and Road Grading Machinery
125-127 N. Los Angeles Street Los Angeles, Cal.

Fine Progress in Alfalfa Association

(Written for Pacific Rural Press.)

As alfalfa is marketed now, many a district which ships hay to the markets during the heavy-tonnage season pays freight on hay to be shipped back at higher prices, which cover transportation and middlemen's commissions, but represent no profits to the producers.

"But," says Manager G. H. Emery of the Alfalfa Growers of California, Inc., "the day is about past when independent buyers can beat down the price and stock up when hay is most plentiful to warehouse it and sell at high prices later in the season."

The alfalfa association is aiming first to develop and supply fully all that each local market needs from the local supply if there is enough of it. The direct route from producer to consumer will be worked as thoroughly as possible.

To accomplish this, a mild sort of reorganization is going on. Heretofore, its business has been conducted from the Los Angeles and Oakland offices. But the Association is now opening branch offices at El Centro, Bakersfield, Fresno, and Orland, which will handle the business of their districts direct without consultation with the home office at Los Angeles, except for guidance with reference to market conditions and policies of the Association.

Each branch office is to be supported by a local center of information in each alfalfa-growing community. This will put the head office in touch with local conditions all over the State at all times. Field men also will help along this line, for the Association has lately increased its field force, which renders personal service to members in the way of handling their crops, local sales, and general information.

There are about 1,500 members controlling 60,000 acres already, and new members are steadily volunteering as they see the benefits of the Association and its influence in holding prices at a point where growers receive fair compensation for their labor, capital, and risk. The most modern business methods are being adopted by the Association in order to give prompt attention to all of its business.

Marketing Milo Co-operatively.

A departure of considerable value is

the organization of a department to market the milo and other grain sorghums grown by members of the Alfalfa Growers of California, Inc. (the "Association"). The day this department was organized in Imperial Valley, milo was selling at \$41 as Mr. Emery remembers it. The next day it was up to \$50. But while all of the milo which has been sold by the Association for its members has brought better prices than were paid to outsiders, the idea is not to boost prices beyond what growers are entitled to receive for services performed. The chief value of organized marketing of grain sorghums, as well as alfalfa, is to eliminate fluctuations of the market due to manipulation by middlemen for their own gain.

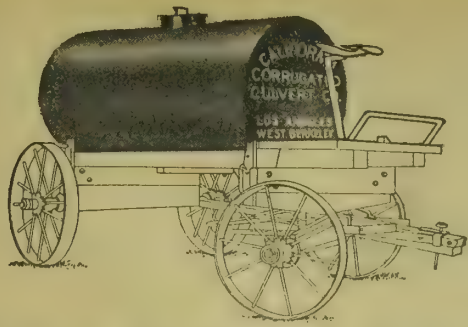
WHAT ARE DISTINGUISHING MARKS OF ROOT STOCKS?

To the Editor: Can you tell me how to tell the difference between peach, almond and Myrobolan roots on prune nursery stock, at planting time? Also, can you inform me how to keep the little "flat-head borers" from young prune trees?—A. T. Porterville.

Myrobolan roots are the darkest in color of the tree and have a denser bark. The peach root is reddish in color when washed—redder still if you chop a little off, while washed almond roots have a yellowish appearance. You will see the most fibre on your Myrobolans, but this need be no criterion of the value of the tree, as it has to be renewed. The peach root has a bitter taste; the others are bland.

You can keep the flat-headed borer from young prune trees by protecting them from sunburn or other injury, though the borer occasionally enters at the cut made at the bud union. A little wax will stop this. The flat-headed borer does not enter healthy fresh bark.

New Zealand Fruit Growers are organized voluntarily for the purpose of standardization and inspection. Each orchardist is assessed 24 cents an acre and this provides a fund of \$20,000 to carry out the work. They have a large South American trade.



Calco Wagon Tanks

will stand the strain—no matter how hard or rough the road.

They are built to give long life under severe usage on either horse drawn wagons or on tractor trailers.

Made of heavy Armco iron, riveted and soldered and with baffle plates to prevent wash of contents from one end to the other.

Made in three types with capacities from 260 to 1300 gallons.

Send for descriptive folder and price list.

California Corrugated Culvert Co.

LOS ANGELES
417 Leroy Street

WEST BERKELEY
406 Parker Street

301-13

UTILITY TRAILERS

You Are Paying Too Much for Hauling

if you do not use a trailer.



Model "B Special" with 3000 pounds of grapefruit.

Ready for delivery—
2 and 4-wheel models—
800 pounds to 10 tons capacity.
Write for catalog.



9 Tons of hay hauled by 2-Ton Truck and 2 Utility Trailers.

LOS ANGELES TRAILER CO.,

1328 PALMETTO ST.,

LOS ANGELES, CALIF.



Stop the Theft of Power

It is not necessary to put up with loss of power and waste of oil and gas. Don't let badly fitting piston rings steal your motor's power and your gasoline. Install a full set of

McQUAY-NORRIS LEAK-PROOF PISTON RINGS

Increase Power—Decrease Carbon Save Gas

By creating uniform pressure on the cylinder walls, McQuay-Norris LEAK-PROOF Piston Rings stop piston ring leakage, increase power, decrease carbon and save fuel and oil.

Wherever you are you can get them to fit any car, truck and tractor. Jobbers and supply houses in over 300 distributing points carry complete stocks of standard sizes and over-sizes, backed by a factory stock of 3,000 unusual sizes. You don't have to wait—the rings are awaiting your order.

Send for Free Booklet

"To Have and to Hold Power"—a simple, clear explanation of piston rings, their construction and operation.

Manufactured by

McQuay-Norris Manufacturing Co.

2838 Locust St.

St. Louis, U. S. A.

14F

McQUAY-NORRIS Superoyle RINGS

A special ring for engines that pump oil.

Used in top groove only of pistons to control excess oil, with McQuay-Norris LEAK-PROOF Piston Rings in lower grooves to insure maximum compression and fuel economy.



Greater Economy for Any Country-Driven Car

Whether it's a suit of clothes, a pair of shoes, an automobile, a tractor, or a tire—*quality* is the thing that insures lastingly satisfactory service.

It is Mohawk *quality* that has made Mohawk Tires so popular among the farm communities.

In most sizes of Mohawk Tires, you will find an *extra ply of fabric*. That means longer wear.

In every Mohawk Tire you will find *nothing but pure rubber and pure materials*—no shoddy,

no reclaimed rubber, no "fillers". That means that you get more tire for your money when you buy a Mohawk—the Mohawk Cord, for example, weighs from eight to ten pounds more than any other Cord, size for size.

Add to these advantages a hand-made tire, produced by expert tire builders and you will understand why 85% of the motorists who buy their first Mohawk Tire continue to use Mohawks exclusively.

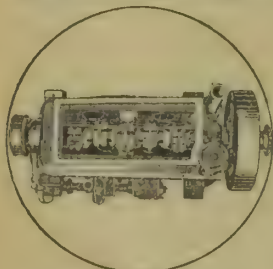
Cord or fabric, in ribbed and non-skid treads, and there's an extra ply, hand-made, Ford size Mohawk, too. Good dealers everywhere handle them

MOHAWK RUBBER COMPANY, AKRON, OHIO
MOHAWK RUBBER CO., 1436 Van Ness Ave., San Francisco, Cal.

MOHAWK "Quality" TIRES

HAND MADE

The Lauson Wins Again: at Porterville, Cal.



The LAUSON-BEaver
4-cyl. under horizontal engine
Engine develops 30 h.p. at 950 R. P. M.

Five well known tractors entered a competitive demonstration recently on the 100-acre orange ranch of Wight & Pfaffinger, Porterville, Cal., and the LAUSON was the *only* tractor able to pull three 14-inch mold-board plows anywhere on the ranch. The LAUSON was purchased and is now in every day use.

Some of the grades on the ranch are as much as 20%; the ground is adobe soil intermixed with many large size rocks, presenting extremely difficult conditions. This is a record of LAUSON PERFORMANCE under all operating conditions.

New literature just off the press tells why the LAUSON is "The Pattern Tractor of the Industry."

THE JOHN LAUSON MANUFACTURING CO.
DE LAVAL SUPPLY COMPANY

Distributors for Oregon, California, Arizona and Nevada
 Bulletin No. 46

63 BEALE ST.,
 SAN FRANCISCO,
 CALIFORNIA.



AGRICULTURAL NOTES.

From \$3 to \$7 a day and board are prices paid for hands at rice harvesting.

The northwest winds have blanched 3 per cent of the rice crop in the vicinity of Winters.

A short crop of onions in nearly all the producing sections this year assures a rapid sale at profitable prices.

California warehouses are still carrying a large supply of beans from the 1918 crop, and the market is quiet.

The people of Fall River and Hat Creek valleys have one of the largest hay crops ever known hereabouts to dispose of.

Mustard Farmers at Lompoc (Ventura county) have been getting 15 cents a pound for red mustard and 20 cents for yellow.

The first California motor truck train, composed of fifteen heavily laden trucks of various makes, arrived safely in Los Angeles.

Loose alfalfa is selling in the Fresno district at \$25 a ton and \$28 for baled. These prices are attributed to shortness of water-reducing crops.

With the required number of farmers signed for loans from the Federal Land Bank, the Yuba-Sutter Farm Loan Society organization was assured.

It is estimated that one ton of fresh tomatoes will yield 8 pounds of seed. Large quantities of seed were shipped abroad last year by the Havens Seed Farm in Santa Ana.

Rice harvest is general in Yuba, Yolo, and Sutter counties. The average yield is expected to reach 45 sacks to the acre. Contracts for \$5.50 per cental are the rule.

Michigan reports the sale there of new crop of white beans at \$8.50 per cental for October delivery. A few sales have been made at \$8.90—equal to \$8 for California white beans.

Libby, McNeil & Libby Co. have just completed surveys for a new cannery at Gridley (Butte county), to be erected and operated next season. This is a rich and growing section.

The recent rain started work preparing summer fallow for the seeding of one of Fall River's most extensive wheat crops. The average yield for the past season was about twelve sacks.

Several thousand men are needed in the rice fields for the harvest, rice growers estimated today. Men now employed are threatening a strike, saying they are dissatisfied with the wage scale.

According to data collected by the Department of Commerce the country's cotton crop is the smallest in ten years. But the growers are getting more money for the crop than in any previous year.

William G. McAdoo was appointed today special assistant to the Attorney-General in defending the constitutionality of the Federal farm loan act, which had been attacked in suit brought in Kansas City.

Private estimates of Washington's 1919 wheat crop have fixed the total at 55,250,000 bushels, or about 10,000,000 more bushels than was ever produced in the State. The estimated value is well over \$1,000,000,000.

A hundred pounds of superphosphate to the acre has been found very effective for alfalfa in Australia. It is applied right after the first cut is off and on successive cuttings in hot sections while vigorous growth is made.

Salem, Ore., will produce approximately 45,000 bales of hops this season, according to the latest estimates by leading growers of the Willamette valley. It is believed that most of the yards will produce an average of 1,200 pounds to the acre.

"Within five years California will be producing one-half the rice crop of the entire county," says J. R. Leguene, chief of the Rice Division, U. S. Food Administration. The 140,000 acres planted to rice in the Sacramento valley this season will yield 50 per cent more this year than the acreage of any Southern State.

Harvesting of the Sacramento Valley's \$25,000,000 rice crop is in full swing and many discharged soldiers

are finding employment in the rice fields, according to the war camp community placement bureau. Wages are said to range from \$6 a day up.

The value of the rice crop in the Chico district of Butte county, comprising some 12,000 acres, is placed at \$3,000,000. The value of the total crop for the county, including the Gridley and Biggs districts, is placed at \$7,000,000.

Imperial Valley, comprising 413,000 acres under cultivation on the American side of the border and 80,000 acres on the Mexican side, produced crops worth a total of \$47,832,292 during 1918, according to data just completed by the Southern Pacific Railway. It required 18,682 cars to move this corn.

Before the war most of the beet, carrot, radish and spinach seed came from Great Britain and France, but now we export those seeds. There are about 21,537 acres of vegetable seed alone this year in this State, and as we have a monopoly on certain seeds through our climate, the industry of seed growing is a coming one.

Striking Chinese at Dayside cannery near Mayfield were discharged this morning by the company, following the volunteering of the other employees for double duty until new men can be employed. The Chinese truckers went out on a demand for a raise of 10 cents an hour in wages. They had been getting 35 cents and 40 cents an hour.

Last year the State of Virginia condemned crimson clover seed, which showed a germination test only between 15 and 30 per cent. Usually old crimson clover seed has a dark brownish color, readily distinguishable from the bright color of the new crop seed. If there is an abundance of dark seed, the buyer may well become suspicious and submit samples to the laboratory for a germination test.

Cotton grown in the San Joaquin Valley is now finding a market in the California Products Company of Fresno. According to word received from Manager Hulme the company has sold 78 bales of cotton, representing the total production of cotton lint from last year's cotton crop in the San Joaquin Valley, to the Simon Mattress Company of San Francisco. These linters will be made into mattresses. This is the first time that these mattresses will be made from linters grown in the San Joaquin valley.

BUNYIP WHEAT IN MADERA CO.

Almost double the yield per acre was the gratifying result obtained by W. D. Cardwell, of Chowchilla, Madera county, in a comparison between Bunyip (Sperry No. 1) wheat and Club. Fifty acres seeded in Bunyip produced 459 sacks at an average weight of 143 lbs. per sack of wheat, weighing 61½ lbs. to the measured bushel. Having heard this wheat well recommended when he put in his grain for the present year, Mr. Cardwell decided to give it a tryout. He secured enough seed for 50 acres and sowed it in the center of 800 acres. The surrounding 750 acres were seeded with Club wheat. None of the land is under irrigation and it all was prepared alike.

A SQUIRREL TRAP.

To the Editor: We have a dry gulch at the edge of a bean field where the squirrels are very destructive, and it is too dry to get them with gas. We buried a barrel in the bank about three weeks ago and put water in it and since then have thrown 55 dead squirrels out of the barrel.

If it is too much trouble to bury the barrel, lean a board up against the side of it at a slant of 30 or 40 degrees and nail it to the top. The water level should be kept so the squirrels try to reach the water but cannot quite do so. Ten inches down from the top is about right. This probably could not work where there is other water near, but in a dry place it gets them all right.—John A. Wood, Walnut, Los Angeles county.

A steady, even-tempered feeder makes tame cattle.



Lazzari stands beside the New Edison and sings "Mon coeur s'ouvre à ta voix"

Lazzari has now ceased to sing, and the New Edison is singing the same song alone

The pictures above are drawn from actual photographs. They show Lazzari in the act of comparing her voice with its RE-CREATION by the New Edison. She sang. Suddenly she ceased to sing, and the New Edison took up the same song alone. There was *no difference*. It was only by watching Lazzari's lips that the audience could tell when she had ceased to sing.

Lazzari has made this test before more than ten thousand music-lovers and representative music critics. This test proves beyond all question that the voice of Lazzari, as RE-CREATED by the New Edison, is absolutely indistinguishable from her voice as heard on the stage of the Metropolitan Opera House in New York.

THE voice of the decade has appeared. A transcendent artist has flashed into operatic glory.

Twenty-two months ago, Carolina Lazzari joined the Chicago Opera,—unknown, unheralded.

Today, three continents clamor to hear her.

This fall, the Metropolitan Opera Company brings her to New York,—its new prima donna contralto.

While the golden horseshoe of the Metropolitan sits enthralled by the spell of her magnificent voice, you in your own home can hear that self-same voice. For the New Edison brings you the real voices of the world's

great artists, wherever you may be. Not strident and mechanical travesties on their art, but literal RE-CREATIONS, indistinguishable from their living voices. The New Edison's life-like Re-Creation of music in all its forms is the amazement of the music critics of the country.

The entire genius of Edison, the wizard, is summed up in this marvelous phonograph—his Official Laboratory Model. It cost him three million dollars to perfect. Yet all the musical world counts every penny of those millions well spent. For, he thus perpetuated the priceless art of great artists, and introduced the wondrous cultural benefits of good music to discriminating homes everywhere.

The NEW EDISON

"The Phonograph with a Soul"

Our new book, "Edison and Music," is the most interesting phonograph story of the year. Free. Write for it. Thomas A. Edison, Inc., Orange, N. J.

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MONARCH TRACTOR

1. It is a Tracklayer.
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Monarch Lightfoot Tractor pulling 3-14 inch bottoms 8 inches deep. 2 1/3 miles per hour.



HERE is the tractor of utmost economy, the tractor that gets most from every gallon of fuel because the direct drive from motor to both rear axle and belt pulley saves power.

THE HUBER Light Four

is the right sized tractor for every sized farm. It is powerful enough to pull three 14-inch bottoms and turn an acre an hour, and light enough to work on plowed ground without packing it down.

Thousands of Huber Light Fours are in successful use. It is the tried and proved tractor. Huber owners are Huber boosters. For 40 years Huber has built steam tractors; and for 20 years gas tractors. The Huber Light Four is the best tractor Huber ever built.

It plows, harrows, drills, pulls a binder—does every type of heavy field and belt work economically. So simple a boy can run it, and anyone who knows an automobile can keep it in repair.

Every one interested in tractors should read the "Tractor in the Making," a reprint in booklet form. Tells vitally interesting facts about tractors. It is free for the asking. Write for your copy today.

THE HUBER MFG. CO., Marion, Ohio

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Some territory open for live dealers.

Weight 5,000 pounds; pulls three 14" bottom plows; 12 h.p. delivered to the drawbar; 25 h.p. at the belt; Wauke-sha, four-cylinder motor; Perflex Radiator; Hyatt Roller Bearings; burns gasoline, kerosene or distillate; center draft; two speeds, 2 1/2 and 4 miles per hour.

Mechanical Power on the Farm

IMPLEMENTS AT LOS ANGELES DEMONSTRATION.

(Written for Pacific Rural Press.)

As this is written after the Los Angeles implement and tractor demonstration is all over, the dealers say it was the most successful event of its kind ever held. This demonstration marked a curious reversal in the farm machinery trade which has been developing mostly during the past year. Farmers have generally come to realize through experience that tractors are not so fully economical unless they have proper implements to work with. It was a rather common saying at this event that the implements sold the tractors. So soon as the visitor at this demonstration found implements that suited him, it was easy to sell him a tractor that would fit his conditions. And there was a wonderful array of implements to choose from—implements designed for tractor service and for the hardest conditions of soil.

Subsoilers, Disks, Land Levelers.

Deep cultivation, especially subsoiling, received more attention from visitors and exhibitors at this demonstration than heretofore. One of the three makes of big tractors was usually operating the biggest subsoilers or chisels with a crowd following. Most of the smaller tractors borrowed smaller subsoilers and chisels, which were found all over the tractor field. A new heavy subsoiler made in San Bernardino county was on exhibit in one tent and a powerful tractor beet digger invented in Ventura county was shown in another. In tents and all over the field could be seen the McKay tractor gang disk plows, each bottom of which was followed by a subsoil point which could be adjusted to dig one to eight or ten inches below what the disk-plows cut.

The Killefer Mfg. Co., who had a large section of land for their subsoilers and tractor "chisels," sold a great many of these during the demonstration in addition to 125 or more of their automatic double disk harrows. They had on exhibit and for use some of their four-row automatic-lift beet diggers, four-row bean cultivators and four-row beet cultivators, the heaviest crosshill clodmashers made, tractor-pulled weeders and mulchers, heavy duty orchard cultivators, etc.

Schmeiser and Caterpillar power-lift land levelers were operated by tractors. Barney Sandstrom did some much-needed land leveling around the tents with his scraper. The tractor people hesitated to let him operate both the tractor and the leveler by himself, but he soon showed how easy it is and how desirable a fast-speed tractor is for land leveling.

The most prominent plows and disk harrows and corrugated rollers on the field were the Olivers, which were universally seen here as well as in one of the implement tents.

Tents Full of Many Implements.

Nowhere else have we seen so complete an array of all the implements needed on any farm as we saw in the International Harvester Co. tent at this demonstration. The tent covered about 11,200 square feet and was fronted on the outside with tractors labeled to tell of their best characteristics. I. H. C. motor trucks, hay making and pressing machinery, Deering combined harvester operated by its own engine for an eight-foot cut, corn binders, grinders, and shellers, silage cutters, cream separators, grain drills, four-row beet seeders, and all the implements for plowing and refining and packing the seed bed.

For completeness in showing all lines of farm machinery, E. P. Bosbyshell's tent could hardly be excelled. You wouldn't think of so many machines being operated by tractors in one tent, with so much of other machinery besides. New and important features of machines shown here are the Rock Island quick-detachable plowshares, and the Brenneis leverless disk harrows. The plowshares are loosened by kicking a lever and are tightened beautifully in place by pulling the same lever. The disk harrow is adjusted by hooking its main

drawbar onto one of the two secondary drawbars which either angle or straighten the disk when pulled. The tractor driver makes the change from his seat. A Knapp orchard disk gang plow was so low and narrow that it escaped attention from many of the folks who would have been most interested. Another tent showing most complete lines of farm machinery was that of the B. Hayman Co. Here we saw a full line of Oliver implements, wide Black Hawk manure spreaders, spring tooth harrows, Forkner tractor tillers, R. M. Wade pea and bean threshers, Star dairy barn equipment, tomato and sweet potato transplanters, alfalfa cutters, silage cutters, grain graders, side delivery rakes, etc.

The only ball-bearing disk plow noted on the field was the Yuba shown by the A. F. George Co. at their tent along with Yuba tractors, for which this company has the agency in Southern California. John Deere implements were featured in this tent, and a tractor was running a Deere hay press outside. Plows, cultivating machines, grain drills, Deere manure spreaders, fruit sprayers, concrete mixers, potato planters and diggers, grain fanning mills, etc., made this a specially good exhibit.

The great number of implements specially built to be easily attached to Moline tractors so as to become a part of the tractor located under the driver made a show by itself. A Moline tractor with an eight or ten-foot mower was turned loose to run in circles forward part of the time and backward part of the time. One was hitched over a Fresno scraper.

What You Get for Asking.

A good instance of what demonstration visitors can get by appearing interested in such commonplace things as plows was that afforded the writer at the Moline tent. The dynamometer had shown that where the surface was not trashy, three ten-inch moldboards required about the same power as two

BEEMAN GARDEN TRACTOR

It plows, harrows, cultivates, runs any 4-h.p. stationary machinery

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welves. The forward half of the share does all of the cutting in dry adobe. The rest of the furrow simply breaks off and the rear half of the share only rides. For this reason it is economical to put ten-inch bottoms on twelve-inch gangs.

TRUCKS AND TRAILERS AT DEMONSTRATION.

Motor trucks and trailers have a definite and necessary part in motorized farming. They were welcomed at the Los Angeles Tractor and Implement Demonstration. But as usual there was no co-ordination in their exhibit and it made no particular impression on the visitors. A truck tent was put up and occupied by two different makes. The accessories tent sheltered fourteen different makes of trucks, while the implement and tractor tents sheltered several more. Two different makes of trailers were shown. Thus there was a respectable and valuable exhibit of trucks and trailers, but very few people realized that fact. What is needed is more co-operation between dealers handling these lines and a unified exhibit, such as we have not yet seen in California. It is worthy the effort and the industry is of enough importance to farmers and others to justify a comprehensive show of trucks and trailers.

TRACTORS NEW TO CALIFORNIA.

The fact that a tractor has not been offered previously in this State does not mean that it is untried. Most of such machines have long been used in the East and many of them are built by implement companies who have been in business several decades. These tractors are likely to give good service, but the farmer investing in one of them may well look into several features, which have in the past made some Eastern tractors unsatisfactory in California. The Eastern people have a different dust from ours. It does not seek every entrance to the inwards of the machine as our dust does; and if it gets there it does not cut the bearings as our dust does. Some Eastern companies have not realized this and have sent out tractors which either had no air-cleaners or had air-cleaners inefficient for our conditions. Practically all of these up to date have either disappointed from our market or have remedied this defect. The rancher who uses a tractor in California without an efficient air-cleaner will soon be buying horses and will unjustly condemn tractors. For the same reason, working parts must be dust-proof.

"It is a fact that California soil requires a great deal more power to plow than average Eastern soil. The tractor which will pull three bottoms in the East should be bought here as a two-bottom plow.

Some of the Eastern companies have looked to California as an inviting field for the surplus which they are able to make now with the facilities which were increased for war purposes but are not needed in that direction now. Some of these may rush to sell before they provide adequate nearby service facilities or nearby complete stocks of repair parts. Assure yourself that you can get prompt expert service and repair parts without delay, before you buy any tractor. Also find out as certainly as possible whether you are being asked to help find the weak places for the manufacturers at your own expense and whether agencies for the tractor are likely to remain permanently in this field.

Clean up and look over your motor in detail every thirty days, and it won't go to pieces so fast, says a man who takes care of seven tractors.

A bean intercrop in a young orchard of San Joaquin county was planted four rows at a time by a tractor.

The Lauson tractor has recently adopted a water-cleaner for air that is to be used in the carbureter.

A 60-horsepower Best tractor was shown as a new model at the State Fair this year.

Studebaker

THE LIGHT-SIX

A BEAUTIFUL, clean-cut car of 119-inch wheelbase with plenty of room for five passengers, and a 50-horsepower motor that takes you over country roads at top speed and climbs the steepest grades without effort.

On its mahogany-finished instrument board are conveniently grouped a speedometer, oil pressure gauge, ammeter, lighting and ignition switches; upholstery is genuine leather. Gypsy-type top with plate glass windows in the back.

Its power and staying qualities have been extraordinarily demonstrated in the hands of thousands of enthusiastic owners.

Studebaker builds complete in its own factories practically every vital part of this beautiful LIGHT-SIX, thus reducing middlemen's profits to a minimum and making possible such sterling high quality at its unusually low price.

THE LIGHT-SIX
\$1685

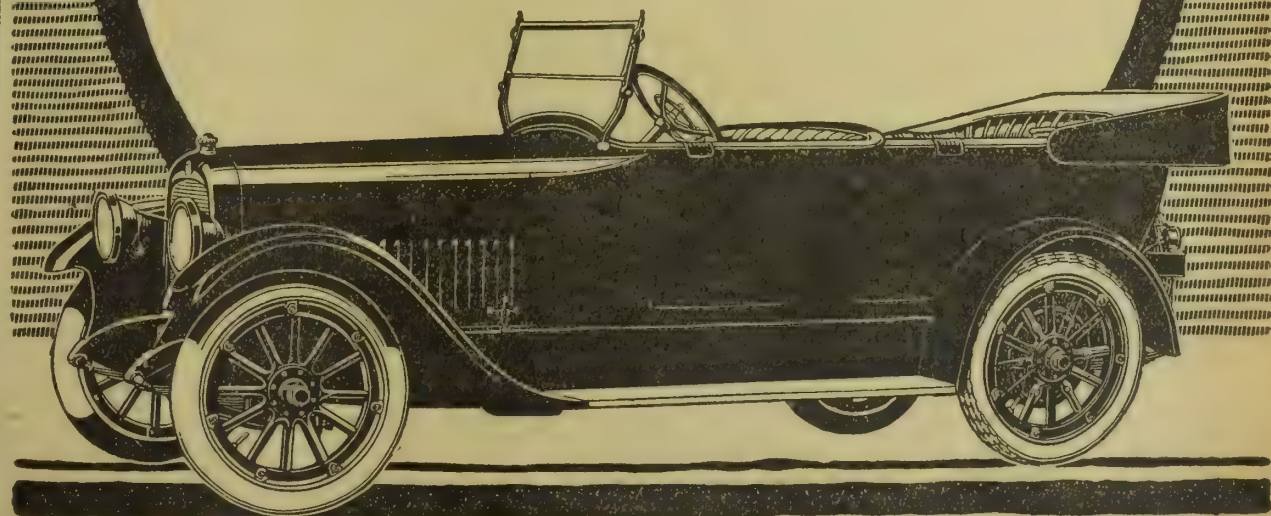
THE BIG-SIX
\$2135

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Ask any Studebaker dealer for a demonstration ride in this LIGHT-SIX





IRRIGATION SYSTEM

Neither Alfalfa nor Orchard cultivation can be conducted advantageously without an efficient Irrigation System. Now is the time to install your system, as all indications point to much higher prices in the very near future. Don't delay, but write today for literature and any information you may require on the subject of Irrigation. The advice of our experts is yours for the asking.

MARTIN IRON WORKS
"Originators of the Valve System of Irrigation"

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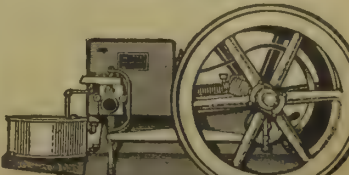
—formerly Kellar-Thomson Co.

WITTE Engines

2 to 30 H. P.

Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

A. H. SIMPSON CO.
129 FREMONT ST.
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ROAD WEAR OF MOTOR TRUCK TRAFFIC.

To determine the destructive effect of heavily loaded auto trucks on highways and streets, and to meet the demand for data on the design of road surfaces and foundations to withstand such heavy traffic, a series of experiments is being conducted by the Bureau of Public Roads, United States Department of Agriculture, at the Arlington Experimental Farm to determine the impact of auto trucks on roads.

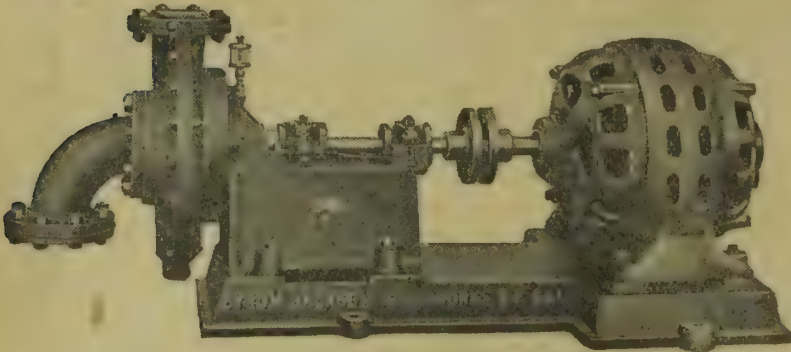
The most striking single development in the highway field in 1918 was the tremendous increase in motor

truck traffic. Five years ago heavy motor trucks were few in number and limited practically entirely to the paved streets of larger cities. These vehicles now comprise probably 4 to 5 per cent of the grand total of all motor vehicles and are to be found wherever traffic conditions permit profitable use. But very few roads were designed to carry any large volume of this class of traffic. Consequently, the cost of adequate maintenance was increased greatly during the year. In many places the damage due to the incessant pounding of these fast and heavy vehicles was so great as to require complete reconstruction.

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Is your soil producing the maximum?

"BYRON JACKSON" PUMPS are built to meet every condition of "supply and demand" on your ranch.



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New Catalog No. 60-A for the asking.

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Single Stage Motor Driven Pump

KROGH PUMPS absolutely hydraulically and automatically water balanced. No end thrust whatsoever.
Also DKWP WELL TURBINE PUMPS for bored wells 10-inch diameter and up.

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At the SIGN

The Red Crown sign means "The Gasoline of Quality"—always dependable. Look for the Red Crown sign before you fill.

STANDARD OIL COMPANY
(California)



The Gasoline of Quality

Home of Tilly Alcartra

(Written for Pacific Rural Press.)

The above is the title or phrase under which A. W. Morris & Sons Corporation of Woodland sometimes advertise their business, and rightly so, as this great cow so far is without peer in performance, although they have others that closely approach her record or records.

Are Long-Distance Records Injurious?

Without going into the detail of this cow's performance, as her records are too well-known to really need further exploitation, there is about her that is well worth taking into consideration. It was argued by some authorities at one time that the long-distance records of the great producers among dairy cows were injurious and that the year following the record long distance period would be one of depression and swinging of the pendulum the other way towards a year of low production. This does not seem to be the case with Tilly, however, as she came back the second year with a greater record than the first year of record breaking, and she also has a record of over 1,000 pounds average yearly for 6 years. More than this, Frank Morris told the writer that Tilly is a cow that is a very regular breeder and that everything about this great animal would indicate that she always was in the pink of condition.

Attention to Detail Tells.

Another cow has a two-year butter record of 2426.88 pounds made in consecutive years, and as one goes through this herd it is brought definitely home that here is a business of breeding great producing dairy cows, and that the attention necessary for success in any great business is here given to milk production. It is not only the selection of the animals, but it is the care of the animals all the time in every way, or in other words attention to detail. Detail of selection of the animals, detail of breeding, detail of feeding and detail everywhere. Of course this has brought success.

Selecting the Prepotent Bull.

We have been told by many breeders of not only dairy cows, but other animals as well, that the sire is one-half the herd, and some go even further and say the sire is 75 per cent

of the herd. Be that as it may, Morris & Sons certainly pay a good deal of attention to the bulls and have some wonderful animals, both in conformation and breeding. Perhaps especial stress should be laid on their breeding as they have been selected with particular attention to the production of their nearest dams and from that to those further away. They first select the bull with a dam and grandams of greatest performance and then great-grandams as many as possible with great records. With such breeding milk production becomes a dominant characteristic and is transmitted with certainty, and this is what the A. W. Morris & Sons Corporation are doing and have been doing until they have reduced the breeding of Holstein-Friesians for milk and butter production to as near a science as any firm in the world today.

Calf-Raising Troubles.

The calf-raising question was discussed with Mr. Frank Morris in some of its phases. Treatment and prevention of calf scours was one of the subjects broached and the results from the use of serum seemed to indicate much benefit from its use, although Mr. Morris does not as yet consider it a specific. He injects from 10 to 15 c. c. of serum for prevention of calf scours subcutaneously in each calf as soon as dropped, and has not had much trouble from scours since doing this.

Mr. Morris believes in fastening calves in stanchions at the time of feeding milk and keeping them there after feeding until the desire of the calf to suck something had passed off. He is well satisfied that malformed udders on some heifers could be traced to the sucking habit in these young calves after feeding milk.

Volunteer Silage.

In talking about silage a sample of burr clover and barley silage was inspected and it looked fine and the cattle eat it freely and produce well. It was a volunteer crop, and while Mr. Morris would hardly recommend sowing it for a silage crop, this season's growth has certainly been a profitable one.

Viewpoint of a Fresno Co. Dairyman

(Written for Pacific Rural Press.)

Phil B. Thornton of the widely known Minor & Thornton Co., Fresno breeders of Holstein-Friesian cattle, judged the dairy cattle at the Kings County Fair this year. Mr. Thornton is an attorney in Fresno, and if he is as good a lawyer as he is a judge of dairy cattle, the Fresno bar is to be congratulated. Judging dairy cattle seems to be a second nature with Mr. Thornton and it is a pleasure for him to inspect good pure-bred dairy cattle of any breed at any time.

Minor & Thornton Co. are not new in the dairy business either, as they are one of the oldest milk-producing firms in California, having started in the business in 1903. They have sold butterfat as low as 17 cents per pound, but did not make much money at it then, although the price of feed and labor was very much less at that time. Perhaps the percentage of profit was not much less then than now, although it would seem less than nothing viewed from the angle of the present overhead cost.

The members of the firm are great believers in the future of the dairy business, as they are investing over \$40,000 in new cattle barns and equipment on their 7,000-acre ranch south of Kearney Park, where they have 200 head of registered Holsteins. Milking machines are used and Mr. Thornton thinks the day of hand-milking is past, as wages are so high that all methods by which the amount of labor is reduced must be employed. He knows this is a necessity, not only on the individual milk ranch, but among dairymen collectively. Therefore, Mr. Thornton is a booster for the co-operative organization known as the Associated Dairymen of California and the auxiliary known as the

San Joaquin Valley Milk Producers' Association, with headquarters in Fresno. This organization, Mr. Thornton says, has for its object the reduction of the cost of milk and its products to the consumer and at the same time a bigger profit for the producer. This is accomplished by the elimination of the duplication of labor in gathering from the producer and distribution to the consumer, concentration of manufacture and the use of all the solid content of the milk in the manufacture and the use of all the solid content of the milk in the manufacture of various by-products from the skim milk, so that all of the nutrient qualities are made use of and sold. Mr. Thornton, as has been said before, is an old-time dairymen, both from the producer's and manufacturer's standpoint and knows whereof he speaks. Nothing, from his viewpoint, can prevent higher prices of milk and butter to the consumer except the ultimate success of the Milk Producers' Association, a non-profit-sharing organization which already includes a majority of the producing dairymen of the State.

E. J. Kelleran of Modesto, owner of the Golden State herd of Holstein-Friesians, reports the sale of 5 heifers to J. Ruddy. One of the heifers is a granddaughter of Prince Gelsche Walker and three of them granddaughters of Adirondac Weirake Dairymaid, 41 pounds of butter in 7 days.

Verne Heath of the Bonita Stock Farm, breeding registered Holsteins, reports six animals on official test, making at the rate of from 20 to 27 pounds of butter in seven days, warm weather hindering still better results.

SOUTHERN CALIFORNIA FAIR AT RIVERSIDE.

(Written for Pacific Rural Press.)

Ten days ahead of the opening of the fair the entries in all departments far exceed the expectations of the officials who are doing everything in their power to provide extra space for the exhibits. Live stock, agriculture, horticulture, women's handiwork, farm bureau exhibit and other departments all promise to crowd even the extra space provided.

In the live stock department the swine are leading in numbers with dairy cattle coming along a close second, and dual purpose cattle, horses and mules and sheep all showing plenty in numbers. All the prominent breeders of Duroc-Jersey swine of Southern California will be on hand and there will be a good showing of Poland-Chinas and Hampshires also. In the dairy cattle, Jerseys, Holsteins and Guernseys will all be represented. Milking Shorthorns, classed as a dual-purpose cattle, will be shown. Draft horses will seem to be "coming back" when the exhibits are given the "once over" at this fair, for some of the large breeders will have the barns full of the massive beauties, all fitted to "the minute." Sheep of the Shropshire breed, "woolled from the nose to the toes," are entered by three breeders and will make a good exhibit. In the goat (milk) department, 101 were shown last year, but this year 300 and over will tax the ingenuity of the officials to keep them within bounds.

One tent, covering 34,000 square feet of space, was provided for the agricultural, horticultural and women's handiwork, but long before opening day an S. O. S. signal went out for more space, and another tent 100 feet long was provided, which will be filled to overflowing.

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.
R. D. "A," Box 487.
Two miles out North First Street.

California Breeders

have sold more than \$350,000.00 worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales.

CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
C. L. HUGHES, Sales Manager, Sacramento, Cal.

HOLMES STOCK FARM

WATERFORD RD., MODESTO, CALIF.
Registered Holstein Friesians.
YOUNG SERVICE BULL FOR SALE
Prince Abbecker Aralia Walker,
No. 204267—Three-quarters white.
Write for pedigree and price. Inspection invited and satisfaction guaranteed.

The Farm Bureau exhibit includes various phases of farm work. Scrub dairy cows with calves at foot, sired by purebred bulls, showing the influence of good blood; boy's pig clubs will show what they have done and are doing in the way of proper feeding; trees properly and commonly pruned; treatment of grains to prevent smut and many other things which lack of space forbids telling about; but rest assured that when the fair opens all and everything will be in place and ready for everyone that can possibly get there to give it not only the "once over," but as many times over as they can because all this good stock, improved methods and improved machinery will bear the very closest inspection, and people are beginning to learn that while the old ways were good ways in their time, that we have to keep up with the times in order to make "both ends meet" nowadays.

SHORTHORN SALE AT SAN FRANCISCO.

The third sale of Shorthorns under the auspices of California Shorthorn Breeders' Association will be held at San Francisco in conjunction with the San Francisco Livestock Show on Thursday, November 6, 1919, at 1:30 p. m. A splendid sale arena is under construction in the California Building and ample seating facilities are being provided to accommodate a large attendance.

Special committees of merit have selected the Shorthorns entered in the sale and have approved only animals possessing outstanding conformation and individuality as well as high-class breeding.

But forty animals will be entered in the sale, comprising thirty head of cows and heifers and ten bulls, all registered and tubercular tested.

Auctioneer Earl Gartin of Greensburg, Indiana, will cry the sale. Mr. Gartin handled the big Calgary sale in 1917, and is himself a breeder of no little distinction.

BERKSHIRE SALE AT LOS ANGELES LIVESTOCK SHOW.

The Berkshire breeders of California will hold a bred sow and gilt sale at the Los Angeles Livestock Show on October 22d at 1:30 p. m. A typical lot of Berkshires are consigned from all the good herds of the State and breeders of Southern California have a most excellent opportunity of securing as good animals of the breed as are to be found anywhere in the United States at their own price. Among others is the junior champion gilt, Castleview Premier Belle, consigned by J. Francis O'Connor of Santa Rosa. Col. Ord. L. Leachman of Sacramento will cry the sale.

What about shooting that hardpan ready for planting?

THIRD SALE of SHORTHORNS

Under the auspices of

CALIFORNIA SHORTHORN BREEDERS ASSOCIATION

will be held at

CALIFORNIA BUILDING, EXPOSITION GROUNDS,
SAN FRANCISCO,

in conjunction with the

SAN FRANCISCO LIVESTOCK SHOW,

On THURSDAY, NOVEMBER 6TH, 1919, at 1:30 p. m. sharp.

30 Head Registered Cows
and Heifers

10 Head Registered Bulls

For catalog address

CALIFORNIA SHORTHORN BREEDERS ASSOCIATION

222 Sharon Building, San Francisco, Calif.

Auctioneer, EARL GARTIN, of Greensburg, Indiana.



ANNOUNCING WESTERN BERKSHIRE CONGRESS

SALE OF

30—BRED GILTS AND SOWS—30

At LOS ANGELES LIVESTOCK SHOW

Wednesday, October 22nd, 1:30 p. m.

This sale will be made up of selections from the best herds in the West, including a number of sows from show herds.

A. B. HUMPHREY, Pres.
Escalon, Cal.

FRANK B. ANDERSON, Secty.
Box 724, Sacramento, Cal.

COL. ORD L. LEACHMAN, Auctioneer.

A postcard to the secretary will bring a catalog.

IS A CALF WORTH 23 CENTS?

For 23 cents per animal you can insure your calves against loss from Blackleg by having them vaccinated with PURITY BLACKLEG AGGRESSIN (Germ-Free Vaccine made by the Kansas process). ONE TREATMENT immunizes calves for LIFE, and there is no danger of introducing blackleg into healthy herds. We also have PURITY ANTI-HOG CHOLERA SERUM, PURITY MIXED VACCINE for swine, and PURITY HEMORRHAGE SEPTICEMIA VACCINES for cattle and for sheep. For service that counts and does not end with selling, write, phone, or wire
PURITY SERUM CO., J. L. Thatcher, Manager (Successor to Thatcher Serum Co.)
Riverside, Calif. Sacramento, Calif.

RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

St. Helena, Calif.

One mile east of town.

CALVES

The foundation of your future herd. Feed them well. AN-FO Calf Meal nourishes perfectly. Use with skim milk or water. From your feed dealer or sent, freight paid, in California by ANIMAL FOOD CO., Oakland, Cal.



CALF

MEAL



Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk - prevents scouring - promotes early maturity. Sold by dealers or direct from the makers.
Write for New Data See actual figures showing you how to increase your calf profits.
COULSON CO. - Petaluma, Cal.

Fistula & Poll Evil

Approximately 10,000 cases are successfully treated each year with

Fleming's Fistoform

No experience necessary; easy and simple, just a little attention every fifth day. Price \$2.60 a bottle (war tax paid) - money refunded if it fails. Send for free copy of FLEMING'S VEST-POCKET VETERINARY ADVISER. Valuable for its information upon diseases of horses and cattle. 197 pages, 61 illustrations. Write today.
Fleming Bros., Chemists, Union Stock Yards, Chicago, Ill.

PURE HAWAIIAN CANE MOLASSES

PORK PRODUCTION

By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

MILK PRODUCTION

One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars
for shipment anywhere.

Attend the California International Livestock Show, San Francisco,
November 1 to 8.

W. H. YOUNG COMPANY,

Holbrook Bldg.,

San Francisco

Immunization of Swine Against Cholera

(Written for Pacific Rural Press by Thos. F. McConnell.)

This subject is one often discussed among swine men at present, with some difference of opinion as to whether it is best or not. In traveling through the country the question has been often asked the writer as to the efficacy of the treatment. When the breeder would be questioned as to his objection or reason for not having his animals safeguarded from cholera attacks, he would give little reason, except that someone whose opinion he valued had advised against it, the basis of that opinion extending back to "before the flood," or to the time when serum treatment first began.

The Infection Deadly in Former Days.

The writer remembers the time "back East" when a rumor of cholera, even in a distant locality, gave the swine-breeder, be he purebred or market hog man, a feeling of helplessness and fear akin to that of a person who could not swim wrecked in midocean. If the disease attacked his herd it meant the destruction of practically all of them, and sometimes financial ruin. The only recourse as soon as the disease was discovered was to rush the herd to market and get for them what he could. Sometimes he would reserve a few good ones, hoping they would escape infection—only to wish in the end that he had sent them all to the block. Whole townships would lose 90 per cent of the hogs, particularly those contiguous to the most public highways, on the borders of running streams, or where the infection would be most apt to be carried. It was found that tame doves, dogs, cats and turkey buzzards were carriers of the infection, as well as the people themselves.

Persistence of the Infection.

The writer recalls one instance that happened about 35 years ago in Wisconsin, when cholera first appeared in that section and people were curious about it. One man, a great news-monger, visited a large herd that was badly infected and dying rapidly. After walking about the place and absorbing, both mentally and physically, all the filth he could carry, he started for home in a roundabout way to carry the news, and incidentally the cholera as well. His trail was as distinct and easily traced by the disease he left behind him as any blazed trail ever was, and extended even to his own sty, for in a very short time the only two hogs he had died with the cholera.

We would be in just as serious a situation today here as obtained in that far-off land were it not for the serum treatment, either double or single—even more so, because the methods of communication were not as rapid at that time as now, and when anyone made a journey of fifty miles or more then, they traveled by train and usually made a complete change of apparel before starting on a journey, and also a complete change upon return, in this way reducing somewhat the danger of carrying the infection.

Isolation Not Absolute Protection.

If a person lives in an isolated locality and is raising only market hogs, his herd may escape infection for years, and it may seem like an unwarranted expense to vaccinate. However, any visitor, human, animal or feathered, may bring infection into his swine at any moment. It is impossible to even guess how it may come, or when, and a herd is not really safe for one moment from infection. An automobile coming for miles away may drive in, and a little of the deadly virus be left to be carried by the feet of humans, or dogs, cats, rats, gophers, mice or even insects from the track of the machine to the hog lot. Owners of Purebred Herds Should

Be Especially Careful.

We have considered the danger of infection in the isolated herd and shown how it would be possible—yes, probable—that it would find its insidious way into the herd and destroy the animals. Then how much more probable is it in a purebred herd where visitors are coming and going all the time! Of course, hundreds of visitors may come and go and no disease come with them, but the next one may be carrying the deadly germ. The purebred herd may be safe from almost every direction, but a crate is returned perhaps in which was shipped one of the good ones sold for a long price to some customer in a far-distant locality, which comes back with a bit of infection attached and the mischief is done.

So it goes, no herd no matter how far away, no matter how carefully protected, is really safe unless immunized—and immunized by the double treatment. The single treatment carries the hogs through a short period only, and it would have to be repeated at regular intervals in order to afford continuous protection.

This does not purport to be a scientific treatise on the subject of immunization, but simply the relation of what has happened in the past, is happening now, and probably will happen for some years to come, or until immunity is secured by universal vaccination.

Does the Vaccination Protect?

Yes, it does. The authorities of all the principal fairs and livestock shows require vaccination, either by the single or double treatment, before swine will be admitted to the grounds. They believe in its efficacy, certainly, or they would not require it. A year ago a certain breeder wished to exhibit hogs at the State Fair. He was compelled to immunize and he had the ones treated with the double treatment that he expected to take to Sacramento, and some time after returning from the fair cholera broke out

in the neighborhood, and in due time this man's hogs that had not been immunized became sick and every one he had, except those he had vaccinated, died with the cholera. This man certainly believes in immunization now. A few dollars, not more than \$10 at most, would have saved the rest of his herd if he had had them all treated at the same time.

Some say it brings cholera into the herd when the double treatment is used. That is certainly true, as the hogs are given a subcutaneous injection of hog-cholera virus and at the same time a dose of serum to prevent the attack of cholera so caused from being fatal.

Effect of Serum Treatment on Pregnancy.

Again, it is said that if pregnant sows are treated the pigs will be still-born in the herd. All or part of these things may occur—but probably not. The writer knows of a herd of fifteen sows and gilts that were all pregnant when they received the simultaneous treatment, and not a sow aborted nor was the mortality in the pigs higher at farrowing time than usual. In fact, it was lower than usual. However, it is not considered wise to vaccinate pregnant sows unless there is immediate danger of an outbreak of cholera in the herd, when

by all means give them the treatment; but use care in handling the animals, as rough treatment would be more apt to cause abortion or still-born young than would the constitutional disturbances caused by the administration of even the double treatment.

It is not a very pleasant thing to think and say, "If I had known my hogs were going to have cholera, I would have had them immunized." It is better "to lock the barn before the horse is stolen." It is for the owner of the hogs to decide for himself, however. Protection is reasonably sure and the serum laboratories are improving the serums all the time. It is hinted that a great improvement in the treatment is probable in the near future, but it is not wise to wait for perfection to appear, or we would never get anywhere or do anything as we should, or use improved methods. Single or Double Treatment—Which?

The administration of the treatment or the virus and serum in the double in the single treatment, or the virus and serum in the double treatment, should be done by some person especially qualified, preferably your regular veterinarian. If you have your veterinarian do the work he will advise you where to get the material and also as to the amount

(Continued on page 461.)

TOP SALE OF THE SEASON

OCTOBER 7th, 1919

Bassett, Crawshaw & Ross

Join Forces to Sell

75--Poland-Chinas--75

Bred Sows and Herd Boars.

Every animal double treated.

The greatest assemblage of the best blood produced in Poland-Chinadom.

Don't miss the opportunity to attend this sale and take home some of these fine hogs.

Kings County Fair Grounds

Auctioneer, Ord. L. Leachman

For Catalog or Information, write to
F. D. ROSS, Sec'y. HANFORD, CALIF.

EIGHTH SEMI-ANNUAL SALE

—of—

Kings County Poland-China Breeders Association

Saturday, October 11th, 1919.

KINGS COUNTY FAIR GROUNDS,
Hanford, Calif.

80 Bred Sows, Gilts and Boars

To be sold without reserve from the best herds in Kings County.

Consignors:

G. I. McCUNE	H. D. McCUNE,	C. G. DE RAAD,
G. NEHLS,	R. L. WALTZ,	W. D. TREWHITT,
C. L. NEWPORT,	C. A. VAUGHN,	C. DIMMICK,
H. E. McMAHAN,	W. T. DICE,	J. M. BERNSTEIN,
W. L. HAAG,	W. S. HUBBARD,	E. G. MEYER,
T. J. WOODWORTH,	J. A. CRAWSHAW,	W. BERNSTEIN,
R. G. HAMBLIN,	M. BASSETT,	F. D. ROSS.

Auctioneer, COL. BEN. A. RHOADES.

For catalog or information write to
F. D. Ross, Sec'y. HANFORD, CALIF.

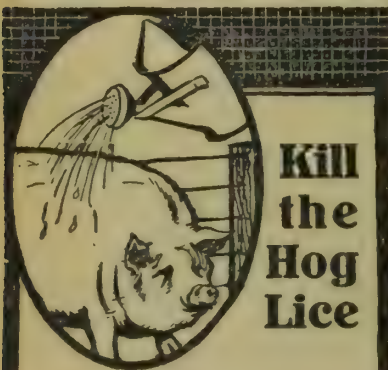
VALLEY VIEW FARMS DUROC-JERSEYS

One of Glenn County's Foremost Herds.

Herd headed by Uneeda Sensational Defender, sired by Sensational Defender. Seven times Grand Champion. He is a line-bred, big-type boar of huge bone and extreme size, imported direct from McKee Brothers' herd in Kentucky. Mr. Boar-buyer, get your boar now. Boars will be at a premium this fall. Boars for the farmer, feeder and breeder at reasonable prices. Breeding stock and open gilts for sale at all times.

W. T. HOLLINGSHEAD & SONS

BOX 505, ORLAND, CAL.



**Kill
the
Hog
Lice**

Keep your hogs' skins healthy and free from lice and you'll get more pounds of high priced pork. Sprinkle Dr. Hess Dip and Disinfectant freely about pens, feed troughs and yards. Use it the year round to kill lice—to destroy disease germs—to purify the air—to ward off contagious diseases. Disinfect the barns and poultry houses. Also use it about the house, in the sick room, in sinks and cesspools to establish better health conditions.

Dr. HESS & CLARK
Ashland Ohio

**DR. HESS DIP
and
DISINFECTANT**

DUROC JERSEY BOARS

Rancho Del Sur offers 15 good fall boars sired by Orion's King Gano and California Orion Cherry King. I guarantee these boars to please you. Those bought on mail order may be returned if not satisfactory.

DONALD H. GRAHAM.
P. O. Box 177. Lancaster, Cal.

TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

SWINELAND FARM
W. O. Pearson, Prop., Woodland, Cal.

Tulare Durocs Go "Over the Top"

(Written for Pacific Rural Press.)

Tulare, September 22.—By the closing on Saturday of the largest single private deal for Duroc-Jersey purebred hogs ever consummated in the State, Tulare county makes a new record for being one of the great hog-producing sections of California. In the deal just closed here 231 purebred and 7 grade swine were sold for a total of over \$15,000 to one buyer, Fred Stegmeyer, of West Haven, near Coalinga. The swine will be used in

swine were pigs less than three weeks old. The stock came from the following well-known breeders: Allen Thompson, Tulare, 97; D. G. Cummins, Visalia, 93; S. A. Williamson, Visalia, 13; W. J. Stewart, Visalia, 13; W. J. Higdon, Visalia, 12; R. C. Sturgeon, Tulare, 3; with the 7 grades coming from C. G. McFarland of Tulare.

Mr. Steigmeyer placed the selection unreservedly in the hands of Mr. Sturgeon, and after correspondence



Nine January Poland-China gilts, consigned by H. C. Shinn, Tulare, to the Tulare Co. Breeders' Consignment Sale.

the development of a great herd on the property of the Boston Land Company at West Haven, formerly Henrietta.

The selection of the swine was placed in the hands of R. C. Sturgeon, of Tulare, secretary of the Tulare County Live Stock Association, and a director in the county Duroc-Jersey Association. In some instances the breeders put what they believed were prohibitive prices on their stock, but Mr. Steigmeyer, having investigated the supply and character of the herds in other sections, found the prices reasonable and took practically the entire herd, leaving the former owners only enough animals for future breeding. Ninety head of the

with breeders in all sections of the State regarding their character and quantity of Durocs that might be available and the Tulare breeders are highly elated at the recognition given their section as the State center for purebred Durocs.

Later Mr. Sturgeon sold Mr. Steigmeyer his great boar, Golden Colonel, by Critic B, for \$500. This boar is now 2 years old, right in his prime in fact, and will be remembered as the 700-pound senior yearling of last year.

It must not be inferred from the above that Tulare county is going out of the Duroc business, but will remain on the map as one of the great breeding centers of this kind of swine.

IMMUNIZATION OF SWINE

(Continued from page 460.)

needed. He also will advise you as to the proper method of handling the animals after treatment, especially the double treatment.

The animals should have free access to pure drinking water at all times, particularly after the double treatment, as they will be somewhat feverish for a time. No feed is necessary for 24 hours after inoculation. A reasonable amount of alfalfa pasture is always permissible. Do not chase or handle swine roughly for ten days after treatment. By the end of two weeks after treatment the animals will be practically normal in condition, although any departure from normal under treatment will be noticed by the close observer only.

Cost Not Excessive.

The cost is not excessive, varying slightly with the kind of serum used and the man administering same. The men and serums costing the least money are not always the cheapest in the end. Taken up one side and down the other, serum treatment to prevent hog cholera is cheap insurance against financial disaster.

Community breeding where farmers keep the same breed is advisable. Shipments to markets are more uniform and better prices are paid for uniform lots.

BASSETT-ROSS-CRAWSHAW SALE.

A combination sale of Poland-Chinas that will be a great one in that the hogs consigned are particularly adapted to California's alfalfa pastures and conditions. All the consignors have been breeding Poland-Chinas in California for years and Mr. Bassett is really the dean of swine breeders in this great State. He has developed a type that he calls the "advanced" type of Poland-Chinas in that the hogs he raises have plenty of bone, stand fine on their feet and have a body deep, wide and long. Mr. Bassett took some barrows to the State Fair this year, farrowed in March, that were a surprise to many experienced breeders in that they were large enough for year-old hogs. If you want hogs of this kind you can surely get them at this sale of Mr. Bassett's, Dr. Crawshaw's, or F. D. Ross' breeding. As there are 75 hogs to sell sale will commence promptly at 10 a. m.

PIG-SCOURS PREVENTED.

To the Editor: When I began raising hogs on my Kern County ranch the neighbors all informed me that it could not be done, for all pigs died of the scours. My foreman, Mr. Brakebill, the best land and livestock man I ever knew, said, "All right. We will raise hogs." And this was the way he did it. The sows were put in the farrowing pens in advance of their time and fed only dry feed and clear

water, and that was their feed until the pigs were big enough to stick their snouts in the trough and eat rolled barley. This seems to prove that

slopping and swilling sows is a mistake, for in seven years' practice we never had a scouring pig.—Jno. P. Irish, Oakland.

52 BIG TYPE 52 POLAND-CHINAS

FIRST PUBLIC SALE OF THE

Tulare County Poland-China Association

At Tulare Sales Pavilion

TULARE, CALIF. OCT. 21, 12:30 P. M.

CONSIGNORS:

R. F. Guerin
W. E. Martin
G. B. Martin

Mrs. Z. Losleben
Thos. Jacobs & Bro.
F. E. Fay
Hugh C. Shinn

A. J. Elliott
J. K. Macomber
Chas. L. Weaver

Animals in the sale are sired by the following noted boars: King's Big Bone Leader, King's Timm, President, King of Golden Gate, King's Gerstale Jones and others.

Sows and gilts are bred to "The Californian," Big Bone Leader of Sunny Side, King of Golden Gate, Wondergerst, Calif. Big Bone Leader, President's Bob and others of equal note.

This offering has been carefully chosen by our selection committee from some of the best herds in California and only the best individuals are placed in this sale. They are the big easy-feeding utility kind that cannot be surpassed as producers of pork or breeding hogs.

Lunch served on the grounds at 12 M.

Write for catalog to HUGH C. SHINN, Secretary, Tulare, Calif.

COL. GEO. W. BELL, Auctioneer

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

WINSOR RANCH DUROCS

HOME OF WINSOR'S GIANT ORION

The largest Duroc Boar on the Pacific Coast.

82 inches from between eyes to root of tail, 40 inches high, weight 965 lbs. weight 965 lbs.

Great Sensation III

12 months old, 65 inches long, 36 inches high—a giant.

By Great Sensation and Uneeda Lady, the highest-priced sow ever sold at public auction—a 900-pound sow.

40 BIG-TYPE FALL GILTS BY THE WORLD'S GREATEST SIRES will be offered for private sale, bred to these two wonderful sires.

"Look up our State Fair Winnings this year."

Address R. K. WALKER,

Bonita, San Diego Co.

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER **GARDINER'S KING'S COL.** Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH

ROUTE 4, BOX 735,

SACRAMENTO, CAL.

Livestock and Dairy Notes

FALL FAIRS AND SHOWS.

October 9-12—Napa County Fair, Napa.
 October 4-19—California Industries and Land Show, San Francisco.
 October 6-8—San Joaquin County Fair and Livestock Show, Stockton.
 October 6-11—Land Show, Martinez.
 October 6-11—Tulare Livestock Show, Tulare.
 October 7-11—Southern California Fair, Riverside.
 October 13-18—Northern California Apple Show, Second Annual, Eureka.
 October 15—Kings County Pork Producers' Contest, Hanford.
 October 13-18—Tulare County Fair, Visalia.
 October 18-26—Los Angeles Livestock Show.
 October 25—Shasta County Farm Bureau Fair, Anderson.
 November 1-8—California International Livestock Show, San Francisco.
 November 3-7—Western Royal Livestock Show, Spokane.
 November 9-14—Northwest Livestock Association, Lewiston.
 November 17-22—Pacific International Livestock Exposition, Portland.

LIVESTOCK SALES DATES.

October 4—H. I. Marsh and Les McCracken, Modesto. Poland-China bred sows and gilts.
 October 7—M. & A. L. Bassett, J. A. Crawshaw and F. D. Ross, Hanford. 75 head of Poland-Chinas.
 October 11—Kings County Poland-China Breeders' Association, Hanford. Consignment sale.
 October 16—H. M. Elberg, Roselawn Stock Farms, Woodland. 45 head of Shorthorns.
 October 23—Western Berkshire Congress Sale, Los Angeles.
 October 24—Holstein Consignment Sale, Los Angeles.
 October 18—Trewwhitt and Vaughan, Hanford. Poland-China bred sows and gilts.
 October 21—Tulare County Poland-China Breeders' Association, Tulare. First consignment sale.
 November 6—California Shorthorn Breeders' Association, San Francisco. Consignment sale.
 November 7—Pacific Coast Hereford Breeders' Association, San Francisco. Third sale of Herefords.
 January 14th—By the State Duroc-Jersey Breeders' Association, Davis. A consignment sale.
 January 15—Harvey M. Berglund, Dixon. Duroc-Jersey hogs.
 January 31—Ireland Ranch, Owensmouth. 50 bred Duroc sows and gilts.
 February 7—Sandercock Land Co. Berkshires at Sacramento.
 February 12—San Joaquin County Poland-China Breeders' Association. 60 bred sows and gilts at Lodi.
 February 14—Castlevue Ranch, Santa Rosa. Sale of 50 Bred Berkshire sows and gilts.
 April 17—Butte City Ranch. Semi-annual sale of Shorthorns, Berkshires, Shropshires and Shetlands at Butte City.

Dairy.

Prof. Major of the Animal Industry Division of the University Farm will attend the National Dairy Show to be held at Chicago, October 6-12.

The Empire Cream Separator Company has opened a branch office in San Francisco with J. M. Cavanagh, formerly of the Portland office, in charge.

A grade Guernsey cow in Iowa has just completed a record of 725.3 pounds of butterfat and 14,858 pounds of milk in one year and carried a calf during 8 months of the period. This is the second highest record in the United States of a grade Guernsey.

L. Dee Smith, the Guernsey breeder of Berkeley, has added one more record to the herd honor roll from the junior four-year-old cow, Mysie's Lady of Claremont, finishing with 666.93 pounds fat and close to 15,000 pounds milk, a world record for class D. D.

In the detail of awards in the Shorthorn classes at the State Fair this year, the two-year-old bull, Pacheco Marshal, owned by the Pacheco Cattle Co., is given credit for the senior championship when it should have been given to Hallwood Flash, aged bull owned by the Dibblee Estate at Lompoc.

Beef.

It was inadvertently omitted last week, in our mention of the grand champion Shorthorn female, that she was sired by Golden Goods Jr., that great senior herd sire of the Ormondale Ranch. It might be stated also that a full sister of Little Sweetheart is still owned by Ormondale Ranch, and is full as promising a heifer as the grand champion was a year ago. Golden Goods Jr. also sired Ormondale Maid 2nd, exhibited by Wm. Bond, that was second in the junior yearling heifer class.

Shorthorn exhibitors at the Southern California Fair at Riverside will find

F. S. & L. S. Hall will have a good one in the senior calf class. He is a blocky white roan, with a real masculine head, straight top line and a dandy rear end.

F. A. Langdon of Perris has just received the nucleus of a herd of red Milking Shorthorns, from what he considered the best herd in the United States, owned in Arizona. Mr. Langdon's herd consists of 4 cows and calf and herd sire, Glenside Sequel.

Ed T. Morgan of Northam, Nevada, has recently gone into the purebred Hereford cattle business and become a member of the Pacific Coast Hereford Cattle Breeders' Association. Mr. Morgan for many years was with the Alamo Herd of Herefords, owned by the late Governor Sparks of Nevada.

No action has been taken by the San Bernardino county stockmen to put themselves under the provisions of the King Estray law. It was designed to benefit cattlemen in this county, but it provided that before it should become effective in any locality in the State the people of that locality would have to accept it by a majority vote.

In the State Fair report an error was made in announcing the awards in the Hereford senior heifer class. Mr. J. A. Bunting's Mission Lass was first instead of second, and Mr. Bunting won eight firsts and one second in nine classes shown. It is not often that a breeder only three years in the business has the good fortune to breed a grand champion, and Mr. Bunting has a right to feel elated over the fact that he bred and raised Mission Chief, an eight-months-old calf, and that he won over a good aged bull.

Sheep.

A recent bulletin to hand from the Nevada Agricultural Experiment Station entitled, "Don't Feed Fox-Tail Hay to Lambing Ewes," is certainly a very clear statement of reasons for not feeding this miserable excuse for hay. It would seem as though they might have gone several steps further and simply entitled their bulletin "Burn All Fox-Tail Hay."

Chas. Kimble of Hanford, one of the original breeders of Rambouillet sheep in California, recently made two large shipments to Del Rio, Texas. Fifteen hundred and forty-two ewes and 750 rams comprised the first consignment, and 1,058 ewes in the second, making 3,350 head all together. The ewes went to Whitehead & Son and Geo. Miers of Del Rio, with the bucks going to several different breeders in the same locality.

The Glenn County Shropshire Sheep Breeders' Association was organized September 22 at the Glenn County Fair. There are more individual flocks of Shropshires in Glenn county than in any other county of the State, and the interest in registered sheep is rapidly increasing. The new association starts out with a membership of 20 or more, with the following officers: W. S. Guilford, president; W. W. Foster, first vice-president; Morris Merrill, second vice-president; Frank Glenn, third vice-president; R. B. Moore, fourth vice-president; O. L. Raper, secretary; A. J. Morey, treasurer, with an executive committee composed of practically the rest of the members. A publicity campaign and auction sales are among the plans of the new association.

Swine.

Jack London Ranch has added a very fine Pathfinder boar to their Duroc-Jersey herd.

Ireland's Orion Defender will be the leader of the Ireland Ranch exhibit at the Riverside Fair.

Geo. T. Lytle of Perris, who started a Hampshire swine herd with stock from the Llano Vista Ranch, now has over 100 head and will show a strong lot at the Riverside Fair.

C. G. De Raad and Dimmick Bros. of Lemoore recently sold their herds of Poland-Chinas that they had advertised for public sale to the Boston

Land Co. of West Haven. The price is not made public, but Mr. De Raad received \$500 for a young Eastern sow that farrowed 10 pigs, her first litter.

H. C. Shinn of Tulare reports the sale of a boar pig sired by Giant Bob, to C. A. Philbrick, Heber; one boar pig, sired by The Californian and out of Bridge's Bobby, to F. E. Fay, owner of the Oxbone herd at Tipton.

Marsh & McCracken will offer in their sale at Modesto, October 4th, four gilts that they bought from McCarty & Starkweather, sired by Kansas King, from a sow bred exactly as Miss Nebraska 2nd; the dam of the senior pig litter at the State Fair, which kept the latter herd strongly in the money.

Anchorage Farm with Berkshire swine at the Glenn County Fair attracted considerable attention with their miniature hog exhibit. They featured an excellent display of Star Leader offspring and the new \$1,000 herd sire, Natomas Baron Duke, together with other animals that warranted observation, being attractively arranged in pens shaded by palm leaves, making a creditable feature to the livestock show. School spirit and public enthusiasm were plainly shown in the high-school exhibits between several county schools. A beautiful trophy offered by the Anchorage Farm aided in bringing out unlimited interest.

B. H. Wilkinson of Perris expects to fill the Duroc sow classes and show his new \$2,000 herd boar, Great Orion Sensation Jr. This is a smooth, strongly built animal, claimed by his Eastern breeder to be a better individual than his litter mate, which won the championship at the recent Missouri State Fair.

W. F. Dolcini of Davis, during the State Fair, purchased from Slocum & Son of Willows, Unecda Model Queen,

FOR SALE 100 HEAD FINE HEREFORD HEIFERS

Bred up for 20 years and now with calf by the best Registered Bulls I could find. For the man who wants to start in the cattle business right.

You can't beat them on the Pacific Coast.

CHAS. A. TROWBRIDGE

BISHOP,

CALIF.

THE OTIS HERD

WILLOUGHBY, OHIO.

Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledge the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison.

Santa Rosa Stock Farm, Santa Rosa, Cal. California Representative.

Trewwhitt, Vaughn and Nehls

Combination

Big-Type Poland-China Sale

The Cream of California Production.
Tops from three great herds.

Sells October 18, 1919, at Hanford, Calif.

W. D. TREWHITT'S consignment will consist of 40 head, 20 of them fall sows, nearly all sired by MY CHOICE, a son of Big Ben, out of Pfander's Grants bred by King of Wonders. The modern type and just the kind you are looking for; also a few by JUMBO EQUAL 20, prize bred boar at the Panama Pacific Exposition, defeated only by the undefeated grand champion Superba. These are real toppers.

Litters of 5 fall gilts by MY CHOICE, out of Armona Wonder, a granddaughter of King of Wonders and Big Orange. A litter like this will put California in the foreground as Big Type headquarters. The balance of the offering will be big and growthy and equal to the best.

C. A. VAUGHN consignment will consist of A-1 bunch of Eastern bred gilts, bred to the Great Boar MODEL JUMBO, bred by H. B. Walters and sired by his great boar, WALTERS JUMBO TIMON, out of a Big Bob Wonder sow.

As special attractions Mr. Vaughn will consign 3 August yearlings out of a Moor's Halvor dam and sired by Orphan Bob. These and the 4 gilts from the Frazier herd sired by Giant Jones will take the eye of visiting breeders.

GEO. NEHLS will have a select lot of open gilts sired by such boars as Long Nelson 2d, Hanford Boy and Kings Model Longfellow, out of large, big-boned sows. Just the kind to start your herd or improve the ones you have. These gilts can be bred to Nehls Bob Wonder by Big Bob Wonder free of charge.

Our catalogue will be of interest to all breeders of Big Type, but we especially urge breeders and farmers on the Pacific Coast to send for a copy. Express charges from the East are high and you can make a substantial saving by buying at home. Mention Pacific Rural Press.

Write for catalog to

W. D. TREWHITT, C. A. VAUGHN, or GEO. NEHLS
Hanford, California

JOHNSON'S DEFENDER JR.

Owned by GREENWOOD FARM, Live Oak, Cal.

Is California's greatest representative of Defenders, the greatest Duroc family. At the State Fair he was the smoothest boar shown, weighing 700 pounds at 17 months and carrying it on a perfect set of feet and legs. He won second in the strongest class of boars ever shown on the Coast and was a popular favorite. Three of his brothers won ribbons in the same class, showing the strength of this line of breeding.

Five Ribbons Won on Five Entries.

H. C. WITHEROW, Mgr.

LIVE OAK, Sutter Co., Cal.

the grand champion sow in 1918. She has since farrowed 11 fine pigs sired by Experimental Defender, and is proving a very careful mother. Mr. Dolcini, during the past week, has had two Golden Model sows farrow 11 and 15 pigs respectively, making 37 pigs farrowed by three sows, or over 12 pigs to the litter.

A fat hog auction, held at Le Grand (Merced county) by the Farm Bureau, September 11, yielded \$2,700 for 78 hogs, an average of \$15.20 per hundred weight. Another auction is planned for October 21. At Tegner, at its last regular sale, 315 hogs sold for \$9,564, or \$15 a hundred weight. The next sale here is October 7.

J. H. Ware of Eldersly Farm, Live Oak, just marketed a carload of 230-pound hogs last week, topping the market by half a cent on the day sold, receiving 16½ cents per hundred pounds for them. Mr. Ware is quite positive that at the present price of barley market hogs are not making much money for the grower and that the registered game is the best.

Cummins & Son of Visalia sold to the Boston Land Co. of West Haven \$5,000 worth of Duroc-Jerseys, and it didn't take so very many either to bring that amount. Three boars, one year and under, for \$1,000; 3 bred sows for \$300 each; 26 gilts for \$2,400 and 6 boars for enough to bring it up to the \$5,000. Rest assured, though, that the Boston Land Co. received their money's worth.

In the issue of September 20th an error and omission was made in discussing the Berkshire awards. A. B. Humphrey was credited with having the champion barrow when the credit should have been given to Castlevue Ranch, as they won it "hands down." Castlevue Ranch also won the junior championship on sows with Castlevue Premier Belle. Our apologies are due Mr. O'Connor for this mistake.

H. D. McCune breeds such good ones in the Poland-China line that he always has some sales, to report—just lately 3 bred gilts to Lewis C. Story of Anderson. These gilts were bred to McCune's Buster and Mr. McCune received a letter from Mr. Story that he was very much pleased with the gilts. Also, 3 gilts to Tettlers Bros., Stratford. These young men had to sell out and go to war, but are getting into the Poland-China game again. Then, one boar pig to Bailey & Son, Lemoore.

Sandercock Land Company have recently sold to the Italian Vineyard of Guasti, 4 top Berkshire sows of excellent type and finest breeding. Their names follow: Wilsonia Princess Laurel, a litter mate to Real Type; Duke's Natamas Princess, reserve grand champion at the State Fair, 1919; Duke's Princess 11th and Duke's Natamas Rio Rookwood. Consideration, \$2,000. The first three sows, together with Natamas Baron Duke, 1919 grand champion, won first prize, aged herd, at the State Fair, 1919, and the last three with the same boar won first prize, get of sire.

LIVESTOCK DIRECTORY.

Rate 3½ cents per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

Anchor Farm, Orland, Calif.

BOAR

Sired by Baron Duke 201st Weight 780 pounds
Grand National Champion
Dammed by Rookwood Lady 100th Weight 712 pounds
Grand National Champion
One and one-half years old. Big-boned, vigorous boar. Half-brother to 1919 Grand Champion that sold for \$1,000. I do not need this great breeder and he is being offered at a very low price. Sandercock Land Co., 23 Montgomery St., San Francisco. In charge of Natamas Land Sales.

GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. R. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH—Top Berkshire gilts. Bred right, prices right. Satisfaction guaranteed. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kountias Registered Stock Farm, Modesto, Calif.

RIVER GARDEN FARM BERKSHIRES—They are sure to please. E. H. Whiting, Ukiah, Calif.

REAL GOOD BERKSHIRES—Cholera immune. Frank B. Anderson, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

ELDERSLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our ½-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for fall pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route 6, Fresno, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D., Box 180.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, E. F. D. 1, Escondido, Cal.

MOUW'S LONG SMOOTH JUMBO, 259201, is offered for sale at a bargain. In fine breeding condition, at about 550 lbs. M. L. Edwards, Cottonwood, Shasta Co., Calif.

MARCH BOARS for sale—Sired by Kings Big Bone leader, grand champion at State Fair, 1918. Will stand inspection. Prices right. J. S. Rogers, Chowchilla, Calif.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Rt. 1, Box 39, Watsonville, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

POLAND-CHINAS—If you want perfect type in a March boar or gilt I have it at the right price. J. E. Thomas, Gilroy, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

POLAND-CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND-CHINAS—Just the type you need. Mrs. C. H. Andrews, Modesto, Calif.

Chester Whites.

CHESTER WHITES—BILIKEN TYPE—The big winners at the State Fair. 15 extra choice spring boars, sired by the Grand Champion boar and out of Biliken sired sows. A few spring sow pigs; three bred Biliken sows and two gilts; all to farrow in October. Priced to sell; a chance to get the best type in the West at farmers' prices. Write for special catalogue and price list. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

HORINE'S DUROCS—Open and bred gilts all sold. A few fine young sows bred for second litters and several services boars are ready to ship. What do you need? Correspondence invited. Geo. L. Horine, Winton, Cal.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over, McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

REGISTERED DUROCS—Choice weanlings of either sex, breeding and satisfaction guaranteed. H. E. Boudier, Napa.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

WE HAVE 100 YOUNG GILTS and boars, bred on the purple, which we are selling for about half their value. Money back if not satisfied. Derryfield Farm, Capital National Bank Bldg., Sacramento.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Kay McMillan, Ethnae, Calif.

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SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

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A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Hampshires.

REGISTERED HAMPSHIRE—Belted Beauties. Weaned pigs a specialty. Uneeda Hampshire Swine Farms, Gardena, Cal.

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LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

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ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco, California.

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EDGEWOOD FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgewood Farm, Santee, San Diego county, Calif.

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SERVICE JERSEY BULL, bull calves. Financial King blood. Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

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DUAL-PURPOSE SHORTHORNS—registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

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A PRICE ON EVERY ANIMAL. Herd free from tuberculosis. All sales subject to sixty days' retest. Son of Findern Noldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production. Toyon Farms Association, 679 Mills Building, San Francisco.

FOR SALE—35 head of fine dairy heifers, Holsteins, Jerseys, from 15 months to 2 years old, 20 to come fresh this fall. J. S. Smith, Box 515, San Jose, Cal.

REGISTERED HOLSTEIN BULLS with world's record backing. Kountias' Registered Stock Farm, Modesto, California.

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THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spires, Hilcrest Farms, Caruthers, California.

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REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

REGISTERED HOLSTEIN BULL, a fine type, Segis Dos Palos Fobes, No. 187403, offered for sale at very moderate price. M. L. Edwards, Cottonwood, Shasta Co., Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

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CREAMCUP HERD—Registered Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, Box 437, San Jose, California.

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GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara or Lompoc, Calif., John Troup, Supt.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, California.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Lodi, Modoc county, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

REGISTERED YEARLING SHORTHORN ULLS—Heavy boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

THE NEVADA HEREFORD RANCH, Jno. H. Cramer & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

J. A. SWALL, Bishop, Inyo Co., Cal.—Registered Angora Bucks, 100 grade Angora ewes.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet, Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—Shorthorns, Shropshires, Berkshires and Shetland ponies. Write for prices and descriptions before buying. Butte City Ranch, Box P, Butte City, Glenn county, Cal. W. P. Dwyer and W. S. Guilford, owners. Special Notice: Second Farm Sale. Shorthorns; Shropshires; Berkshires; Ponies. Next sale April 17, 1920. All breeds.



BOOK ON DOG DISEASES

And How to Feed

Mailed free to any address by the Author

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EXPERT LIVESTOCK AUCTIONEERS

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

BEN A. RHOADES, Auctioneer

1501-3-5 So. Main St., Los Angeles, Cal.

Kings County Fair a Great Success

(Written for Pacific Rural Press.)

An old county fair organization, but it must not be inferred from that that it has fallen into a rut and is getting behind the times. Instead, they are surely a bunch of progressive business and livestock men in the county as ever came "down the pike." They saw the need for more ground and better buildings and went right after them all. The result was a great show and a great place to hold it.

In the livestock department swine and dairy cattle were the leaders with a good lot of horses and mules. Poultry also was shown in large numbers.

Holsteins were shown by several different breeders, with W. J. Higdon of Tulare leading in the number of entries and winning all firsts and grand championships. F. D. Ross of Hanford won a number of seconds with cattle in not as fine show shape as Mr. Higdon's. Mr. Comfort and G. W. Clark also had herds on exhibition.

Jerseys were represented by one herd only, but that herd was a show in itself. Owned and most of them bred by J. E. Thorpe of Lockeford, they are surely a beautiful lot, and more than that they have the quality

of turning the feed they consume into milk and butterfat very economically. It is too bad that he did not have some competition, but it would have to be strong if Mr. Thorpe did not win a majority of the ribbons.

The Poland-Chinas were a show in themselves and equal in numbers and quality to the show at the State Fair this year. The showing was all by local herds with the exception of that of A. Buckland & Son of Fresno county. The breeders showing were M. Bassett & Son, John M. Bernstein, Wm. Bernstein, Wm. L. Haag & Son, C. A. Vaughan, Mrs. C. A. Vaughan, W. D. Trewitt, F. D. Ross, W. T. Dice, H. D. McCune; A. Buckland & Son, with M. Bassett & Son winning more firsts than any other exhibitor and grand champion boar and sow.

Duroc-Jerseys were represented by only one herd and this certainly was a representative herd owned by J. E. Thorpe of Lockeford.

No beef cattle were on exhibition, but none are owned in this locality, which is devoted in the livestock line to swine raising, dairying, horses and mules.

California International Livestock Show

(Written for Pacific Rural Press.)

As a special attraction in the big dairy division of the California International Livestock Show at San Francisco, November 1st to 8th, will be the exhibit of the U. S. Department of Agriculture, which will be shipped to the California Building at the Panama-Pacific Exposition grounds upon the close of the National Dairy Show at Chicago.

This exhibit will be sent to the California International upon the direction of F. Lamson Scribner, expert on exhibits of the Department of Agriculture at Washington, which we understand will be the first time that the federal government has shipped such an important exhibit to a Western show.

The dairy department of this show will be, perhaps, the most complete showing of its kind ever assembled on the Coast. Early entries indicate a strong exhibit in the various breeds,

and the interest in the showing of milk and its products has been gratifying.

More than usual attention is being given the assembling of the dairy products show, which will be of particular interest to city people, who will make up the large proportion of attendance. Dr. C. L. Roadhouse and Sam H. Greene of the Dairy Council held a conference with a number of milk distributors and health officers about San Francisco bay cities last week, at which the milk and cream features of the show were discussed. Dr. William C. Hassler, of the San Francisco Board of Health, will place his laboratory at the disposal of the show management for the examination of milk and cream, and with the existing rivalry between various milk distributors, they will go after the prize awards with as much, if not more, vigor than the exhibitors of cattle.

Epidemic of Anthrax in Butte

(Written for Pacific Rural Press.)

An epidemic of anthrax is prevalent in certain sections of Butte county. Dr. J. P. Iverson, Chief of the Division of Animal Industry of the State Department of Agriculture, has taken charge of the work of exterminating the disease and has a number of deputy State Veterinarians engaged to assist him.

It was discovered that some butchers and others were taking off the hides of cattle that had died from the disease and selling the same to hide buyers, contrary to the law which provides that the carcass of such animals, hides inclusive, must be destroyed at once. This law was passed for the purpose of protecting all persons engaged in the transportation, drying, salting and tanning of hides, from this highly infectious dis-

ease. The Office of Cattle Protection was notified that certain shipments of hides had been made to San Francisco which contained hides from some of the animals that had died from anthrax, and the assistance of that office was requested to trace up these hides in order that the same might be destroyed, thereby preventing innocent people, engaged in handling the same, from becoming infected and to assist the State in causing the arrest of the guilty person that caused the hides to be shipped.

Mr. J. B. Newsom, the secretary of the Office of Cattle Protection, was successful in locating the hides, and having the same placed in quarantine, to be used against one S. Peterson of Chico, a meat peddler, who has been arrested, and other arrests will follow.

IMPORTANT NOTICE

The closing entry dates of the Ninth Annual Pacific International, Portland, Ore., are:

BREEDING CLASSES, OCTOBER 15, 1919
FAT CLASSES, NOVEMBER 1, 1919

POSITIVELY no entries will receive consideration unless in our office at 431 Northwestern Bank Building, Portland, on or before noon of the above closing dates.

EDUCATING BREEDERS

in the best methods of breeding and caring for livestock will be one of the chief features of the

LOS ANGELES LIVESTOCK SHOW

Exposition Park
OCTOBER 18-26

Exhibits of the Southwest's finest livestock, dairy cattle, swine, draft horses, goats, poultry, saddle horses, dogs, rabbits and sheep.

Horse racing daily—\$55,000 in premiums

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BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. R. Clay.
Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.
A few yearling heifers of same breeding.
Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY,

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ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.
Herd headed by Golden Goods Junior, sire of Little Sweetheart, Grand Champion of Ormondale Maid, 2nd prize junior yearling at State Fair.
Every animal positively guaranteed. Prices on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

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REDWOOD CITY, CAL.
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	Plain Tread Seconds Guaranteed	First Non-Skid Standard Guaranteed	Tubes Guaranteed Gray
28x3		\$10.75	\$2.05
30x3	\$9.20	10.95	2.05
30x3 1/2	11.50	13.50	2.50
32x3 1/2	12.85	15.85	2.70
31x4	16.30	20.65	3.15
32x4	16.60	21.15	3.25
33x4	17.30	22.00	3.35
34x4	17.80	22.50	3.45
36x4		26.60	
34x4 1/2	24.00	30.35	4.20
35x4 1/2	25.00	31.65	4.30
36x4 1/2	25.45	32.20	4.45
37x4 1/2		35.75	5.10
35x5	28.70	36.15	5.25
37x5	30.25	38.30	5.40

NON-SKID FIRSTS

6000 Miles Guaranteed

30x3 1/2	\$17.85
32x3 1/2	19.95
32x4	27.95
33x4	29.00
34x4	29.85
35x4 1/2	39.65
37x5	49.75

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Concern in the United States and the

Largest in the World.

Open Sundays and Evenings

GLENN COUNTY FAIR A TOP-NOTCHER.

The Glen County or Orland Fair this year, according to all reports, was a topnotcher, both from the standpoint of exhibits and attendance. The push and get-together spirit of that locality can do almost anything in the way of carrying out any community project, and it was applied to the fair with a pronounced success as the result. Every account that comes in places emphasis on the livestock exhibit, which included a showing in all classes Beef cattle, dairy cattle, swine, sheep and goats all were represented, many by high-class herds as well.

Jerseys.

Orland being quite a Jersey center it was to be expected they would have a great exhibit. Dr. Hand's Keep On Herd, M. Fortini, Hugh Dodd, G. W. Gurnett, Arthur Erickson, C. A. Whitsett, J. N. Cook, N. S. Nelson, John A. Button, all had exhibits and all won their share. The feature, perhaps of the Jersey show was the winning by M. Fortini, with two females, mother and daughter, all available prizes; senior champion cow, junior champion female, grand champion cow and reserve grand champion with first places in class. It is well to remember, too, that the grand championship was won over Dr. Hand's Brilliant Jersey Queen, grand champion at the State Fair this year. This takes nothing from Dr. Hand's cow, but shows what a wonderful individual Noble's Peer's Jewel really is to be able to win in such company. Surely a great exhibit of this beautiful breed.

Holstein-Friesians.

In the Holstein-Friesian class there was not so large an exhibit, but the quality was fine in that the J. S. Gibson Co. had a very fine herd and captured all the prizes, except on bulls two years old and under three, when G. O. Williams won.

Shorthorns, Etc.

This is the first year that the Shorthorns had an exhibit at the fair, but were well represented by the herds of O. L. Raper, Butte City Ranch, and Theodore T. Purkett, with premiums about equally divided.

Dual purpose cattle were represented by a herd of Red Polls owned by Geo. Clark.

Swine Exhibits.

Berkshire swine were exceedingly well represented in the exhibit from Anchorage Farms, to which all prizes were awarded. Their exhibit deserves special mention, which will be found on another page. The great red hog, the Duroc-Jersey, was represented by the three herds of W. T. Hollingshead & Sons, F. D. Burr Co. and C. D. Bright. All won their share of the prizes with the grand championship on boars and grand championship on sows going to W. T. Hollingshead & Sons. Poland-Chinas were there in large numbers, R. J. Yates exhibiting, but not for prizes. Ferguson & McKaig, W. G. Gurnett, R. W. Rankin, Frank Reiman, D. H. Ward and Penfield & Penfield, all making exhibits and taking prizes. The grand championship boar shown by W. G. Gurnett and Ferguson & McKaig having grand champion female on the senior sow pig, Big Orphan Pet. Hampshires and Chester Whites in small numbers were shown by Wm. Haskins and W. J. Beck.

Sheep and Goats.

Bullard Bros. of Woodland had a very fine exhibit of Rambouillets and captured the prizes in most of the classes. Alfred Kuhn of Henley also showed Rambouillets.

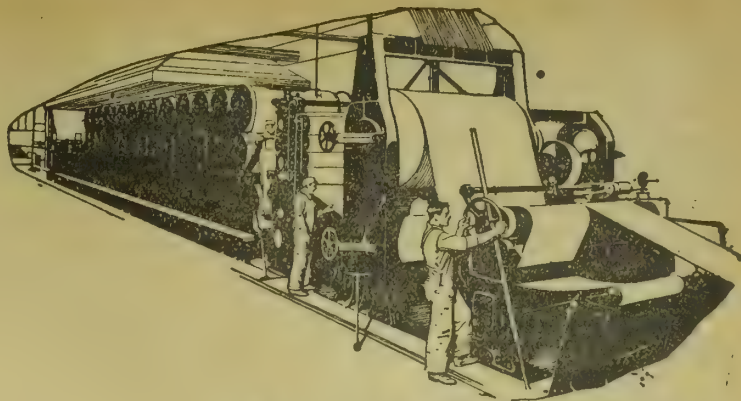
Shropshires were shown by Butte City Ranch and walked off with the prizes.

Karakul or Persian sheep, grown in their native country for their hides, were on exhibition by W. R. Graves.

Angora goats were shown by the two firms of J. J. Hall & Sons and A. R. Gearhart.

Milk goats were there, owned by J. A. Trobee, Mrs. L. S. Rankin and Edith Grout. Both the Toggenburg and Saanen breeds were shown.

Altogether, the exhibit was large and diversified and equal to much larger and better known places.



RU-BER-OID and MALTHOID READY ROOFINGS

This picture shows the "dry end" of a huge felt-making machine in one of our mills.

Felt is the "base" or body of ready roofing. Quality in roofing depends so much on the quality of this felt foundation that we manufacture in our own mills all of the felt used in making Ru-ber-oid and Malthoid Roofings.

In this way only can we be assured of securing the extra-tough, long-fibre wool-and-cotton felt necessary for building long-lasting qualities into Ru-ber-oid and Malthoid.

Ru-ber-oid and Malthoid Roofings are made by saturating this extra-quality felt with a highly waterproof asphaltic compound, after which the saturated felt is coated with a long-lived, weather-resisting compound. Both the saturating and coating compounds are refined in our own plant for this special purpose.

From rags to wrapper, Ru-ber-oid and Malthoid Roofings are made within our own organization—made to give lasting service. We have been making ready roofings for 35 years. During this time Ru-ber-oid and Malthoid have proved their quality under all sorts of trying conditions. They are sun, rain and fire resistant. The price is higher, but the cost is less, because they last longer and need fewer repairs. When you buy roofing, buy real protection.

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Poultry and Rabbits for Profit

POULTRY, PIGEONS, AND RABBITS AT CALIFORNIA LAND SHOW.

To Poultry, Pigeon and Rabbit Breeders: The California Industries and Land Show, to be held in the Exposition Auditorium, San Francisco, on October 4 to 19, inclusive, is intended to be a comprehensive exhibit of the resources of the entire State. It would not be complete without an exhibit of poultry, pigeons and rabbits. It is therefore planned to include a small but select exhibit of poultry, pigeons and rabbits at the California Industries and Land Show, upon the following conditions:

1. No entry fee will be charged.
2. Exhibits will not be judged nor receive any prizes.
3. Entries will be limited as follows: Poultry: One cock, hen, cockerel, pullet and breeding pen of each variety to each breeder. Pigeons: One old cock, old hen, young cock, young hen and display pen of each variety. Rabbits: One senior buck, senior doe, junior buck, junior doe and doe with litter of each variety.
4. As the Land Show extends from October 4 to 19 it is planned to divide the show in two divisions: First to run from October 4 to 11 and the second run from October 12 to 19.
5. Exhibits will be limited to prize-winners. No exhibits will be received excepting those that have received awards at other shows. It is desired to exhibit only specimens that are worthy of special newspaper articles. Exhibitors are requested to furnish our press department with written articles regarding their exhibits.
6. Exhibits for first division (Oct. 4 to Oct. 11) must reach the Show on October 3rd and exhibits for the second division (October 12 to October 19) must reach the Show on October 11.
7. Exhibits will be cooped, fed, watered and cared for by the Land Show with competent superintendents, who, however, assume no responsibility therefor.

AMOUNT OF GRAIN AT FEEDING

To the Editor: Can you tell me how many pounds of wheat I should feed to about 200 hens at each feeding? They have alfalfa to range on, I feed mill stuff for dry mash, and wheat but get no eggs.—W. G. C., Tranquility.

It may help in a small measure if one pound of wheat is fed for each two pounds of mill stuff the hens eat. Do not feed the wheat until evening when the amount of mill stuff, consumed during the day can be determined. However, hens can not lay many eggs at this time of year unless they are provided with certain materials in addition to wheat, mill stuff and alfalfa range. In this case bone, meat scrap or fish meal are most needed. In the spring, hens that are naturally good egg-producers can lay a satisfactory number of eggs with only the feeds and range mentioned, but at other seasons a very carefully prepared balanced ration must be furnished or the hens can not continue to lay more than an occasional egg.

POULTRY STOCKS CUT BY LOSS OF 4,000,000 CHICKS.

What is a good average price for spring chicken? Whatever you think it is, multiply it by 4,000,000, says D. H. Reid, poultryman at the Wisconsin Experiment station, and you will approximate the amount the state loses each year from failure to raise the chicks that are hatched.

In a report received from owners of flocks in all parts of the state it was found that 14 per cent of the 22,000,000 chicks hatched died. At least half of these died from exposure and neglect, according to the figures given, and the next biggest loss was from "leg weakness," which is largely avoided by careful feeding and plenty

of exercise. This ailment, which causes the loss of 700,000 chicks in Wisconsin, is being studied by scientists to determine the cause and remedy.

That rats, cats, skunks, crows and hawks kill 500,000 chicks in this state seems scarcely possible, says Mr. Reid, but this is a third largely avoidable loss. In the southwestern section, along the river, losses from rats are greatest, and in the sandy soils counties of central Wisconsin the hawks are the great enemies of young chicks. Lice and mites take toll of about 200,000 chicks each year, and 100,000 die as the result of accident.

BLACK EYES AS HEN RATION.

To the Editor: Kindly tell me the maximum proportion of cracked black-eyes that can be fed to chickens when mixing Gyp. corn, wheat, and black-eyes for grain feed. I also feed Surelay (as a dry mash), sour milk and greens, but the hens do not eat so much as they should and are not laying so well. Also give directions for supplying hens with sulphate of iron as a tonic.—C. W., Modesto.

It depends on what is fed for greens and whether the hens get all of the greens they wish to eat as to the proportion of black-eyes it is advisable to feed in an effort to supply a balanced ration for egg production, particularly at this season of the year in the warm valleys. If alfalfa is the green feed, or is a very large part of the green stuff, less black-eyes should be used because both are very rich in protein. If the green stuff is abundant and does not consist mostly of alfalfa a mixture of about one-third each of wheat, corn, and black-eyes would be about correct assuming that the amount of dry mash eaten by the hens about equals the weight of grains supplied them. Sulphate of iron is most easily and correctly administered in the form of Improved Douglas Mixture which is made by mixing two ounces sulphate of iron in one-half ounce diluted sulphuric acid. Stir with a stick and at same time add hot water until dissolved. When cold add enough cold water to make a gallon. Keep in a glass or earthenware container. One teaspoonful of this solution in one quart of drinking water makes a strong tonic. Less should be used if the fowls are not urgently in need of assistance.

LOAFER HENS STARTING TO MARKET.

Poultry culling campaigns, under the direction of the extension service of the University of Missouri College of Agriculture, are heading many hens toward the market. If hens are not laying eggs they are fit only for food, and the quicker they are marketed the smaller will be the feed bill for the flock. In Perry county, 736 non-laying hens were culled from 1,608 fowls examined the first week of the campaign. At one farm, 41 hens were culled from a flock of 49. The owner was pleased with the work, says County Agent Raut, as she had been getting only 4 to 6 eggs a day, and was satisfied the laying birds were among the eight retained. In the second week, 31 farms were visited. Of the 1,082 fowls examined, 542 were culled as non-layers. The percentage of culls seems to run about the same in all farm flocks. In Vernon county, out of 1,353 hens examined in 21 demonstrations, 664 were culled.

RATION OUT OF BALANCE.

To the Editor: Will you tell me what I can do for a Plymouth Rock pullet that has a sore under its tongue that looks like a canker?—A. B., Greenville.

In nearly every instance mouth canker is caused by a ration that is

very much out of balance. Usually it is due to an excess of heating material in the feed—starch, sugar, fats, etc. To remove the cause feed a larger proportion of nitrogenous stuff, such as bran, shorts, bone, meat scrap, etc. To heal the sore spot paint it with a mixture composed of ten drops tincture of iron in one ounce of glycerine.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

BOOKING FOR WINTER, SPRING DELIVERY.—Thousands chicks off weekly now, open most weeks till March, reduced. Leghorns, Anconas, Reds, Rocks, Minorcas, Wyandottes, Orpingtons, ducks, turkeys—cleaning customers \$5 yearly. Bred 20 generations back to lay winters, 200-250 eggs yearly. Half go to former customers. Doubling over 70,000 hatching capacity. Returned thousands dollars for chicks we couldn't supply. **Hundreds Breeders, Laying, Younger Pullets, reduced.** Circular with proof free. J. Beeson, Pasadena, Calif.

WARDS' S. C. RHODE ISLAND REDS caused a sensation at Sacramento by winning: 2nd cock, 1st and 3rd hens, 1st and 3rd cockerels, 1st and 3rd pullets, special for best-colored female. Cockerels, pens, trios, Hatchling eggs. Write for circular. Wards' Poultry Farm, 39C South Lincoln Avenue, San Jose, California.

ORDER BABY CHICKS NOW.—For immediate or spring delivery. Several varieties. Safe arrival guaranteed. Write for free circular. R. I. Red, Buff Orpington and White Rock cockerels now ready for shipment. Stubbe Poultry Ranch and Hatchery, Box 67, Palo Alto, Cal.

YOU WILL MAKE PROFIT in the poultry industry when you make Capons of your cockerels; learn how and learn right. If interested, send inquiries to Perkins & Co., M-St. Store, Sacramento, for Mrs. H. Ament, Capon Specialist.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hockanized and Trapped stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

ANDERSON'S PEERLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels \$5 and up, 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

FEBRUARY PULLETS from selected pens of Barred Rock hens weighing eight and nine pounds and laying form 16 to 24 eggs per month from October to February last season. Prices very reasonable. Geo. L. Horne, Winton, Cal.

PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Hatching eggs. Improve your color and egg capacity. Wm. Larm, 3915 39th Ave., Fruitvale, Cal.

"EASTMAN'S BRED-TO-LAY." Hockanized and trapped Barred Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Calif.

FALL BABY CHICKS—Rocks, Reds, and White Leghorns; choice stock. Place your order in advance to insure prompt attention. Santa Clara Valley Hatchery, San Jose, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

FALL BABY CHICKS from our large heavy-laying S. C. White Leghorns. Send for prices. Tupman Poultry Farm, Box 7A, Ceres, Calif.

ROCK, RED OR LEGHORN baby chicks—large or small lots. Right prices. Madera Hatchery, Madera, Cal.

BUFF ORPINGTONS, BUFF DUCKS, ROUBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GEES, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

RABBITS.

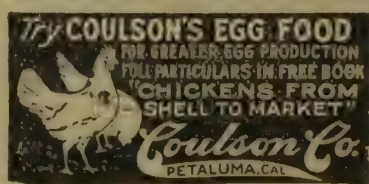
FOR SALE—Flemish Giant Rabbits. Both sexes. Prices reasonable. Mrs. J. T. Ramsey, Rescue, Calif.

For Sick Chickens

Preventive and curative of colds, roup, canker, swollen head, sorehead, chicken pox, limber neck, sour crop, cholera, bowel trouble, etc. Mrs. T. A. Morley of Galien, Mich., says: "Have used Germozone 17 yrs. for chickens and could not get along without it." Gen. F. Vickerman, Rockdale, Ill., says: "Have used Germozone 12 years; the best for bowel troubles I ever found." Frank Stuka, Chicago, Ill., writes: "Have lost but 1 pigeon and no chickens in the 3 yrs. I have been using Germozone." C. O. Petrain, Moline, Ill., says: "I never had a sick chick all last season." Bernard Hornig, Kirksville, Mo., says: "Cured my puniest chicks this spring." Ralph Wurst, Erie, Pa., says: "Not a case of white diarrhea in 3 yrs. I raise over a thousand a year." Good also for rabbits, birds, pet stock.

GERMOZONE is sold generally at drug and seed stores. Don't risk a substitute. We mail from Omaha postpaid in new 25c, 75c and \$1.50 sizes. Poultry books free.

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Attend the California International Livestock Show, San Francisco, November 1st to 8th.

PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS feed high-grade Beef Scraps of Uniform Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

Western Meat Company

SAN FRANCISCO, CAL.

Write for our booklet, "PROTEIN FOR PROFIT."

THE HOME CIRCLE

THE DEBT.

For the youth they gave and the blood they gave,
For the strength that was our stay,
For every marked or nameless grave
On the steel-torn Flanders way—
We who are whole of body and soul
We have a debt to pay.

When we have justly given back again
To the maimed body and bewildered brain,
New strength and light and will to take one's part
In the world's work at field or desk or mart,
When this old joy of living we restore,
We shall have paid a little of our score.

When we have given to earth's stricken lands
The service of our minds and hearts and hands,
When we have made the blackened orchards bright,
And brought the homeless ones to warmth and light,
When we have made these desolate forget,
We shall have paid a little of our debt.

For the youth they gave and the blood they gave
We must render back the due;
For every marked or nameless grave
We must pay with a service true;
Till the scales stand straight with even weight
And the world is a world made new.

—Theodosia Garrison.

BRIN.

The following story, told by Dr. Wilfred T. Grenfell, the Labrador medical missionary, in St. Nicholas, is a striking illustration of the instinct of northern dogs for following the trail.

One evening, as he was feeding his dogs, there came upon them suddenly another team driven by Joe, who had come to call the doctor to Island Harbor, where there was a case of sickness, and "they doesn't know what t' sickness." It was sixty miles across the country, and twice that distance around the shore; but there was no trail over the cross-country route.

Around the fire that night they were discussing the cross-country trip, when Harry, an old acquaintance, came in, beating the snow off himself as he entered. Harry, who was familiar with the route, had an errand over part of the route to bring in two stags that he had killed, and so it was agreed to make the attempt to go that way.

Dr. Grenfell and his fellow-doctor had left their experienced dogs at the hospital, and were breaking in a new team. The only dog of their last year's team was a yellowish brown animal, with black-striped markings somewhat like a tiger. These lent to his face the suggestion that he was eternally grinning, an impression intensified by an odd way he had of turning up the corners of his mouth when he caught one's eye. The dog was named "Brin."

Long before daylight the next morning they were astir, for it would require all the day to drive the sixty or seventy miles. Harry, with his good team and knowing the route well, led the way until about ten o'clock, when he had to turn aside to bring in his game. Before they parted all halted under some spruce-trees to boil "a mug of tea."

Then the doctor and his companion

set out on an unmarked trail. Their only assets were their pocket compasses, giving the general direction; their axes to clear a path when they should get stalled; a hopeful disposition which never spoiled for troubles until they should come along; and—Brin. A trackless marsh lay before them. Dr. Grenfell's companion said:—

"Don't say a word. Let's see if Brin will head right—across the marsh, anyhow."
"All right," replied the doctor. "Mum is the word. Go!" Brin, with his good team, led off in a gallop in the direction the compass indicated should be the course.

Their friend Harry had told them of certain landmarks—a tall, lone spruce at one place; at another, a forked juniper-tree from which the top boughs had been stripped and the skull and antlers of an old caribou placed in the forks. As the galloping dogs ran on, Brin led them by the lone spruce. Some ten miles farther the doctor's companion shouted, "There she is!" There is what? exclaimed the doctor. "Why, the skull in the tree," he responded. As they passed this, they both thought that Brin looked around and grinned; but, if the dog did not the doctor did, for their spirits were high that another ten miles lay behind them.

The shadows of even were now falling, and between them and their goal were miles of rolling forest. How much longer could they trust Brin? At one point he swung off almost at right angles from the direction in which they had been traveling. Passing down a long slope, they came to a long lake onto which they ran at right angles. Facing them was a steep bluff, and the lake seemed to end in a narrow defile, through which they supposed the river had escaped, and toward which they expected to turn, but no such notion entered Brin's head. He made exactly for the opposite direction, and then, crossing a narrow portion of the lake, he started to climb the hill in front of them. The travellers had hoped before this to come upon the snow-shoe tracks of hunters, but nothing of the kind could be seen.

As they swung around a big drift of snow, a fresh fox track ran directly down a bluff. Without looking back, Brin jumped right into the track and followed it. The men found it hard not to "butt in" and tell a mere dog that he was probably foolish in following a fox track; but the men did not know just which way they did want to go, and on they went.

It was now almost dark; and, if they meant to make a camp for the night, it had to be done. The team was stopped, and they were about to rather wood for a fire, when the doctor's companion said, "I am for giving Brin another chance." "All right," replied Grenfell, and Brin was given the signal to go. It was now dark. Running into a tree, they were compelled to stop. Getting out of the sledge, Dr. Grenfell found they were in a well-cut path. Taking this trail, they were soon at the Gray Cove, and by eight o'clock had reached the patient's house.

Before turning in that night, Dr. Grenfell went out to see if the dogs were all safe, and as he was about to re-enter the cottage door, something warm and furry rubbed against his leg. By the light that streamed from the open door he found himself looking into Brin's eyes. They were

asking, "How did I please you today, Master?"

"I could not help putting my arms around his neck and hugging him," says Dr. Grenfell. "Then we both went off to our beds the happier for it."

MACHINE HEMSTITCHING.

The home dressmaker can give her work quite the air of ready-made garments by the use of hemstitching or picot-edge work. This work must be done at a shop, but the charges are moderate and goods may be sent in and returned parcel post.

Fancy designs on a blouse may be outlined with basting thread and tucks and seams may be hemstitched if indicated.

Hemstitching on wash satin makes very pretty tailored underwear and more durable than lace trimming.

To make beading for lingerie make a line of hemstitching the right length for the ribbon, then cut the hemstitching apart and you have a beading with a picot edge.

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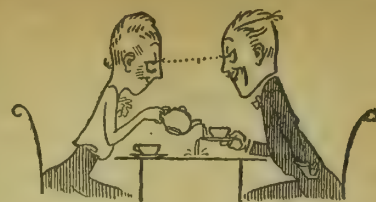
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Complete Home Furnishings
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When you make your tea, the tea-flavor develops first—and that's what you want: tea-flavor, not tannin. Tannin then comes along and smothers the tea-flavor.

Common tea is older leaves with lots of tannin and very little tea-flavor.

Good tea is young tender leaves with abundance of fine tea-flavor and very little tannin.

That's why a pound of fine tea makes more cups of real tea-flavor than common tea does. And the flavor is infinitely better.

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BLAZING-AWAY-IN-COST-DEFENCE!

What's an Ash Pile?



An ash pile is a back yard monument to the memory of good money paid for unconsumed fuel. Then it takes additional good money to properly decorate the surrounding scenery a memorial hue with smoke and soot, via the chimney. Then in the spring, if there is not a convenient hole, more money is spent to have said "monument" removed.

Foolishness?—Yes, absolute nonsense, when there is a cleaner, cheaper way for almost the asking. Just think—all of the heat from all of the fuel, for less money, minus the drudgery.

Investigate and try the Dreadnaught way. The same stove becomes the means of a clean gas fire—dry gas, full in heat units and perfectly clean.

Oil, properly used, is the most wonderful fuel of the age. Its real value in gas making was not appreciated until the perfection of the Dreadnaught Burners—burners for stoves, heaters, furnaces and boilers. Write for our circular regarding the little Burner for the home stove.

BURNER AND VALVE—
MAILED ANYWHERE—\$7.50

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MANUFACTURERS

310 South Hill Street,
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PRIZE RECIPE FOR RABBIT.

Place a rabbit—preferably a young one—in salted water to draw the blood over night, after dismembering and cleaning it. In a saucepan, brown a kernel of garlic in two heaping teaspoons of shortening, removing it when sufficiently browned. Add to the shortening, six moderately sized onions, chopped fine, with a handful of parsley and a sprig of mint. When a little browned, add a can of tomato soup, or a like quantity of fresh chopped tomatoes, a little water, enough to cover the rabbit, chili pepper and salt to taste. Add the rabbit, cook slowly for an hour and a half, or until the rabbit is tender. Thicken the gravy with flour before serving and serve with rice and currant jelly. One rabbit will serve five people.

A SUNSHINE CREED.

Frederic A. Whiting.

Be of good cheer!
Be not afraid!
God's ever here
With His true aid.
No cloud is there
To dim the blue,
But a sunny smile
For a happy while
Will make all fair
And bright for you.
And so, my dear,
Banish all fear
and
Be of good cheer.

ELECTRIC LIGHT IN THE FARM HOME.

The farmer's wife, after generations of irksome toil, is coming into her own. With the universal adoption of the automobile and the more recent perfection of individual electric lighting and power plants, her home-life has undergone an epochal change.

The toil and monotony which attached itself to woman's place in rural life, long has been proverbial. Removed from the city the country woman for the most part was without the scope of those many advantages which, during the last century, have come through invention and development.

While engineering science was developing the reaper and binder, the gasoline engine, the tractor, the truck and other machinery to aid the farmer in increasing the acreage and production of his land, it did nothing of vital importance to relieve the work of the Farmer's wife. She still was forced to adhere to methods which came into vogue in the time of her grandmother. For the most part she churned by hand, washed by hand, swept by hand and sewed by uncertain light. The result was that she grew old before her time and enjoyed none of the pleasures to which she rightfully was entitled.

No development of the era has done quite so much to better her condition as the modern electric lighting and power plants. With the perfection of these a decided change has been

wrought in her daily life. Where once she bent over a tub she now has a power washer. The hand churn she has discarded for one operated by an electric motor. The old broom has been supplanted by a vacuum cleaner. The smoking oil lamp has been replaced by an electric portable. The sewing machine and milk separator are now equipped with motors. The ironing is done by electricity. There is modern sanitary plumbing and running water in the house—improvements which may be traced directly to the new plants which furnish the necessary power for pumping. For the first time the women folks of the farm are living like their city cousins.

A COLLEGE EDUCATION.

The United States Department of Education is authority for the following statement: "Less than one per cent of American men are college graduates, and yet this one per cent has furnished fifty per cent of the constitutional conventions, fifty-five per cent of all the presidents, thirty-six per cent of all the members of congress, forty-seven per cent of all the speakers of the house of representatives, fifty-four per cent of all the vice-presidents, sixty-two per cent of all the secretaries of state, fifty per cent of the secretaries of the treasury, sixty-seven per cent of the attorneys-general, sixty-nine per cent of the justices of the supreme court."

It is not intended to hold up public office as the highest form of success; but the fact that the one per cent of college graduates have had such a conspicuous part in our public activities is significant as indicating the value of college education. If the truth could be gotten at, the value of this education would be demonstrated with the same force in most lines of activity. It is estimated that the man who has had no schooling has about one chance in 150,000 of performing distinguished service. The man who has an elementary education has four times the chance of the man who has no schooling. The high school graduate has eighty-seven times the chance of the uneducated man, and the college man has four hundred times the chance. And this proportion will apply with just as much force to farming as to any other line of activity.

As time goes on, the uneducated farmer will be at an increasingly great disadvantage. And by education in this line is meant not alone a technical and scientific knowledge of agriculture, but the sort of training a man gets from going through high school and college, just as much as the knowledge acquired. If success is measured simply by financial reward, then it is very much more important that a man be able to think clearly and to the purpose than that he be able to work hard with his hands only; and this is true also if we measure success by service in the community or by the ability to live a happy, well-rounded, useful life.

THRIFT IN SAVING FOR CHILDREN.

The boy or girl who is wise saves money for a definite goal—for a better education and for the start in life on the farm or in business.

The rule of successful saving is to save regularly and systematically; to save part of all the money you receive, by gift or earning.


Place your savings at once where they are safe from spending and from loss. A United States Thrift stamp will guard every quarter saved.

THRIFT DECLARATION.

I owe to my country and to my own future the development of intelligent thrift and economy through the cultivation of habits of saving and the elimination of waste of all kinds.

TAKING A CHANCE.

He wed a working girl, although
He doubted he ought to risk it;
For a girl you know, can make the dough
Who cannot make a biscuit.



SHE has a good time at *her own* party—does the hostess who serves Ghirardelli's Ground Chocolate. Whether it's an "afternoon at home"—an informal evening—or some guests who "drop in" unexpectedly—Ghirardelli's offers the happiest solution to the refreshment problem. So delicious, so economical, so easily made!

Never sold in bulk—but in cans only.
In ½ lb., 1 lb., and 3 lb. sealed cans—
at the store where you do your trading.

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Pearl Oil gives instant heat when and where needed. No smoke, no odor; without dust or dirt. Oil consumed only when heat is needed.

Pearl Oil is refined and re-refined; pure and clean burning. Sold in bulk or five-gallon cans. Order by name—Pearl Oil.

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Old-fashioned
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The added convenience of modern plumbing fixtures will more than compensate you for the slight cost involved in replacing them for your present fixtures.

The attractive designs of Pacific Plumbing Fixtures will make you proud of your bathrooms.

Pacific Plumbing Fixtures are guaranteed forever against any defects in workmanship or materials, and although their quality is higher, cost no more than any other reputable brand.

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LYNN-BART'S CANDY SPECIALTIES,
P. O. Box 54, Alameda, Calif.

CANNED APPLES FOR PIE.

Windfall and cull apples can be transformed into valuable and palatable food, available for consumption the entire year, if handled correctly. Windfalls, if taken when whole and reasonably sound and not over ripe, may be canned and used for a breakfast dish with cream and sugar, or baked like a fresh apple, or served in an apple salad, made into dumpings or pie, used as a relish with pork or fried with bacon, and the sirup may be used for pudding sauces and fruit drinks; even the core may be used, if cooked with roast pork, to give it flavoring.

To can apples whole select firm ones. Wash, remove core and blemishes. Place on a blanching cloth or tray and blanch in boiling water for two minutes. Then plunge quickly into cold water. Pack in large glass jars or gallon tin cans. Fill the receptacle with a thin sirup, place the rubbers and tops in place, partially seal (if using tin cans, cap and tip completely). Process half-gallon or gallon containers 20 minutes in boiling water, or in a hot-water bath 15 minutes in water-seal; 10 minutes in steam pressure with 5 pounds of steam pressure; 5 minutes in aluminum pressure cooker under 15 pounds of steam pressure. Remove jars, tighten covers, invert to cool, and test joints. Wrap in paper and store. The length of heating will vary with the ripeness of the fruit, sterilize perfectly, but do not change the color or reduce the pulp to sauce. Firm and tart apples may be cored and peeled first.

Culls must have decayed and injured spots removed. Slice the apples quickly into a basin containing slightly salted cold water (to prevent discoloration). About a cupful of sirup to a quart of fruit will be enough juice. Pack and sterilize about half the time given above. This filling may be used for pies just as fresh fruit, but with less sugar and sirup. Pies may be cooked in 7 minutes. Housekeepers like the time saved as much as apple pies the year around.

FASHION NOTES.

Many new blouses are made with high necks.

Ostrich fringe is used to trim dinner frocks.

Coat dresses of serge or other serviceable fabrics, are practical and smart—they answer for both the purpose of a dress and a suit.

Fringe is used for trimming on collars, cuffs and skirts.

Braiding or embroidery are the popular trimmings on the fall garments.

Squirrel is a very popular fur—it is shown in coats, long scarfs with pockets and small choker collars.

Necks of blouses and dresses continue very severe and untrimmed.

Georgette is just as popular as ever for the fall suit blouses.

The russet shades, like turning leaves, are gaining in popularity for all fall garments.

Plushes in imitation of fine furs are being shown for coats, stoles and capes. These are all 50 inches wide.

Little girl's separate skirts of novelty plaids, blue serge and mohair come on bands or waists and are fine for school wear with a middy blouse.

Casques or the new chemise blouse are becoming more and more popular. The materials used for them range from sheepest Georgette to tricolette.

Stunning hand bags are made of heavy satin or brocaded ribbon set on celluloid frames.

Beaver in soft brown shades is very popular in combination with velvet or satin for winter hats.

AIDS TO COOKING.

To make crumbs for covering croquettes and similar articles, dry stale bread in the oven and put through the meat chopper. They are better to use in frying in deep fat than cracker crumbs as they do not absorb the grease so readily.

When frosting a cake, first sprinkle lightly with cornstarch in order to prevent the frosting from spreading rapidly and running off.

HOUSEHOLD HELPS.

Keep hot-water bottles and bags hanging upside down when not in use and they will last much longer.

A wire draining basket can be utilized to hold the dishes after they have been rinsed in hot water—this to save wiping them.

Delicate white laces may be cleaned by laying them smooth on white wrapping paper and covering them with magnesia. Put on other paper over this and weight down for several days. Brush out the powder and the lace will be found much freshened.

Furs will look much improved if they are cleansed with bran heated in the oven. Rub the hot bran well into the fur with a piece of flannel, then shake the fur to remove all particles and brush thoroughly. Fur collars that have become soiled from rubbing against the hair may be made

to look like new by using hot bran on them. Apply the bran the second time if the fur is badly soiled.

To prevent the juice from fruit pies from running over, pinch the crust together in the usual manner and then bind with a strip of white cotton cloth, wrung out of cold water. Press it lightly over the edge of the crust, letting the lower edge hang over the side of the tin. It can be easily taken off when the pie is baked.



THE PREMIER BURNER

MAKES GAS FROM KEROSENE (common coal oil)
There are probably more PREMIERS in use than all other Kerosene Oil Burners combined.

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They are reasonably priced.
Anyone can install them.
'Tis safe, clean and economical.

Single Outfit Complete.....\$12.50—for No. 6 stoves.
Double Outfit Complete—\$22.50—for No. 7 to No. 9 stoves.
Prompt delivery upon receipt of order.

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MORE LIGHT THAN 20 OIL LAMPS
AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electricity
More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The



COLEMAN QUICKLITE
No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over. —will last a lifetime.

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THE COLEMAN LAMP CO.,
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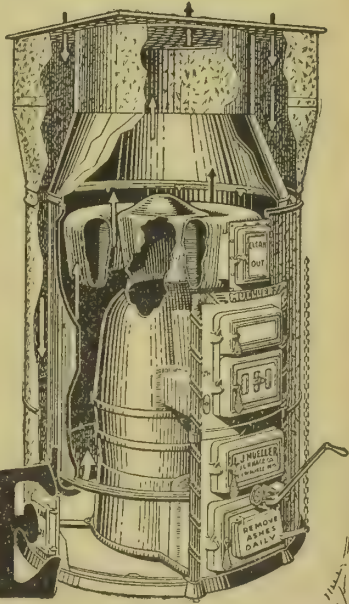
How your tea-kettle illustrates an exclusive Mueller feature

YOU know how steam fairly shoots out of the spout of your tea-kettle when the water is boiling and the cover is on. Travels fast in a narrow path and is scorching hot. But when you raise the cover, the steam rises slower through the larger opening and heats a greater volume of air although not so intensely.

The heat coming out of a pipeless furnace with a small register face may be compared to the steam rushing out of the tea-kettle spout. It is inefficient heat. Wasteful, doesn't heat the house comfortably, causes cold drafts across the floor.

The large register face of the Mueller Pipeless Furnace delivers heat on the other principle—a large volume of warm, moist, healthful air rising slowly, the safest, most economical and efficient method.

MUELLER PIPELESS FURNACE



Mueller heating engineers have worked out the design of this pipeless furnace in a scientific way from start to finish. It is built so well that users in every part of the country are glad to recommend it. Thousands have been installed. It is guaranteed to heat every room in the house comfortably. Eight sizes—there's one the right size for your home.

Easily and Inexpensively Installed

No floors or walls to tear up for pipes—your dealer can quickly install it without any inconvenience to you. It can be put in any home—whether you

have a large cellar, a small one, or no cellar at all.

Burns hard or soft coal, coke, wood, lignite, gas or oil. Saves from 1/3 to 1/2 on fuel. No heat wasted in the cellar.

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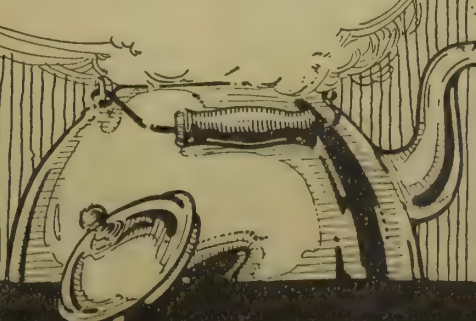
"The Modern Method of Heating Your Home" tells the whole story of this remarkable furnace—the reasons for its great efficiency, economy and reliability. Send for the Mueller book today.

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Market Comment

Must Deliver Prunes Under Contract.

Judge Sewell's decision in favor of the plaintiff in the case of the California Prune and Apricot Growers, Inc., vs. Guy W. Young, upholds absolutely the legal status of the California Prune and Apricot Growers' contracts with grower members.

Michigan White Beans, \$8.90.

Reports from Michigan announce the sale there of the new crop of white beans at \$8.90 per cental, October delivery. This price is equivalent to \$8 for California white beans. San Francisco dealers continue to report a quiet market for all varieties, with prices showing little, if any, improvement.

To Stay the Slump in Livestock.

Only the buying of more dressed meat by the public will revive the livestock market, according to stockyards officials. The consumer will not receive the benefit of the lower figures, it has been pointed out, until meat purchased during the decline is released for sale, which will be shortly, it is said.

First Payment on Prune Crop.

H. C. Dunlap, department manager of the California Prune and Apricot Growers' Association, has distributed \$10,200,000 as first payment to association prune growers for the 1919 crop. This sum represents about one-third of the total. It represents the highest-priced prune crop in history.

Demand for New Rice Crop.

Inquiries for California rice have been coming in from outside countries and there has been a small quantity of the new crop sold to European nations. Spot stocks of good grades of California rice are now exhausted, and there remains on hand only a small quantity of damaged stock. It is estimated California will produce this year about 4,200,000 one-hundred-pound bags of paddy rice.

\$1,212,631.32 for Tulare Oranges.

Members of the Tulare County Citrus Fruit Exchange received \$1,212,631.32 for their 1918 crop, the largest sum ever paid out through organization channels, despite the comparatively short crop of Washington navels last season. The grand average price paid for oranges was \$3.536 per box, comparing with \$3.46 for the 1917 crop, and \$1.81 for the 1916.

Contra Costa's Pear Crop, \$400,000.

According to Frank Swett, County Horticultural Commissioner and Secretary of the California Pear Growers, Inc., the pear growers of Contra Costa county received \$400,000 for their crop this year. The crop in the State is estimated at about \$7,000,000. Of the present year's crop about 60 per cent was sold to the canneries, as against 20 per cent for previous years. The growers received \$85 a ton for No. 1 pears and \$50 for No. 2 grade.

Britain Again Receives Danish Butter.

During the fiscal year of 1914 the United States exported to the United Kingdom 721,520 lbs. of butter. During the fiscal year 1918 our exports of butter had increased to 13,982,559 lbs. For the first six months of the present year 17,347,666 lbs. of butter have been exported to the United Kingdom. After a considerable period Denmark has resumed exportation of butter to Great Britain, which will reduce our own exports moving in the same direction.

Hops in Strong Demand.

Buyers of hops in "wet" countries have contracted for 50 per cent of California's hop crop with the first shipments, bringing 50 cents a pound. Brewers throughout the United States are still buying hops as they are needed as much in the manufacture of near-beers as in the production of beverages of higher alcoholic percentage. The total hop crop of Sacramento valley will be 40,000 bales, or 8,000,000 pounds, at a total valuation of \$4,000,000. The rest of the State will produce probably 30,000 bales.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, October 1, 1919.

WHEAT.

The supply of wheat seems ample for all demands in San Francisco, although it is stated that arrivals are slow. All grain markets are dull.

Per bushel—	
No. 1 hard	\$2.20
No. 2	2.17
No. 3	2.13
No. 1 soft	2.18
No. 2	2.15
No. 3	2.11
Club or Sonora, No. 1	2.16
do, No. 2	2.13
do, No. 3	2.09
California, per cbl	\$3.65 @ 3.70

BARLEY.

In the local market there was a general apathy regarding all the grains this week. Barley quotations are nominally unchanged, but sales are of such small quantities that each sale is likely to show some variation from the reported market price.

Feed	\$3.00 @ 3.05
Shipping	\$3.20 @ 3.30

OATS.

The oat market continues dead and practically all inquiry is on a basis of a few sacks at a time.

Red feed, per cbl	\$2.90 @ 3.10
Red for seed	Nominal
Black for seed	Nominal
Reclaimed Red or Black for seed	Nominal

CORN.

Like the other grains the movement of corn is slow and the market is heavy. Apparently all users of grain are waiting for more settled labor conditions before attempting much business in grain.

California	\$3.80 @ 3.90
Egyptian, choice	\$3.70 @ 3.80

Milo Nominal

HAY.

The receipts of hay for the past week were 2,189 tons compared with 2,893 the previous week. Whether this decrease is due to the lack of ears or is on account of the fields being fairly well cleaned up, is a question. It is probably due to both causes. As has been the case for many weeks nearly all the receipts are by boat from the bay and river districts. Heavy receipts of alfalfa have had a tendency to weaken the market, and in many cases concessions have been made to effect sales. The effect of the rains on the market is not yet known here, but it is believed that most of the hay in the country is under cover.

No. 1 Wheat, or Wheat & Oat	\$15.00 @ 18.00
No. 2 Wheat, or Wheat & Oat	\$12.00 @ 15.00
Choice Tame Oat Hay	\$15.00 @ 18.00
Wild Oat Hay	\$10.00 @ 14.00
Barley Hay	\$12.00 @ 16.00
No. 1 Alfalfa Hay	\$17.00 @ 22.00
Stock Hay	\$ 8.00 @ 12.00
No. 1 Barley Straw, per bale .....	.50 @ .80

FEEDSTUFFS.

Feedstuffs reflected the general apathy of the grains; and for rolled barley, rolled oats and cracked corn, the prices were lowered to attract buyers. The market is bare of coconut meal, and no quotations can be made. Alfalfa products are unchanged, although the alfalfa molasses is very scarce and would bring higher price if it were available.

Roller Barley	\$9.00 @ 13.00
Roller Oats	\$6.00 @ 12.00
Coconut Meal	None
Cracked Corn	\$7.00 @ 7.00
Alfalfa Products	\$38.00 @ 45.00

POTATOES, ONIONS, ETC.

The potato and onion market is in a peculiar condition. Generally speaking, it is weaker, but prices are maintained because the continuance of the waterfront strike prevents much of the movement to the local buyers. The demand is reported to be somewhat sub-

normal, but as yet no concessions in price are made because the receipts are not sufficient to break the market. River tomatoes are practically off the market at present. The rain of Wednesday slowed down the entire vegetable market.

String Beans	3 @ 4
Peas	8 @ 9
Carrots, per sack	\$1.00 @ 1.25
Rhubarb, Strawberry, box	Nominal
Cucumbers	50 @ 75
Eggplant, box	50 @ 75
Lettuce, per crate	75c @ 1.25
Tomatoes, Early Annas	50 @ 75
do, Stone	75c @ 1.00
Summer Squash, lugs, Alameda .....	.65 @ .85
Green Corn, Alameda, sack	\$1.50 @ 2.00
Potatoes, Garnets	\$2.00 @ 2.25
do, local whites	\$2.25 @ 2.50
do, Rivers	\$2.00 @ 2.25
do, Sweets, new, lb. .....	.35 @ .40
Onions, new red	Nominal
do, Browns	\$2.50 @ 2.75
do, Yellow	\$2.25 @ 2.40
do, Green, Alameda	\$1.00 @ 1.25
Garlic	20 @ 25

BEANS.

With the exception of the southern lima there were no changes in quotations this week. The local market is cleaned of limas and a yet the new crop is not ready. It was intended to put these on the market October 1 and the price was to be named at that time but the rains of Saturday and Sunday have delayed this for another week. It is stated that new prices on limas will be named on October 7.

Rayos, per cbl	\$6.25 @ 6.50
Blackeyes	\$5.50 @ 5.75
Cranberry beans	\$6.20 @ 6.50
Pinks	\$6.25 @ 6.50
Mexican Reds	\$5.50 @ 5.75
Topary beans	\$2.50 @ 2.75
Garbanzos	\$10.00 @ 10.50
Large whites	\$6.50 @ 6.90
Small whites	\$7.25 @ 7.50

POULTRY.

The poultry market is getting down to a more normal condition. The accumulation due to the pickers' strike have been fairly well cleaned up, and new stock is coming in in ample quantities for the trade. Another Jewish holiday this week was the only feature of strength to the market. Dressed turkeys coming in at present are not in first-class condition and 50 cents is the highest price for the best of the receipts.

Turkeys, dressed, young spring, lb.	50
Broilers, 1 1/2 lbs. and under	32 @ 34
do, 1 1/2 to 2 lbs.	30 @ 32
Fries, 2 to 3 lbs.	30 @ 32
Hens, extra, per lb. colored	33 @ 34
Smooth young roosters, per lb. (3 lbs. and over)	32 @ 34
do, Leghorn	30 @ 32
Geese, young, per lb.	23 @ 25
do, old, per lb.	22 @ 23
Squabs, per lb.	18 @ 20
Ducks, young	20 @ 25
do, old, per lb.	20
Belgian hares	17 @ 18
Jack rabbits	\$1.50 @ 3.50
Old roosters, colored, per lb.	22 @ 23

BUTTER.

Receipts of butter this week have shown a decided decline and the demand has taken care of all offerings. Considerable quantities of butter are being withdrawn from storage as the price moves. During the month of September butter ran from 55 1/2 to 64 1/2 c, allowing for the regular discount or commission charged against the producer. This makes the high of September the high price of the year.

Thu. Fri. Sat. Mon. Tu. Wed.	
Extra	60 1/2 61 1/2 62 1/2 64 1/2 64 1/2

EGGS.

The receipts of eggs this week have been light and as a consequence prices of extras jumped to the record price of the year. Last November eggs sold, less commission, at 82c and in October at 81 1/2 c. In September, 1918, 60 1/2 c was the high point, and if the same difference between September and October prices prevails this year eggs will pay the producer 93 cents, will sell at wholesale at close to a dollar, and the consumer will pay about ten cents apiece. There arrived this week from Australia 974 cases of eggs—twenty of which were egg pulp and the balance shell eggs. While interesting, the arrival had no effect on the market whatever. The continued increase in the price of extras caused a turning to the undersized and these eggs jumped to the highest price they have sold at since the exchange began to quote them. The drop of two cents in extras on October 1, is regarded simply as a reaction after the stiff advance of the week and the upward trend of prices is expected to continue during the greater part of the present month.

Thu. Fri. Sat. Mon. Tu. Wed.	
Extras	68 67 1/2 70 1/2 73 71 1/2
Ex. pullets 67	58 59 59
Undersized 39 1/2 40 1/2	43 45 46

CHEESE.

There is very little interest in the cheese market and receipts are below normal. California flats and Oregon Y. A. are both lower while Oregon triplets remain unchanged. No sales of California Y. A. during the week.

California Flats, fancy	33c
do, Firsts	Nominal
Y. A. Fancy	Nominal
Oregon Triplet	29 1/2 c
do, Y. A.	31 1/2 c

FRESH FRUITS.

The fresh fruit market was quiet this week, as the rains seemed to lessen the demand and at the same time threatened the future of certain descriptions. Berries are still coming on the market, but they are not in first-class condition. The apple market is in good shape, with continued demand for nearly all varieties. Gravensteins are now at about the end of their season.

Apples—Gravensteins	None
do, Alexanders	\$1.25 @ 1.75
do, Jonathan	\$1.50 @ 2.00
do, King	\$1.50 @ 2.00
do, Bellflower	\$1.50 @ 1.50
Pears	\$1.00 @ 1.25
Pine white	75c @ 1.00
Plums, box	75c @ 1.00
Grapes, Seedless	\$1.25 @ 1.75

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., September 30, 1919.

The movement of fruit for Eastern shipment continues light, on account of the prevailing car shortage. Fruit in several districts has suffered on account of the recent hot spell and inability of the packers to secure refrigerator cars. As a result of the light supply, the demand has been very active, at correspondingly high prices, low prices prevailing only in instances where the fruit arrives, showing weakness. Practically all of the deciduous fruits, with the exception of apples and late pears, have been shipped, the season in all districts having been very satisfactory, with prices considerably higher than the year previous.

About 70 per cent of the Malaga crop has been moved, but hardly more than 40 per cent of the Tokays. The recent rains have done little or no damage in the upper section of the State, but as under normal conditions 60 per cent of the Tokays should be harvested by this time, considerable of the fruit is showing weakness and it is very doubtful as to whether hardly more than 75 per cent of the Tokay crop will be shipped West, and this only under favorable weather conditions.

Emperor Grapes are moving in light supply, at prices considerably higher than last season. The demand is very active, stimulated considerably by the uncertainty as to the amount of the importations of Spanish Almerias. Shipments of sawdust-pack Emperors, however, will not be as heavy as originally anticipated, but if the weather conditions remain favorable for the next thirty days, and the car supply is adequate, most of the Emperor crop can be shipped.

Averages for the week:

NEW YORK: Salway Peaches, \$1.20; Levi Clings, \$1.62; Phillips, \$1.37; B. Hardy Pears, \$3.45; B. Clairgean, \$3.25; Bartlett, \$4.50; Comice H. B., \$3.07; Hungarian Plums, \$1.50; Grand Duke, \$1.88; Malaga Grapes, \$1.83; Tokays, \$2.12; Thompson Seedless, \$1.85; Zinfandel, \$1.60; Alicante Bouschet, \$2.18; Muscats, \$1.30.

BOSTON: Tokay Grapes, \$2.20; Malagas, \$1.90; Black Prince, \$1.85; Alicante Bouschet, \$1.90; Zinfandel, \$1.70; Muscats, \$2.00; Cornichon, \$1.80.

CHICAGO: Tokay Grapes, \$1.85; Malagas, \$1.80; Muscats, \$1.40; Thompson Seedless, \$1.75; Cornichon, \$2.15; Bartlett Pears, \$4.08; Salway Peaches, \$1.22.

Special Livestock Market Report

San Francisco, Oct. 1, 1919.

CATTLE—The local cattle market is steady. About two-thirds of the receipts are from Nevada and Oregon, and the remainder from California points. The quality is fair to good. Ample supplies are arriving, cows coming in very freely.

Steers, No. 1, 950-1100 lbs.	10 @ 10 1/2 c
do, No. 1, 1100-1300 lbs.	9 1/2 @ 10 c
do, 2nd quality	8 @ 8 1/2 c
do, thin	6 @ 7 c
Cows and Heifers, No. 1	8 @ 8 1/2 c
do, 2nd quality	6 1/2 @ 7 1/2 c
do, common to thin	4 @ 5 c
Bulls and Stags, good	5 1/2 @ 6 1/2 c
do, fair	4 1/2 @ 5 1/2 c
do, thin	3 1/2 @ 4 1/2 c
Calves, lightweight	12 @ 12 1/2 c
do, medium	11 @ 11 1/2 c
do, heavy	8 @ 9 c

SHEEP—The lamb market is steady, with a tendency to stronger prices. It is reported that fat lamb stock in the East has touched the low point for the season.

Lambs, Yearling	10c
do, Milk	12 @ 12 1/2 c
Sheep, wethers	8 1/2 @ 9 c
do, ewes	6 1/2 @ 7 c

HOGS—Notwithstanding the late sharp declines in quotations, hogs are coming on this market very freely. The quality is somewhat mixed, and many of the animals are not well finished.

Hogs, hard, grain-fed, 100-150	15c
do, 150-225	15 1/2 c
do, 225-300	15c
do, 300-400	14c

Los Angeles, Sept. 30, 1919.

CATTLE—Not many steers coming in. Demand good and market steady. Cows are offered freely, but are dull and weak.

Per cwt. f. o. b. Los Angeles:	
Beef steers, 1000 @ 1100 lbs.	\$9.50 @ 11.00
Prime cows and heifers	\$8.00 @ 9.00
Good cows and heifers	\$7.50 @ 8.00
Canners	\$5.00 @ 5.50
Calves	\$10.50 @ 13.00

HOGS—Receipts only fair and market steady at last week's prices. Demand fair and what are coming in are readily placed.

Per cwt. f. o. b. Los Angeles:

Heavy average 275 @ 350 lbs.	\$12.50 @ 14.00
Heavy average 225 @ 275 lbs.	\$14.50 @ 15.50
Light	\$15.50 @ 16.00

Rough docked 20 lbs. piggy sows 40 lbs. and stags, 40 per cent.

SHEEP—Market steady and lambs and yearlings are in very good demand. Ewes and weathers slow of sale.

Prime wethers	\$8.50 @ 9.50
Yearlings	\$8.50 @ 9.50
Prime ewes	\$8.00 @ 8.50
Lambs	\$12.50 @ 13.50

PORTLAND LIVE STOCK.

Portland, Ore., Sept. 30, 1919.

CATTLE—Weak; receipts, seven. Steers, best, \$9.75 @ 10.75; good to choice, \$9.25 @ 9.75; medium to good, \$8.25 @ 9.25; fair to good, \$7.25 @ 8.25; common to fair, \$6.75 @ 7.75; choice cows and heifers, \$7.75 @ 8.25; good to choice, \$7 @ 7.75; medium to good, \$6 @ 7; fair to medium, \$5 @ 6; canners, \$3 @ 4.50; bulls, \$5 @ 7; prime light calves, \$14 @ 16; heavy calves, \$8 @ 14; stockers and feeders, \$7.50 @ 8.25.

HOGS—Strong; receipts, 26. Prime mixed, \$17.50 @ 18; medium, \$17 @ 17.50; rough heavies, \$15.75 @ 16; pigs, \$15.75 @ 16.

SHEEP—Easier; receipts, 87. Prime lambs, \$11.50 @ 12.50; fair to medium, \$10.50 @ 11; yearlings, \$7.50 @ 8.50; wethers, \$7.50 @ 8; ewes, \$5 @ 7.

DRESSED MEATS.

Steers, No. 1	14 1/2 @ 15c
do, 2nd quality	13 1/2 @ 14c
Cows and heifers	11 1/2 @ 13 1/2 c
Calves as to size, etc.	19 @ 23c
Lambs, Suckling	20 @ 22c
do, Yearling	18 @ 20c
Sheep, Wethers	16 @ 18c
do, Ewe	14 @ 16c
Hogs	23 @ 24c

Malaga	\$1.50
Isabella	\$1.25@1.50
Raspberries	\$10.00@12.00
Blackberries	\$11.00@12.00
Raspberries	\$13.00@14.00
Aloupes, Standards	\$2.00@2.25
Ponies	\$1.50@2.00
Flats	.85c
Persian, lb.	Nominal
Watermelon, lb.	1@1 1/4 c
Citrus	\$1.00@1.25

CITRUS FRUITS.

Grapefruit are in greater demand than the other citrus fruit. Otherwise the citrus market shows no changes. Oranges and lemons are both firm, but the supply is ample to care of all demands.

Oranges, Valencia	\$4.25@5.50
Oranges, fancy	\$6.50@7.50
Oranges, choice	\$5.50@6.50
Oranges, standard	\$4.50@5.50
Oranges, small	\$3.50@4.50
Oranges, fruit	\$4.00@6.00

DRIED FRUITS.

Most of the drying of fruits in the open air over before the recent rains came, and it is said that very little damage has been done. If the wet weather continues in the Joaquin Valley it will be detrimental to raisins, but so far no harm has been done. There is nothing in the dried fruit market itself to change the situation.

Raisins	17@20c
Almonds	18@18 1/2 c
Almonds	17@18 1/2 c
Almonds	21@28c
Almonds	12@13 1/2 c
Almonds, Adriatic	14@20c
Almonds, Calimyrna	16@23c

HONEY.

The honey situation shows no change as yet. The continued shortage of sugar and reports that it may not be alleviated for some time gives an undercurrent of strength to honey, but no buying is said to have resulted as yet from this situation.

RICE.

The trend of the rice market in San Francisco is difficult to decipher. Rough rice for delivery is being held at 6 cents in view of the unusual and unexpected sluggishness in the clean rice market. So far the American jobber is not in sight in the market. Clean rice has dropped from \$11.85 to \$10.50 for Fancy for November shipment; but October rice still being held at \$11.50.

LOS ANGELES.

Los Angeles, Sept. 30, 1919.

BUTTER.

Receipts for the week, 354,000 pounds. Market again higher and demand good. Prices a cent since last week in sympathy with other markets East. We quote:

Extra California creamery	.67c
First prime first	.65c
First	.63c

EGGS.

Receipts a little better the past week, but not of the demand, and market higher all around. Receipts for the week by rail, 511 cases.

Extra ranch, extra	.68c
Case count	.60c
Pullets	.55c

POULTRY.

Demand good for most offerings, and prices in at quotations.

Cheekens, 1 to 1 1/2 lbs.	.38c
Cheekens, 1 1/2 to 1 3/4 lbs.	.38c
Cheekens, 2 to 3 lbs.	.33c
Cheekens (soft bone) 3 lbs. and up	.33c
Cheekens and old roosters, per lb.	.19c
Chickens	.40@.42c
Chickens	.32@.35c
Chickens	.25@.27c

VEGETABLES.

Market very well supplied the past week and prices showed but few changes. All good and in fair demand, but poor, slow sale. Potatoes are a little higher under lighter receipts and demand good. Onions selling fairly but unchanged. Lettuce lower, but in fair demand. Cabbage slow sale. Tomatoes in fair demand and firm. Beans, both string and lima a little higher and in fair demand. Beans selling fairly at old prices.

Beans, local, per cwt.	\$2.00@2.25
Beans, Northern Burbanks	\$2.25@2.50
Beans, local, per cwt.	\$2.25@2.50
Beans, Stockton, yellows, cwt.	\$2.75@2.80
Beans, White Globe, cwt.	\$2.40@2.65
Beans, per 100 lbs.	\$1.00@1.25
Beans, crate	.80c@1.00
Beans, per 30-lb. box	.75c@1.25
Beans, summer squash, lug	.30@.40c
Beans, per lb.	.10@.12c
Beans, Kentucky Wonder	.6@.7c
Beans, string, wax	.6@.7c
Beans, do, Green	.5@.6c
Beans, lima, lug box	.25@.65c
Beans, lima, local, lb.	.6@.8c
Beans, lima, local, lug box	.50@.60c
Beans, lima, Tip-tops, Stand. crates	90@1.00
Beans, do, Pineapple, crate	90@1.00
Beans, do, Paul Rose, crate	1.00@1.25
Beans, lima, 100 lbs.	.75c@1.00
Beans, lima, lug box	.50@.60c
Beans, lima, Bell, lb.	.2 1/2 @.3c
Beans, lima, do, Chile, lb.	.2@.3c
Beans, lima, do, abas, lb.	1@1 1/4 c
Beans, lima, crate	\$4.00@4.50

FRUITS.

There is little new in this market from a recent ago. Apples and grapes made up most of the offerings and both sold very well the past week and brought steady prices. Plums are pretty much out of season. The same may be said of berries. What few came in brought steady prices. Pears firm and in good demand, and peaches are selling fairly at steady prices. Only a few late are arriving.

Raspberries	5@6c
30 basket crates, fancy	\$5.00@5.50
Poor to choice	\$3.00@3.25
Blackberries, case 30 boxes	\$2.25@2.75

OLIVE PRICES FOR 1919.

(Written for Pacific Rural Press.)

The opening price for olives is \$175 a ton "orchard run," according to Wm. H. Gould, Horticultural Commissioner of Yolo county. The fruit is of excellent quality—a better crop than last year's and in steady demand. The East is only just beginning to realize that California ripe olives, with their rich, nutlike flavor, are also a very complete ration without anything else. Most Easterners have the green pickled olive in mind, and the California ripe, firm, finished article comes as a revelation.

Raspberries, case 30 boxes	\$5.00@5.25
Plums—Sugar, lb.	.5@6c
do Nectarines, lb.	.6@7c
Apples, White and Red Astrakhan, lb	4@7c
Grapes, Malaga, lb.	.5@6c
do, Muscat	.4@5c
do, Tokays	.6@7c
do, Rose Peru, lb.	.3 1/2 @4c
do, Hamburgers, lb.	.3 1/2 @4c
Crabapples	.5@7c
Pears, Bartlett, lb.	.6@9c
Apples, Bellefleur, 4 tier	\$1.35@1.40
do, 4 1/2 tier	.135
do, 3 1/2 tier	\$1.25@1.30
do, Alexander, 4 tier	\$2.00@2.25
do, Gravenstein, 4 tier	\$2.25@2.50
do, Skinner Seedlings, 4 tier	\$1.75@2.00
do, Jonathans, lb.	.6@7c

BEANS.

Limas the past week were in very fair demand and so were blackeyes, and both sold a little higher. Other varieties slow sale at old prices.

Limas, per cwt.	\$11.00@11.50
Large white, per cwt.	\$6.25
Small white per cwt	\$6.50
Blackeyes, per cwt.	\$5.00@5.25
Tepary, per cwt.	\$3.00@3.25
Pink, per cwt.	\$8.25

HAY.

The market continues dull. Buyers hold back. Holders, however, continue to ask old prices. Most of the receipts going into store.

F. O. B. Los Angeles, per ton—	
Barley hay, per ton	\$18.50@21.50
Oat hay, per ton	\$22.00@25.00
Alfalfa, Northern, per ton	\$24.00@25.00
Alfalfa, local, per ton	\$25.00@27.00
Straw, per ton	\$ 9.00@10.00

ADDRESS BY U. S. WHEAT DIRECTOR.

Julius H. Barnes, U. S. Wheat Director, will address members of the Grain Trade in various cities, including Chicago, Omaha, Kansas City, San Francisco, Portland, Oregon, and St. Louis. Mr. Barnes will speak in San Francisco to California grain men at the Assembly room, Chamber of Commerce, 11:30 a. m., Tuesday, October 7. Grain Growers will be welcome.

RECORD RICE SALE.

The Shasta Rice Company has closed a deal with a Japanese company of San Francisco for its entire crop of rice now being harvested. The price paid is set at \$6.05 a hundred, which is reported as being the highest price ever paid in the State.

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CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

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FOR SALE—20 acre ranch, 5 miles from Oakland, 1/2 mile from S. P. Flag Station, 1 1/2 mile from Valley Home Railroad Station. 1/2 mile from Highway; under Oakdale Irrigation System, plenty of water; property all checked for alfalfa with laterals for irrigating every part of ranch; land ready for re-seeding to alfalfa; good sandy soil of A-No. 1 quality; good barn; enclosed tank house; good tank and windmill; family orchard around the house; four-room house covered with vines. Price \$5,000 gross. If bought direct from owner real estate agents' commission will be thrown off. Owner, **BERKELEY SECURITIES COMPANY**, 218 First National Bank Bldg., Berkeley, California.

WANTED TO BUY in Santa Clara county, in the hills, between Mayfield and Saratoga, about six productive acres and a house, or a good home-site, the same being part of a large, modernly-equipped orchard or dairy farm. The seller to continue, by yearly agreement, to work the six acres, in addition to his own land. Trees, water and view necessary. No agents. Address, Room 324, Merchants Exchange Building, San Francisco.

FOR SALE—Eighty-acre alfalfa dairy ranch in heart of orchard district, two miles from Hollister, including forty milk cows, 28 heifers, four work horses, 150 tons alfalfa hay, 6-inch centrifugal motor-driven irrigation plant, 60x90 barn, modern house, machine shop and other buildings. Address, Owner, Geo. P. Merritt, Hollister, Calif.


RANCH FOR SALE—240 acres, 6 miles E. Santa Margarita, Calif. 25 acres orchard—apples, pears, prunes, peaches; 50 acres cleared; 50 acres level. Live oak on hills. 4-room house and bath; outbuildings, 8 tons hay, machinery, buggy, wagon, harness, cow, horses, bees; School on place. Write Mrs. Bertha Boomer, Santa Margarita, Cal.

STOCK RANCH for sale—about four thousand acres. A good sheep ranch—plenty of water and wood. Good buildings. Most of ranch fenced. Terms, if wanted. Address Box 139, Middleton, Lake co., Calif.

FOR SALE—Beautiful Sonoma County fruit ranch, 150 acres, deep sandy loam soil. Good income; good buildings; two miles to town. \$280 an acre for whole or part. Owner, Route 1, Box 109, Sebastopol, Cal.

FOR SALE—Ranch, Contra Costa County, 22 miles southwest Brentwood. 36 acres alfalfa, 5 acres orchard. Improved. John E. Davis, 3221 Illinois Ave., Fresno, Calif.

FOR SALE—Ten cow dairy, fully equipped; team, 8 head young stock, 40 head hogs, 50 ton alfalfa in stock. 20-acre ranch for lease; modern buildings. P. O. Box 374, Porterville.



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THE PACIFIC RURAL PRESS

SAN FRANCISCO

OCTOBER 11, 1915

LOS ANGELES

Los Angeles Prepares for Big Stock Show

Written for Pacific Rural Press.

LAST FALL when the influenza kept so many visitors from the Liberty Fair at Los Angeles that it did not make expenses, there was some question about its repetition. It is, however, to be repeated and repeated with a "hurrah, boys, altogether now!" effort that will make it irresistible this year, on October 18-26, at the Exposition Park in Los Angeles, as the "Los Angeles Live Stock Show." The justification for such a show impresses itself unavoidably upon the traveler in Southern California, where he cannot help but see a great awakening to purebred stock and a multiplication of such herds.

Last fall it was a southern-end-of-the-State Fair, or affair, aiming to show agricultural, horticultural, mechanical and livestock resources. This year it concentrates on livestock and greatly expands the territory from which it draws exhibits.

When we visited the wide-awake and hustling manager, C. R. Thomas, September 27, three weeks before the opening date, he told us that every pen had been sold, and it was yet to be decided whether additional buildings would be erected.

The buildings used by livestock last year were torn down and all livestock buildings this year are new, except possibly the race-horse quarters. The new exhibition sheds are about 150 feet long. Each one consists of two lines of stalls, separated by a broad alleyway. Four such buildings include 88 double stalls for the draft horses. Electric lights have already been installed. Eleven other barns of equal size have been put up for cattle, hogs, sheep and goats.

With all of these full of the best animals found at the earlier fairs, it will be perhaps the finest livestock show ever held in the West. Entries of cattle have been made from Missouri, Colorado, Washington, Wyoming and Arizona, besides California, and include a large number of each breed.

Besides three carloads of fat cattle, registered Shorthorns, Herefords and Angus will represent the beef breeds. Jerseys, Guernseys, Ayrshires, Dutch Belted, Milking Shorthorns and Holsteins will vie for dairymen's favor in great numbers.

Duroc hogs will be the most numerous of the aristocratic porkers, and Hampshires have assumed a place of long-merited importance. Berkshires and Poland-Chinas will not lack competition. Most of the hog exhibits come from California.

Percheron and Clydesdale horses will represent the draft breeds. Jacks and jennets are also entered for exhibition. Light horses will be featured not only in the exhibits of Arabians, thoroughbreds and ponies, but also in the races, of which an exceptionally fine program is being prepared. They have a splendid track and perhaps the best grandstand in the State on the Exposition grounds. Mr. Thomas says the saddle and driving horse show

will be the best ever held in the West. About ninety trotters, pacers and runners are entered for the money and are coming from Canada, Washington, Oregon, Kentucky, Nevada, Arizona and California. The race money amounts to \$20,000.

Half a dozen breeds of sheep from Oregon and California are entered. The goat show will be of bigger proportions than any previously held, except the one at Riverside this fall. Toggenburg, Nubian, Saanen and Anglo-Nubian breeds have been entered, and will be well represented.

The poultry exhibit will be the best ever in Southern California. It, of course, includes fancy rabbits and pigeons.

The University Farm at Davis will send its unusually fine exhibit of breeds, arranged as usual to show the effect of various progressive practices to increase the profits of stock raising. Livestock has been entered from Inyo, San Joaquin, Sonoma, San Francisco, Santa Cruz, Tulare and Kings counties, besides all of the counties of Southern California.

All but three of the judges had been appointed when we saw Mr. Thomas, but not one of them lives in California. They will come from Illinois, Indiana, Missouri, Oregon, Nevada and probably one from Arizona, but one of those not yet appointed is likely to be a Californian.

Manager Thomas has been untiring in his efforts to make this the biggest, best and most typical livestock show ever held west of the Rocky Mountains, and all indications point to unparalleled success following his efforts. Southern California has always been looked upon as a huge citrus grove, but those who are really acquainted with it know there are herds and herds of purebred livestock there. Then, too, this is a livestock show of the great Southwest, where many ranges and deserts are being irrigated, and where it is favorable for breeding livestock.

Those who are contemplating a trip to Los Angeles in the near future should see to it that they time their visit so as to visit this great show, for there will be both instructive and amusing features in plenty and of the kinds that really count. Los Angeles is a wonderful place to visit, with its beaches and varied attractions, but it will be doubly so at this time, with these added instructive and amusing features.

Campaign Inspection of Slaughtered Animals.

Dr. J. P. Iverson, chief of the Division of Animal Industry, has started a campaign for inspection of all animals slaughtered for human consumption within the State. The department under Dr. Iverson's supervision is making exhibits at the leading fairs of the State this fall, demonstrating the necessity for such inspection, and at our recent State Fair was kept busy.



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EDITORIAL.

LIVE STOCK IN SOUTHERN CALIFORNIA.

PROBABLY most of those who have pictured to themselves the peaceful invasion of California in the name of Christian civilization have allowed their fancy to play around a most picturesque procession, headed by the much-enduring Junipero Serra with uplifted eyes pointing his cross northward between the ears of his patient mule, and all the temporalities of his expedition following in due order. Such was not a true picture of the event.

Worldly, as well as heavenly, wise Junipero naturally shrank from displaying his sacred emblems in a cloud of bovine dust, and from diluting his sacred incense with volumes of ovine odors. And so Captain Rivera started northward from Lower California in March, 1769, with his cowboys and 200 head of cattle, sheep and goats, arrived in San Diego in May, and the weary beasts filled and groomed themselves in the flower-decked spring-time pastures, and were lowing and bleating contentedly over their abundance of creature comforts when Portola arrived in July with his royal seals and muskets for the conquest of a new country, escorting Serra with his regalia and other insignia for the rescue of souls steeped in barbarism. And thus it was that the actual pioneers, who brought to California the first tokens and agencies for the establishment of a higher civilization, were the cowboys of the spring of 1769.

RELATIVE RATES OF DELIVERANCE.

Fortunately man is eternally enjoined from the irreverence of calculation of relative efficiency between the two great subdivisions of Spanish motive in the occupation of California, because God alone knows how many souls were actually saved. And yet it is perhaps not impious for us to resort to the statistical method which the padres themselves employed, and whose records show that at the close of 1802 they had enrolled 15,562 converts at their eighteen missions, and in 1834 30,650 converts at twenty-one missions. Their inventories also show that in the same year the missions owned 424,000 horned cattle; 62,500 horses, mules and asses; 321,500 sheep, goats and swine. And it is perhaps pardonable for us to conclude that the padres were better farmers than sky-pilots, because that was the conclusion of their secular rulers and fellow-citizens who collected political force enough to dispossess them of their temporalities and put them out of the running for the material development of California. We do not judge the act nor the actors, nor estimate the greed and impiety involved in it. The fact seems to be that not only were the quadrupedal live stock undertakings of the missions first to arrive on California soil, as already noted, but in the judgment of the time attained a greater and more valuable development than their incursions into bipedal psychology—or, in other words, they did more for the soles of distant people, in the hides which they slid down the ocean cliffs of Southern California to the waiting Yankee skippers, than they were permitted

to do for the ethereal parts of their aboriginal proteges. We are not writing controversially of an issue which has been dead for a century, nor are we comparing spiritual affairs with temporal. We are simply trying to emphasize the fact that in laying the foundations in California for a commonwealth of prosperous and contented Americans, the old padres builded better than they knew.

BEYOND A COW-BOY'S DREAM.

It is fair to presume that none of Rivera's cowboys of 1769 had even the faintest dream of the outcome of the enterprise which was in part entrusted to him. Even the lush meadows and hill-sides of San Diego in May probably did not suggest to him the full capacity for the animal industry of the new country to which he had driven his flocks and herds. Even if he had seen but a little way into the future, the vision would have appalled him, for he would have seen his 200 animals of 1769 multiplied to 170,000 in 1739 to minister to most wanton, but still unavoidable waste. For nearly half a century the natural increase of the little bunch he had convoyed to such rich pastureage and favoring salubrity had to be slain for hides and pelts until the whole landscape stank with the residues, for which the fragment of humanity then resident had no possible use. Such a vision would surely have vexed him sorely, and it was mercifully denied to his mental sight. But if he was spared this suffering, he also lost the farther sight which would have revealed his effort as a providential provision for the development of California as we now possess and are proud of it! The services of the padres in the preparation of California for American occupation is inestimable. Suppose they had not brought their live stock and multiplied it as we have indicated, and if the ranchers away from the missions had not had the materials for their own extension, it is impossible to measure how the enterprise of the gold-seeking Americans of 1849 might have been slowed down. It is very sure that the people who made California a State in 1850 could never have accomplished it on a menu of acorn-cakes and clam-chowder upon which the barbaric aborigines subsisted. It required plenty of roasted and boiled beef to start California on her wonderful career and the padres made such munitions available—and thus they led in a Christian civilization, though not in the way they planned to do it.

ESCAPING THE APPETITES OF THE ARGONAUTS.

Of course the animal supply did not hold out against the hunger of the gold-seekers much longer than the wines of the missions appeased their thirst, but it gave them a start and kept them going until beef could be brought on foot from New Mexico and Texas, and it also started something else which lasted longer. The American farmers who came with the gold-seekers rescued from the appetite of the Argonauts animals to start their own grazing enterprises, and they made good use of the favoring climate and unlimited pasturage. In 1856 Governor Bigler declared that California stood as high as eighth in the list of States in the census of farm animals, and the multiplication advanced so rapidly that it was estimated that not less than a million head perished in the drouth of 1864. After that the repopulation of the ranges, through the multiplication of pure-breds became notably better than the mission stock, but the latter was still in the foundation, in which it may be discerned, though dimly, to the present day. Upon this foundation, ennobled by the pure-breds, arose the herds and flocks which contributed to the establishment of the range interests of the interior mountain States—especially in the line of grade merinos, which were the chief foundation stock of the great interior wool-growing States, like Nevada, Utah, Idaho and Montana. Thus it was that California passed onward to the development of the whole Pacific slope the offspring of the few hundreds which Rivera brought across our southern boundary in 1769.

SOUTHERN CALIFORNIA'S CONTRIBUTION.

To this development of the whole State and beyond, which we are merely hitting here and there

as our space permits, the contribution of Southern California was most interesting and important. Not only was the upbuilding of the livestock industry at the south first in point of time. The Southern California coast and interior valleys were alive with cattle and sheep while the Sacramento valley was largely the hunting grounds of grizzlies after herds of antelope and the San Joaquin Valley a desolate ocean of land. Southern California hides were gliding over the bluffs to be roped to the decks of trading ships for decades before a foot of redwood had struck the waves of the upper coast, and Southern California was first swept clean of edibles to serve San Francisco and the mines. Under this stimulus Southern California teemed with cattle and sheep and great pastoral establishments were built up by early-coming Americans, who attached themselves by purchase or marriage to the land and established families whose names are still prominent in the blue-book of Southern California society. While this development was slowly proceeding the great rush for the development in central and northern California set in and, in contrast thereto, Southern California became the synonym for dolce far niente in the annals of the State. Then came the southern rush of the latter '70's and the '80's and, though its main objective was the gold of the orange, the ancestral glory of the south in animal husbandry was not forgotten, and the fame of Southern California stables for speed, of her pure-bred herds for beef and dairy production, and her flocks for fineness and volume of wool production went abroad throughout the country and the world. This, too, would have been a happy dream if they could have imagined that they were really doing things greater than their conscientious duty revealed—the feeding of a few good padres and a better race of Indians.

TIME, THE GREAT REVELATOR.

It becomes us to honor the memory of those who did their duty well, according to the light they had of the needs of the country, though they could see none of the glory of a great State to which they unconsciously ministered. To such service is this issue of our journal largely devoted, for we count it a tribute to the devotion of the padres and the faithfulness of their cowboys that the great Live Stock Show in Exposition Park, Los Angeles, on October 18 to 26, becomes possible and pertinent. Seven years before the Declaration of Independence set the country free to plan and to achieve an America for a world to conjure with, this far southwestern corner of American geography caught its first ray of light sublime and felt its first touch of industry—the twin forces in the attainment of human civilization. And though, of course, as other writers in other columns of this issue amply set forth, the coming exposition in Los Angeles will be concretely suggestive of industrial achievements and educative in the ways and means of such achievement, we enjoy the thought of possibly suggesting to some reader that the event as wisely planned and generously carried out will have a significant place in the history of an industry which has served California well from the beginning, and has the potentiality of much greater service in the future of the State.

OPPORTUNITY IN SOUTHERN CALIFORNIA.

The great stock show in Los Angeles is the second of the trio of such events of the first magnitude which will be held within the borders of California this year: the first was the State Fair at Sacramento; the second at Los Angeles as dated above; the third will be the California Land Show in San Francisco.

Besides these three primary events, which we believe no other State excels either in number or in total achievement, we have a number of secondary events in districts and counties which are notable. The purposes of all these enterprises are several: First to make known and promote our animal industries; second, to round out our agricultural interests by the widely diversified production which all California conditions favor; third, to reinforce our soils for all crops which tend toward depletion by a basic industry which makes for soil-restoration and thus renders all

other lines of production secure. All these purposes are state-wide and their attainment will benefit all the industrial, commercial, social and intellectual undertakings for which California is famous, and which are contributing increasingly each year to the greatness and perpetuity of our commonwealth.

Southern California is a splendid example of diversified production and symmetrical development. In the particular lines of the animal industries the position of the counties south of Tehachapi and east of the great turn in our coast line at Point Conception, has been shown to be one of historical leadership. At the present time the position of Southern California is one of supreme potential leadership. Southern California of today is the same as that of the padres and the pioneers only in one particular and that is geography. In the matter of possible production, Southern California is so changed that neither padre nor pioneer would recognize the field of their early undertakings. Her valleys have been certified, and great areas of her deserts transformed into certified valleys by irrigation. Her hillsides have had their rainfall-effectiveness certified by dry farming. Her wild pasturage has been rendered a safe recourse by association with small areas here and there reclaimed by wells. Her populous towns afford home markets for a considerable increase in animal products, and this animal increase calls for corresponding increase in field and forage crop production. Then, too, neither padre nor pioneer would recognize the animals they introduced, and developed in the improved forms and heightened production of the pure-breds and their grades which now constitute so largely the live stock of the country which has displaced the long-legged, cat-hammed cattle, the gothic sheep, and the razor-backed hogs and circus-poster goats of the old regime. Southern California has advanced splendidly in the new standards of desirability in all the kinds and breeds, and will delight in showing them at the exposition of October 18 to 25. People from all parts of the State should be running down the State Highways to Los Angeles or filling the trains in that direction. It is, of course, not a Southern California exposition in its broadest sense, for herds from all parts of the State and beyond will be represented and people from everywhere will participate in it, but still we count it an undertaking for which Southern California should have full credit, and in the profit and enjoyment of it every lover of Southern California, no matter where he may reside, should eagerly take part.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Cracking-in Alfalfa!

To the Editor: I have been advised to sow wheat on the land that I have checked and leveled for alfalfa. Then in March, or early in April, when the ground has begun to check and crack on the surface, to sow my alfalfa seed broadcast in the wheat and immediately irrigate. It is claimed that the water will carry the seed into the cracks and it will soon sprout. Is this system practical? It is the common practice in Idaho, I understand.—D. L. S., Antioch.

It might work as your irrigation supply, might keep the growing wheat from drying out the sprouting alfalfa, which it surely would otherwise do. If you wish to try it you must, however, study out a California time schedule. In a California wheat field in March or April much of the fine alfalfa seed you broadcast would be hung up on the sheathes of the heading wheat plants and never get to the ground. In Idaho at that time of the year the wheat plant has probably not shot any seed stems at all and more of the seed would get to the ground. Whether the alfalfa would ever come from the cracks would depend on how wide and deep the cracks were. In a dry spring on a heavy soil the alfalfa would have a better chance of showing up in Shantung than in California. We have often heard of these wonderful short-cuts in getting a stand of alfalfa as practiced in Idaho and other progressive States, but in California you had better stick to the good old-fashioned California way of putting in the seed just as well as you know how,

and giving it the sole use of the land if you wish to get a good full stand.

The Quince Stands Pat.

To the Editor: What are the present marketing possibilities of the quince? I have the Seventh Edition of your "California Fruits," but as this was published in 1914 perhaps conditions have changed since that time. Would it be advisable to plant out an acre or two of quinces; that is, could the fruit be marketed at a fairly good profit to the grower? I have an acre or two of rather low, moist soil which may be best adapted to the quince, but I would like to know market conditions before planting.—R. S., Visalia.

The quince is the least progressive of all our fruits—even the pucky persimmon has a more open countenance. It has never been possible to develop a demand for the quince in the distant markets where we are selling other fresh fruits. It has been expected for several years that such a demand could be aroused for such a large, handsome and quincely flavored fruit as a California grown quince is, but such expectation has not been realized and profitable shipments are strictly limited. Californians use very few quinces, and eastern people are able to supply themselves and do not need our help. However, sometimes the fruit sells very well and you might strike it all right with an acre, but that would be the limit to our notion of planting. You are right that the quince will stand wet feet better than other fruits except perhaps the pomegranate.

What Prune in a New Place?

To the Editor: I am thinking of planting prunes in a section of dry air. I am unable to get the improved French prune, and I am advised to plant Imperial with a Robe de Sergeant every fifth tree for pollination. Do you consider this advisable, or is the improved French prune better?—N. E., San Luis Obispo.

We consider the old French prune, which is now making most of our great prune crop, much safer to plant in a new place than the Imperial or Robe, either alone or together. We know by experience that the old French prune is one of the most adaptable and productive of the whole plum family—therefore, safest to plant in untried places. There is pretty good evidence to believe that Imperial and Robe do better together than separately, but this is not of prime importance until we know by experience that they do well in the place where it is intended to plant. The several improved French prunes are promising to be better worth planting than the old French, but we are not sure yet that they will have the wonderful adaptability of the old variety, although presumably they will. As to the suitability of the conditions you mention, we would not care to plant prunes unless you have a rainfall of about 20 inches and a deep, retentive soil or an irrigation supply to be used as needed.

Nursery Stock in Orchard.

To the Editor: Would it be advisable to plant nursery rows of pear trees between a three-year-old pear orchard as an intercrop? I wish to grow a sufficient number to plant 80 acres of pears. Could they be grown on a commercial basis as an intercrop? The soil is a slightly heavy loam which gets fairly wet in winter. Would the digging of the trees during their dormant stage have a detrimental effect on the ground?—H. W., Oroville.

One or two rows of seedlings between tree rows could be set this winter and budded next summer to be removed for planting out in 1921—without particular injury to the young orchard trees if you cultivate well and irrigate as needed. Of course, you can plant them or sell them as you see fit, but to do a continuous nursery business in an orchard will be bad for both. It will not hurt the ground to dig the trees and it will not hurt the trees to dig the ground unless you crowd the rows so closely that you dis-root the old trees in getting out the young ones. At the same time if we had ground available, we would not try to grow two crops on the same piece at the same time.

Grain Silage.

To the Editor: Does barley or rye make good silage? If so, when should they be cut for best results. A. M., Hanford.

Yes: if put into the silo right—so as to exclude excess of air which will carry fermentation into decay. The safest way to do this is to cut into

half-inch lengths and pack down thoroughly. It should be cut when the grain is between the milk and the dough. Rye should go in a little greener than barley needs to.

More About the Peach-Almond.

To the Editor: Noting Mr. Bergholdt's inquiry in issue of September 27th, in regard to the peach-almond, I have grown this and used it as nursery stock whenever I could get the seed for a good many years. We have stock in the nursery now on this root and also have grafted over a number of large almond trees in our orchard for the purpose of producing seed. The stock roots similarly to the peach—the only apparent difference being its increased vigor. The fact is, I raised nursery trees on this stock in Napa Valley in the early 80's. Apparently the only reason why it has not been more generally used is its scarcity.—Leonard Coates, Morganhill.

To the Editor: I am thankful for your very interesting historical data of the peach-almond in your issue of September 27. It occurred to me that if there were no demerits and if the peach-almond were better as a root stock than either the bitter almond or the peach, such experiments as you mention would, in the course of these years, have demonstrated it. Mr. Reinecke, foreman of our nursery, who is an old-timer, advises that 25 or 30 years ago he observed a block of peaches that were propagated on peach-almond on which the peach trees were dwarfed. However, we will try the matter out ourselves for several years until we are able to demonstrate whether it is suitable or otherwise.—J. E. Bergholdt, Newcastle.

These notes are interesting and valuable. It is possible that Mr. Reinecke's observation may present one aspect of the fact that the peach-almond has never prevailed. Dwarfing effect has cast out many stocks from California use—including all the seedlings of our wild fruits except the Central California species of the native black walnut. Your conclusions will be watched for.

Manure from Different Animals.

To the Editor: Please tell through your valuable paper what is the value of chicken manure on peach, pear and prunes. Which is better—chicken manure or ground sheep manure?—F. C. R., Geyerville.

Before the war, when all fertilizing substances were cheaper than they are now, Cornell University, chemists figured out the values of the plant foods contained in a ton of the average manure from different animals, as follows: Cows, \$2.37; horses, \$2.79; sheep, \$4.19; hogs, \$3.18; hens, \$4.22. These figures are valuable as showing relative value. They show that sheep and poultry are practically equal in fertilizing contents: that both are 25 per cent more valuable than hog manure and a little less than 50 per cent more valuable than manure from cows or horses. This is true, providing all the manures are free from excess of dirt or moisture. If so, the stimulation of plant growth when they are reasonably applied to the soil, may be about in the proportion indicated. As hog and hen manure are relatively so much stronger, they must be more cautiously applied.

Subduing Malva.

To the Editor: Will you kindly tell what is the best means in your opinion to destroy the weed commonly known as "white malva," or as some call it "round-leaf malva," where it is growing in walnut orchards?—H. E. C., Santa Barbara.

We should keep plowing it under as a cover crop just as often as it gets high enough to do that conveniently and completely. Unfortunately this will kill it out, for it will have no chance to make seed. We should prefer to have it keep on coming just for the sake of plowing in for the enrichment and mellowing of the soil, but of course do not let it stand too long for that will waste valuable moisture.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending October 7, 1919.

Stations—	Past Week	Rainfall		Temperature	
		To Date	Normal To Date	Highest	Lowest
Eureka .....	.68	1.65	1.92	72	46
Red Bluff .....	.35	.86	1.12	86	50
Sacramento .....	.02	.53	.54	84	50
San Francisco .....	.16	.56	.44	83	54
San Jose .....	.00	.28	.52	86	44
Fresno .....	.00	.27	.44	86	50
San Luis Obispo .....	.00	.40	.63	86	44
Los Angeles .....	.00	1.25	.13	86	54
San Diego .....	.00	.26	.13	80	54
Winnemucca .....	.34	.70	.82	70	28
Reno .....	.08	.48	.73	72	30
Tonopah .....	.00	.39	1.34	62	28

Vegetable Growers Assn. on Better Basis

Written for Pacific Rural Press by R. E. Hodges.

Out of chaos comes order. Out of mistakes will come perfection. Out of loss comes wisdom. So it seems in the case of the "Vegetable Growers of California Inc." This association is the outgrowth of the California Tomato Growers' Assn., whose one year of operations proved to be a rather expensive mixture of unavoidable misfortune and possible abominable mismanagement.

It is our belief that no one embezzled money belonging to growers; but much censure of the business management is due, not only because of individual losses but also because of the bad reputation it tends to give co-operative concerns. The affairs of the Tomato Association are still in a mess and many growers who delivered tomatoes last season are still waiting for part of their money which is acknowledged to be due them. Several lawsuits are still dragging on. Some have been settled in favor of the Association. The latter's bank accounts were attached a while back, and \$7500 is in the hands of the Superior Court as a cash bond in one case. The Association last year built a cannery in Orange county at a cost beyond its commercial value. They have been trying for months to sell this factory. The Vegetable Growers' Ass'n has taken it over at a valuation of \$25,000, which is a great deal less than it cost, but they would like to sell it for still less.

In the financial report of the Association are items of \$4,304.94 loss on spinach seed and \$1,260.97 loss on tomato seed. Salaries and expenses for organization, executives, branch managers, stenographic help, accounting department, and field men totaled \$39,458.77 on one year's operations in which 30,102 tons of tomatoes were delivered to canners. Attorneys' fees totaled \$10,878.70, due not only to attacks of packers and others on the Association, but also to some litigation originated by the Association. Commenting on this latter item, President Mark Grimes says: "When the Association was threatened with disaster, it had to defend itself legally; and when such defenses cost more than the percentage allowed, it was right that we should pool this expense against all growers."

Basis for the Unusual Expenditures.

The Association contract with growers provided that the grower authorized the Association "to pay on his account all freight, cartage, loading, and any other proper charges, and in addition authorizes said Association to deduct an Association charge . . . not to exceed two per cent of the gross selling price." It is on the basis of "any other proper charges," above mentioned, that the Association justifies itself for spending \$64,061.30 on its operations account, while it collected membership fees and two per cent Association charges totaling \$14,068.94, leaving a deficit on operations of \$49,992.36 to be charged as "any other proper charges" in addition to loss accounts totaling \$16,615.81. Some disputed items are also figured with the losses, making a total net deficit of \$69,197.07 for organization and operation. This deficit has been charged against the total tonnage, making \$2.30 per ton to be deducted from the growers' prices besides the two per cent charge. The Association has assets in process of liquidation amounting to \$1.14 per ton which, if completely collectible, will make the final settlement with members total \$15.34 per ton for tomatoes delivered last season.

About a year ago the tomato association began to market the crop from 9500 acres. They set a price of \$18 per ton to growers f. o. b. shipping point. Opposition of course developed, but for a few weeks growers got their \$18 less two per cent Association charge; and settlements were made weekly at \$17.64. As this is more than the final settlement price later found necessary, an effort is being made to get growers to refund the excess so it may be distributed to

FAVORABLE CONTRACTS BEING MADE WITH CANNERS.

The Vegetable Growers of California, Inc., are not aiming to operate canneries of their own, but are seeking and obtaining agreements with canneries whereby the growers assure the canneries a plentiful raw supply and the canneries assure the growers of a certain market for their vegetables of all kinds at stabilized prices. Certain negotiations to this end are still pending, but the Association already has splendid contracts with several canneries in Southern California, according to Secretary J. M. Rittigstein. Southern California growers received about \$14 a ton for their Earlianas and \$15.50 to \$16 for the later varieties. Santa Clara growers are receiving about \$15, San Joaquin \$16, Alameda and Contra Costa \$15 to \$16, and Sonoma \$11. The policy of permitting each district to make its own contracts and prices has been carried out. Reasons for the low Sonoma price are the poor financial condition or small size of many of the canneries there, and the fact that the growers approved this price when the markets looked anything but promising early in the season. Contract prices in full are paid by all canneries direct to the growers each week for tomatoes delivered the preceding week, deducting only the Association percentage.

Two suits involving \$10,000 will be tried in Los Angeles county next month, and if they result favorably growers who delivered crops last year will receive a substantial addition to what has already been paid. Membership in the Vegetable Association is increasing steadily as growers realize that in co-operative marketing is greatest protection for the individuals.

growers who otherwise will have received less than the \$15.34 mentioned above. Feeling against the policy of one price for tomatoes from all districts is preventing prompt return of the excess.

Unavoidable Difficulties Encountered.

Unavoidable hard luck almost from the beginning added its burdens to those of poor management. Food Administration officials, with a California packer in a leading position, discriminated against California growers by trying to beat them down to \$15. It was only by vigorous fighting and the aid of a Senator not from California that the \$18 price was finally allowed. Then local packers in violation of the spirit of certain Food Administration rulings offered members of the Association as high as \$20 for crops already agreed to be sold through the Association. It cost something to keep those members in line. The Association had contracted with canners to deliver a certain tonnage of tomatoes. But the weather was dry and in two principal districts the acreage was reduced as much as 55 per cent. Total delivery was made from only 60 per cent of the original 9500 acres. The crop was shorter than had been considered in the contracts with canneries. Then as a climax came the September rains, which spoiled a great tonnage. This involved the Association in litigation for non-delivery.

Meanwhile, the Food Administration one day commandeered all of the solid pack of the California canneries and enough of the other grades to include 45 per cent of the total pack. But the Government would not pay until the goods were inspected and there was no hurry about inspection. Canneries could not make payments to growers and the latter became discontented. Due to urgent requests of the Food Administration the Association advised its members to keep on delivering tomatoes and wait for their pay until the Government should pay for the canned goods. After deliveries were completed, came the armistice and the Government turned most of the tomatoes back onto the canners without pay! Prices at once dropped from \$1.65 per dozen for California standards in San Francisco to \$1.30, and no buyers wanted them at that price. Banks had financed the canners and there was no way for the Association to get the money due its growers except to take over the canned tomatoes which nobody wanted. Several canneries became bankrupt with the Association holding their notes. Others are still trying to finance themselves and make payment. Still others refused to pay and the Association sued them. Some of these suits have compelled payment by the cannery involved. Others are pending, and important adjustments are being made such as those noted in the panel on this page.

Lessons from Hard Experience.

The year's experience, aside from the unavoidable hard luck, showed several lessons clearly. (1) An Association, organized to handle tomatoes only, could never succeed because there are too many fixed overhead expenses to be borne economically by that crop in California even under normal conditions. (2) The same price to growers all over the State is unfair because in one district a greater percentage of the crop gives a solid pack and buyers pay more for such tomatoes. The number of canneries and competing buyers in a district influences the price offered there. Less fortunate districts must sell at a price which considers greater transportation and handling costs. (3) The Tomato Association contract permitted growers to ship all the tomatoes they wished to fresh fruit markets. This made the total amount available for canneries very undependable and got the Association into trouble because it agreed to sell more than it could deliver under conditions which developed. This was made worse because no acreage was stipulated in the contracts. Last season, shipping tomatoes brought \$45 while the Food Administration was trying to beat the growers of cannery tomatoes down to \$15. Extra men had to be put into the field to convince growers that they should ship to canneries in fulfillment of Association contracts rather than to fresh markets. (4) The Association had no capital fund, yet it had to deposit with canneries 25 cents per box for every lug which canneries loaned to Association members. Many of these boxes were broken, lost, or kept, and the Association could obtain no refund for such.

Association Expanded—Better System.

Out of these and other mistakes came the wisdom which led to the formation of the "Vegetable Growers of Cal. Inc." Members of the Tomato Growers Ass'n are released from their old contracts when they join the new organization. This is built on different lines from the old Tomato Growers Association, safeguarding growers in their rights and enabling the new association to know what it may do, how much of each crop it will have to sell, and how much the minimum price will be. It will do enough business so the overhead will be reduced to proper proportions.

Local Committees Control Each District.

The most radical change lies in the provision that an Advisory Committee of nine or more growers in each separate district shall name prices for vegetables in its own district, select the canneries or markets to which they are to be delivered, the manner and method of delivery, and the manner and method of paying growers for the vegetables. All of the Advisory Boards to date have determined that the canners will pay the growers

directly on delivery, retaining and remitting to the Association only the Association charges, which will be three per cent. They have in some cases already agreed in writing with the canners on these points. This change was made largely at the suggestion of Secretary Takimoto of the Japanese Association of America, who said that without such local management he would advise all Japanese to withdraw. The local Advisory Committees are selected by the Association Board of Directors and perform whatever functions the Board of Directors decides. The latter body as provided in the by-laws consists of seventeen members. The first Board which includes all of the incorporators stands as follows: Mark Grimes, Santa Clara; Geo. Irwin, Santa Rosa; P. W. Bussman, Windsor; W. W. Walton, Centerville; Lew Smith, Manteca; F. D. Roberts, Manteca; Geo. R. Scott, Manteca; Oscar Benson, Los Gatos; Sumito Fugli, Berkeley; H. Nishikawa, San Jose; K. Yano, Milpitas; F. M. Funabiki, Mountain View; G. T. Nakamura, Mountain View; Geo. P. Lowrie, Centerville; J. D. Norris, Centerville; Walter M. Stevens, San Jose; N. B. Galbraith, San Jose.

Directors Almost Omnipotent.

The form and personnel of the new organization appear in general to be safe and of great advantage to growers. There may, however, be a serious objection to the omnipotence of the directors as revealed in Articles of Incorporation and By-laws. This seems to be properly safeguarded in the articles of incorporation, which provide that each member of the Association has one vote and only one, and that Directors shall be elected by and from the membership annually. The articles of incorporation also provide that "all activities of this Association shall be non-profit and co-operative in character and shall be limited to activities arising out of the financing of its members, or the production, preserving, canning, drying, packing, processing, shipping, storing, warehousing, handling, and marketing of their agricultural or horticultural products or any of them." Notwithstanding these universal possibilities covering the entire field of farm production and marketing, it is at present proposed only to market cannery and shipping vegetables. No intention now exists to operate any Association canneries.

Main offices will be maintained in San Francisco and Los Angeles, with eight branch offices in tomato districts. A sales manager and secretary of well known successful commercial experience, J. M. Rittigstein, has been selected to gather statistics and market information and to find new markets so the local Advisory Committees may have an intelligent basis for their operations. Standardized agreements have been made with buyers. Commission men handle Association shipments at a lower charge than individual shipments, and the Association can watch them as individuals cannot. The Association will be able to deal more efficiently with canneries. Financial difficulties and "welching on contracts" will be minimized. Peas and string beans for canning have been handled this season; and tomatoes, cabbages, cantaloupes, sweet corn, potatoes, and all kinds of fresh market vegetables have been marketed. It is designed to be a powerful central agency for correlation of the local districts in the growing, financing and marketing of crops.

A good buyer looking over a shabby property is quick to assume that the seller is badly in need of money, and he dickers accordingly. If the buildings are neatly painted, however, if the yards are planted systematically to grass, flowers, and shrubbery, and if the fences are in good shape, it not only creates a strong desire in the buyer, but it also indicates that the seller is not to be browbeaten. A neat farmstead is worth more than it costs.

Tractor Does It All on 110-Acre Orchard

(Written for Pacific Rural Press by Jno. J. Fox.)

We asked this question of Percy R. Dexter of Gilroy, who takes care of 50 acres of old prunes on his old home place and 60 acres of young orchard of his own. His answer was "You can't compare them. It is no use to figure on the cost, for the tractor does the work so much quicker and makes a better job of it. I would hate to go back to horses again."

This is the second tractor Mr. Dexter has bought and he is well pleased with the way it handles his tools. It is a four-wheel type machine and on his ground he pulls four twelves with it. For heavier land and deeper plowing three would be the right load. He pulls a drag right behind the plows to avoid going over the ground to harrow as a separate operation. This is a great saver of time of course, but it is a still greater saver of "condition" of the soil. He finishes the whole of his plowing in April.

The trees are vigorous in color and carried good fruit and a fair crop. He goes over 20 acres a day with these tools.

Now Let Us Try Horses.

Supposing we were working this 110 acres with horses, what are our requirements? We would need two four-horse teams and two men to begin with. For you skin up too many trees trying to swing eight, especially with fenced headlands. Now we are not going to plow and drag down over four acres a day and do it right—for we have to count in the single plowing. Plowing a grain field is one thing and plowing an orchard is another. If the leaders are permitted, they will pull into every tree they can, especially if the flies are beginning to bother. Their head stalls, hames, and gear carry away fruit twigs and small branches, damaging



This tractor, as can be seen, has plowed up the trees without horse labor. It can also, with this plow, throw away from the trees by an adjustment of the hitch with this plow, using a rolling coulter set deep to avoid chopping roots.

Single Plowing Eliminated.

We asked Mr. Dexter about his single plowing and he said, "I don't need to do any single plowing. I can plow up to my trees quite easily with my outfit. I plow to every alternate row of trees and work clear across to the next row, leaving no dead furrow. There is only half the orchard to plow 'from,' and by setting my hitch over, I can cut the trees out clean in my young orchard, and cut out in the old orchard as close as you can with a horse."

Now this is a very important point. We have heard a number of men say, "Oh, well, I have to keep horses anyway for single plowing and odd work. May as well make them do it all." If one or two horses are kept only for single plowing or running to town with a light load, there are certain cases where this would be far more expensive in time and money than there is any necessity for. The light adaptable orchard motor truck gets away with a lot of odd work in a day and a tractor that eliminates small work is going to throw a good many horses out of a job.

Tools for Cultivating.

In working his mulch Mr. Dexter uses an 8-foot double disk cultivator, the rear gang being cutaway. He runs a ring roller (pulverizer) disk and drag (clod masher) hitched one behind the other and goes over the 110 acres three times—about two weeks apart—no irrigation practiced.

HEAVY CUTTING IN FIG ORCHARD.

(Written for Pacific Rural Press.)

Mrs. B. C. Hatch of Merced has 15 acres of 25-year-old White Adriatic figs that had grown so top-heavy with foliage that many of the trees were laid open to the sun. Also much of the fruit was running small on the old small wood. Mrs. Hatch determined to rehabilitate the orchard and started in last year with a very heavy pruning. Then all the trunks and branches were given a heavy coat of whitewash. The third week in May we saw it after the first irrigation and lots of new vigorous wood from one to two feet long were in evidence. After some years of

renting Mrs. Hatch is now running the place herself. On one side of the orchard she has been blasting through the clay in the middle of the rows and expects the improved drainage to bring results—also liming.

Mrs. Hatch has faith enough in figs to have planted out another 20 acres of figs adjoining the old orchard, and a fine field of barley, which was about ready to harvest, may also later go into figs. She recognizes the importance of the fertilization of fig orchards and intends to experiment along various lines of cover-cropping and top dressing. We saw this orchard last November and think that a good piece of work has been done here.



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Plenty of Labor on the Sespe Ranch

[Written for the Pacific Rural Press by John J. Fox.]

When President Benito Juarez—the George Washington of the Republic of Mexico—was asked for his definition of "Peace," he replied in brief: "El respeto del derecho del tercero."—Respect for the rights of the third party.

If we follow this out it means that those interested in any undertaking who may not be consulted, have nevertheless to be considered. Because our lowliest citizen has the "divine right of kings." This is the root of our Tree of Democracy. Liberty is its trunk, Equality its branches, Fraternity its leaves and Broad Humanity its firmament.

More and more each year is it evident that our farmers and orchardists are applying their thoughts to the care and comfort of the men of the rank and file who assist them in carrying out the active operations in the field. The dignity of labor is more widely recognized year by year. The very men who once moved so actively for cheap Oriental labor now recognize the danger of peaceful occupation of our most fruitful centers by the alien. They perceive the gain to themselves and their communities by an influx of the best class of white labor. In one day recently we saw three different instances of this, but we will mention just one.

At Sespe on the Fillmore road (Ventura County) is an important undertaking. Of its 1,650 acres, 700 acres are in lima beans (irrigated); 350 acres of lemons (Eurekas) and some oranges, 60 acres of walnuts besides grain and pasture. When we were there early in June they were picking nearly a carload of lemons a day and shipping four carloads a week from their own station—for they have a good summer crop. There are 155 men working on the place, and R. A. Graham, the superintendent, said that they have had no trouble in keeping good help. Even during the war they made out all right.

The Reason Why.

We went to look over the ranch buildings. The care devoted to this most important detail on a large ranch was at once apparent. It is not a detail here; it is a department. No detail of the department is overlooked.

The first building we entered had accommodations for 30 unmarried men and another was under construction adjacent to hold 30 more. The commodious and airy reading and recreation room is well screened from flies as is the entire building which is lighted throughout by electricity. The room has ample heating arrangements and contains a billiard table and card tables—is in fact a well kept club-room.

The dining room is well shaded and scrupulously clean. The kitchen with its painted walls, white bins and shining pans is neatly appointed enough for a first-class hotel, while the smiling chef in his white cap and white attire looked a worthy head of this department.

How It Is Done.

We asked Mr. Graham how the neatness in this bachelors' club was managed, for we saw the rooms and found the whole building in keeping. He said: "We keep a Japanese janitor whose duty it is to keep things clean and in order. There is no large dormitory. Every man has a small, outside, well-screened bedroom or cubicle to himself—properly appointed. Blankets and sheets are furnished, and the men's beds are made and their rooms kept clean by the janitor. All sheets and pillow slips

are changed and washed twice a week. There are five bathrooms and the men can have their daily bath of cold water. Hot water is furnished for the baths twice a week. The toilets, washroom towels and everything are looked after by the Japanese janitor."

The Class of Help and Wages.

"We always have a good class of white help, also of Mexican help, because we consider their comfort and they reciprocate. No private blankets are allowed in our club-house. If a man brings his own blankets they are locked up in the barn and stay there—we provide all bedding. We are paying our teamsters \$2.25 a day with room and board and \$2.75 and cottage to married men together with a piece of land—100 by 100 feet—for a garden and water to irrigate—also loan him a team when wanted to haul wood, etc. The best of everything is bought for the men as you see, both meat and other commodities. It is well cooked, well served in a clean, screened room, and the tired man comes to his quarters knowing he will be satisfied and refreshed to as great a degree as any millionaire at his club and without any annoyance of having to give tips for his service—entirely free from anxiety."

Hours of Work at Sespe.

"Our men start to work at 6:45 A. M. and are back to the ranch at 12. Start again at 1 P. M. and are back at 5:30. On Saturdays they quit at 4 P. M., the quarter of an hour each morning making up the time.

This gives them a chance to clean up for Sunday. We have 56 head of mules on the ranch and a "stable buck" looks after cleaning out, bedding and feeding. We also have two track-laying tractors—one 60 and one 30—with machinist and shop. Our pumping plant furnishes 250 inches of water and it takes us about 5 weeks to irrigate the whole place. And then we start again."

The Old Times and the New.

Our thoughts wandered back to the early nineties when teamsters were getting \$15 a month, slept in the barn and darted from the dining-rooms just as quickly as they could bolt their provender; when it was more difficult for the fruit grower to pay that \$15 a month than it is today to pay \$2.25 a day and A-1 grub; when a farm free from mortgage was the exception. Horse shoeing cost \$1 a set (put on) and harness was repaired at home with baling rope and bed springs or pieces of old boot-leg. Work was from 6 A. M. to 6 P. M. and then chores.

Much Educated Labor Used.

Education and organization are to be thanked for the changed conditions. A lot of labor on the farms is educated labor and college or high school boys who wish to gain the experience that only actual field work can teach.

EITHER FINELY GROUND OR SUBLIMED SULPHUR.

The above heading should have been used on page 446 last week. To make this plain we quote from the University Circular No. 204 (Handbook of Plant Disease and Pest Control), as follows:

"Dry sulphur.—For dusting upon plants for the control of surface mildew, red-spider, or other parasites, the fineness of the sulphur is an all-important consideration. Flowers of Sulphur, the finest and fluffiest grade of sublimed sulphur, has been heretofore recommended as an application for a dust. At present, however, there are upon the market several brands of extremely finely ground sulphurs, which are finer than the best grade of sublimed sulphur and no more expensive. Some of these sulphurs, which have been specially prepared for dusting, are ground to pass a 200-mesh bolting cloth. These are apt to cake or to clog the dusting apparatus. If three parts of sulphur are thoroughly mixed with one part of hydrated lime, Kaolin, or other inert powder, these difficulties may be avoided."

Watch this Page

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Will pack and can meats, fruits and vegetables.

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Buy only Melilotus seed that has a quality tag on each sack. It protects you against the low germination seed so general on the market this season. This seed is above 99 per cent pure and above 90 per cent germination.

END OF SEASON FOR PEAR MEN.

The canners have settled up for the season's canning pears, paying them about \$1,000,000, which represents about 12,000 tons of pears, or 11 per cent of the crop. This fine showing has resulted from organization on the part of the growers, especially so as many obstacles had to be overcome, such as shortage of labor, shortage of boxes, telephone strike, etc. The shortage of boxes resulted in the pears remaining on the trees longer than they should. This condition, coupled with some high winds, made a heavy loss from windfalls.

There will probably be about 5,000 tons of dried pears for this season. This represents the equivalent of 25,000 to 30,000 tons of green pears, allowing five or six green to one dry, including windfalls. The speculative age has passed for dried fruits now. A few dried pear men who might have sold in the summer at 22 cents will probably be lucky to get 15 cents now. The fluctuating and low rates of exchange in Europe make it impossible to buy with certainty except from hand to mouth while the high prices on this side are 15 per cent to 20 per cent higher in London on the Exchange alone. Food control, fixed prices and embargoes are all factors in reducing export, and we have heard of exporters who have been trying to sell dried fruit back to the packers.

Quite a loss of pears took place in cold storage, where they were placed to await handling. This was caused by the fluctuating temperatures in the warehouses. One canner lost 15,000 boxes from this cause—perhaps 5 per cent of his total purchase. Others lost large amounts also.

This is a condition which ought to be promptly remedied. It can be done, for a lot of pears were put in cold storage in Los Angeles which held up well and the dealers will sell them at a handsome profit. Last year a lot of pears were put in cold storage at Yakima in August and shipped in December—one car going to Florida. They reached the market in excellent condition and commanded good prices. This year's work, in the face of heavy odds and yet high prices, has proven what organization can achieve. When we make a demand for betterment, one little voice alone is drowned in the turmoil of the world. But the united voices of many can be heard above the uproar and their insistence has to be recognized and met by those in authority.

YOLO'S BOUNTIFUL YIELD.

(Written for Pacific Rural Press.)

The largest yield of raisins ever harvested in Yolo county is the crop of 1919, now safely garnered. We asked George H. Hecke, Director of the State Department of Agriculture, about his own crop. "It was a splendid crop; quality excellent, and the drying weather everything that could be desired. No, there was no harm done by the rains; everything is safe," said Mr. Hecke.

It is estimated that the raisin crop of Yolo county will amount to about 1,500 tons of Thompson Seedless and Sultanas and perhaps 600 tons of Muscats—all safe.

Almonds are all in the warehouse. They are of fine quality and yielded 80 per cent of a crop for the county.

With regard to prunes, almost all except the clean-up shake are cured. As elsewhere, the quality was rather disappointing in size, weight and color, the reason or reasons for which are still mysterious, for the fruit looked exceptionally fine just prior to harvest, but wasted on curing and left the tree immature.

The prospects for the rice crop are excellent. Harvesting is in progress and promises the largest yield the county has yet produced together with excellent prices.

The Monarch Tractor Sales Company have just received a carload of the new Lightfoot Tractors from the factory. The Lightfoot Tractor is built from specifications furnished by the California Branch to meet California requirements and conditions. Its special features are light weight, low build, simplified track, heavy duty,



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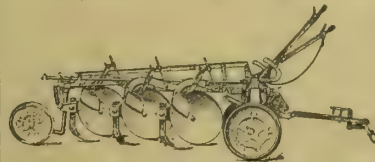
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Here and There in the Fruit Business

Planting Trees with Surface Soil.

"I am planting a lot of trees this fall, some among the vines, and intend to haul a lot of soil up from the creek banks to fill the holes with," said F. A. Chester of Fulton. All the heavy soil is cleaned out from a large hole and the tree is planted with good rich free soil so that it has every chance to become well established the first year. Martin Duhig of Fly District (Napa County) lost some 300 young apricot trees last year, which he attributes to planting too early on heavy ground. He expects to replant about January or early in February and will use surface soil only to fill the tree holes with. He ought to get good results, for his hills are adobe of excellent quality underlaid with marl. A small clay streak lies at point of contact, and in digging the hole this inch or two of clay will be thrown out and not put back.

To Dry Wine Grapes.

Clarence Grange of Yountville (Napa County) has installed a large plant for the purpose of drying wine grapes. It has two tunnels 136 feet long by 8 feet 4 inches high and 6½ feet wide, with six furnaces to generate the heat. It has a capacity of 25 tons of fresh grapes. The two Sorocco fans which weigh 1700 pounds each furnish heated air at the rate of 35,000 cubic feet per second and will correspond to a draft of wind blowing 20 miles an hour. The grapes travel through the tunnel on trucks at temperatures between 110 and 150 degrees and not to exceed this. An arrangement of hydrostats and thermometers provides for the regulation of moisture and temperatures. The Johnson burners will consume 840 gallons of distillate a day. Mr. Grange has his own crop sold as soon as it is dried, and will be prepared to handle 1,000 tons besides. The plant will cost \$14,000.

Fruit Exchange Insures Workers Free

"The Valencia crop of 1919 is the change insures the lives of its employees, both men and women, who have been in its service over 60 days, without cost to the insured. A uniform policy of \$3,000 has been taken out for each employee, which is paid to the selected beneficiary in case of death, or to the insured in case of total disability. The Exchange has also offered to re-employ each of its men who entered the army or navy who, on discharge, desire to return to their former employ.

A Bumper Valencia Crop.

"The Valencia chop of 1919 is the bumper Valencia crop of the industry," says G. Harold Powell, general manager of the Fruit Growers' Ex-

change, in his annual report. "The total shipments from California for the crop year will probably reach 8,500,000 boxes, of which the Exchange will ship 6,275,000 boxes. Ten years ago the Exchange shipped 791,788 boxes of this variety; five years ago, 3,054,811 boxes; and in 1917, the last normal year, 4,771,568 boxes. The Valencia problem of the future is one of wider distribution and an increase in the per capita consumption."

More Cannery Plants Projected.

The Pratt-Low Preserving Company of Santa Clara are to build another canning plant at Redwood City to cost over \$200,000, while the Biscaglia Brothers have bought 12½ acres on High street and Tidal Canal, Alameda, where they will erect a large cannery for the 1920 crop—a plant to employ 1,000 workers during the season. From this plant they will be able to put their export stuff direct on shipboard.

The Transportation Problem.

The acute shortage of cars for handling our fruit and other products is explained partly by the fact that practically no extension has been made to deal with increasing production. New cars have not been built during the war to cope with the new business. This year an enormous new demand on cars was made by wine-grape shippers, while each year the amount of fresh fruit, vegetables, melons and citrus fruit increases in volume as new acreage comes into bearing. The car shops will be kept busy getting ready for next year.

Wants to Keep His Squirrels.

An Alameda County man, who was served with a legal notice by the Horticultural Commissioner to clean out the squirrels on his ranch, disregarded the order. When the notice had expired six deputies appeared with poison to go to work in the usual way. They were met by the farmer with a shot-gun and forced to retire from the premises. He was arrested and later released on bail. The majority of property owners are co-operating with State and county officers in carrying out this important work.

Strawberry Season to Close Early.

The season has not been propitious for the late strawberry crop, between a cold spring and some burning weather in late summer. The third crop is very light, and though growers have done well the season will close probably a month earlier than usual. Considerable planting of new areas is planned for the coming year.

Unlawful to Make Wine.

Field officers of the Internal Revenue are instructed from Washington to correct the erroneous impression that 200 gallons of wine may be made for family use without incurring tax liability. It is also violation of the war-time prohibition act. The person making the wine creates a tax liability of 16 cents a gallon on dry wine, and violation of the War Prohibition Act is reported to the U. S. Attorney for prosecution. Wine making appears to be licensed but you mustn't do it. The interpretation of the law so that its penalties may be clear to all concerned must soon be completed.

Fruit Standardization Convictions.

"I have been getting three or four convictions a day against violators of the Fruit Standardization Act," said Fred Seiberger, Horticultural Commissioner of Alameda County. "The Japanese are the worst offenders and Portuguese next. The convictions are for wormy fruit or deceptive packs and light weight chiefly. Three Japanese were fined \$100 apiece for a second offense. I don't think they will try it again. Theirs were deceptive packs on tomatoes. We are gradually getting them educated."

The James Mills Orchard Company is to extend their lemon orchard west of Maxwell (Colusa county) by further plantings this year. This is

claimed to be the largest lemon orchard in the world with some 800 acres in bearing.

The old proverb that "Figures can't lie" is all right. But, it might be added to "Liars can figure."



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There's one thing to remember tho'—you mustn't blast for planting when the ground's too wet. It's like anything else in farming—you get the best results when you work under the best conditions."

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HORTICULTURAL JOTTINGS.

The prices set for walnuts rule a little higher than those of last season. Wine-making and grape-juice making is proceeding in Napa and Sonoma counties.

The wineries in Alameda, Sonoma and Napa counties are all busy crushing grapes.

The prunes in Sutter and Colusa counties are all dried, except the last scattering shake.

Fruit men are agreed that the Chico district is enjoying the most promising year in its history.

The rains have done some damage to figs in the northern counties and Tokays have suffered considerably.

Canned goods and dried fruits will find a ready market in Sweden, according to Foreign Markets Report.

Raisin prices set by the "Associated" have been investigated by the Government and are pronounced satisfactory.

Over 950 cars of apples have left Watsonville already this season, nearly twice as many as had been shipped to the same date last year.

The olive crop at Redlands, which usually averages half a ton to the acre, will probably yield 1,200 to 1,300 pounds to the acre this year.

Several large acreages are to be planted to peaches this year in the Wheatland district. Wells have been sunk to provide irrigation water.

A prune grower in Santa Clara county, who bought his 8-acre orchard five years ago for \$6,500 is reported to have cleared the purchase price in this year's crop.

The sum of \$1,036,336 was paid for shelled almonds imported into the United States during the month of April. After awhile California will want those extra millions.

Twelve thousand acres of additional lands will be opened to settlers next spring by the California Land Settlement Board, it is announced by Dr. Elwood Meade, chairman of the Board.

The raisin crop of the San Joaquin may now be counted as safe. The fruit is being hauled to the packing houses as fast as it can be handled. In the later sections of the north some fruit is out.

Wine can be manufactured now and held until war-time prohibition is done away with and then, according to a recent telegram from Washington, "no questions will be asked" as to the time the wine was made.

More than one-third of the total import of figs by the United States in 1918 came from the Malaga district in Spain, the quantity imported being, 3,351,193 pounds—an increase of 621 per cent above the previous year.

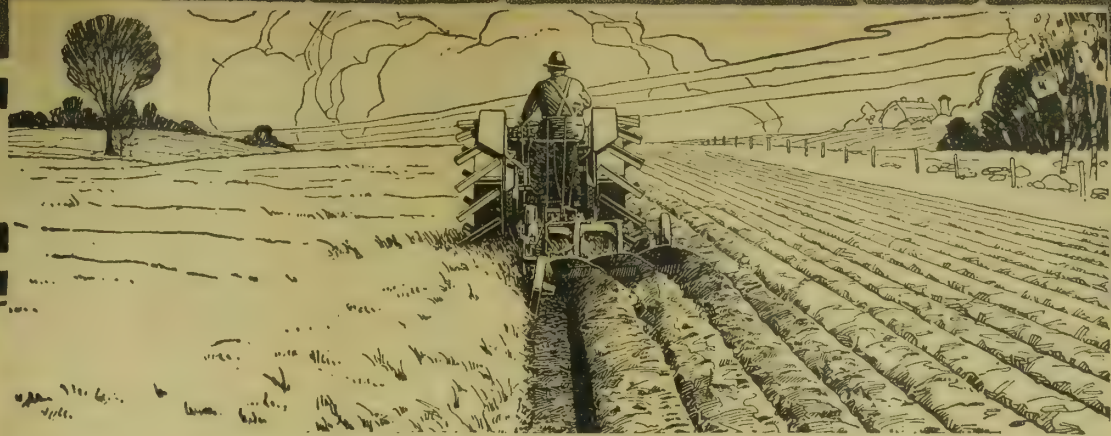
Nearly 26 tons of almonds—641 sacks, valued at \$16,650—were shipped in one car from Guinda (Yolo county) recently. This is probably the largest and most valuable car of almonds ever shipped. They were Nonpareils and Ne Plus.

The Tulare County Victory Fair takes place at Visalia from October 13-19. In addition to the usual county fair exhibits it will include largely patriotic features as a celebration of the part taken in the European struggle by our own boys.

Seventy-five per cent of the Malaga grape crop ought to have been shipped by the end of September, but, according to a Fresno fruit shipper, not over 30 per cent had been shipped by that time, largely owing to refrigerator car shortage.

The shortage of refrigerator cars continues to be acute—40 or 50 cars showing up where 200 could be filled. The rain up to October 4 did less damages than was thought. Some growers have been holding their grapes for better prices, but cars are the chief need.

Ten million, two hundred thousand dollars worth of checks have been signed by the Prune and Apricot Growers' Association as first payment to association members on the 1919 crop so far delivered. This sum is said to represent about one-third of the total price.



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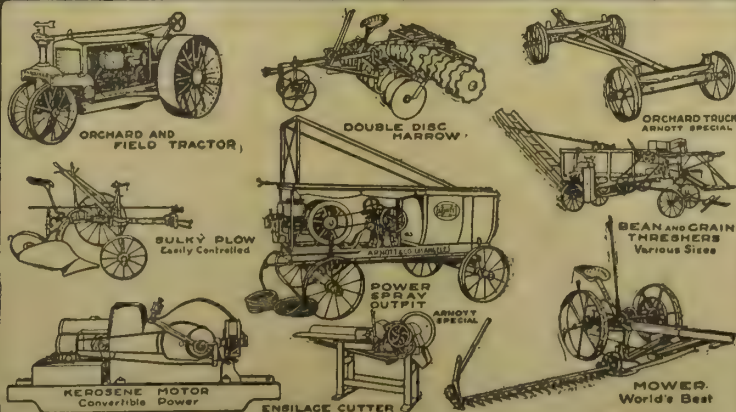
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Winter Cover Crops for Citrus Orchards

(Written for Pacific Rural Press by D. J. Whitney.)

When a person sits down to do a problem in arithmetic, he can, if he has a reasonable understanding of his subject, figure exactly the proper result when two things are put together. In cover cropping, or many other kinds of farm operations, he cannot be sure what the result of his work is—whether it is connected with cover cropping, fertilization, or various other matters. Farming would be simple work if the exact result of every action were seen definitely and strongly. It is not so seen, nor anything like it. In planning a winter's work on an orange orchard a man simply has to figure out what ought to be best and then do it, trusting in the long run that the results will prove profitable.

The thoughts expressed here, therefore, are merely conclusions in the cover crop problem. They cannot be proved by saying, "So-and-so did this thing and his trees looked twice as good. Hoosus, living on the adjoining ranch, did the other thing and his grove was worse." Things do not work out like that in cover crops in Central California orange groves, but a man can observe and discuss the subject with the most experienced growers and come to certain opinions.

Cover Crop Conclusions.

The best conclusions seem to be that: In some cases clean winter cultivation is the only thing possible with our present state of knowledge, but, where cover crops can be grown, they should be. Also, a legume of some kind is apparently preferable to natural growth (in most cases anyway) and sweet clover, *Melilotus indica*, is the best sown crop for the purpose, as a rule.

That a cover crop is an advantage where it can be grown seems unquestionable for the well-known reasons: That in a hot, dry, irrigated section, and in almost any other part of the world, for that matter, the soil needs all the humus it can get. There is too much tendency under the best of conditions for the soil to run together quickly after beginning to dry; for it to take water poorly; and for the trees to lose in a few years the vigorous growth that they have on new soils. Vegetable matter in abundance mixed with the surface soil is a great thing for soil in mere mechanical condition, and condition helps a great deal. As to the way that plant roots make openings into the soil, that organic matter frees plant food and aids bacterial action—all that has been told time and time again. Also, when thousands of dollars are spent for fertilizer, and clovers and related plants will provide free nitrogen from the air, the benefits of getting all the clover, vetch, or pea growth on the soil possible are self-evident.

Clean Cultivation on Adobe Soil.

On account of the great good that cover crops, whether natural or sown, can do, it seems regrettable that on the adobe or dry bog soils the only thing possible is to practice clean cultivation. Any person who can demonstrate a successful way to grow a good winter crop on dry bog or adobe soil in the Central California orange groves and then to get it under the soil properly in the spring will be welcomed with open arms. Getting a big winter growth is easy, but the disposing of it is another thing. It has been tried in many instances, though seldom twice on the same ranch, and invariably the result has been trouble galore in getting the ground in shape in spring, and big injury to the trees.

Adobe has to be worked when it is just right, and it does not stay just right for more than the briefest period. While one acre is being turned over and the crop turned under during this brief period, nine acres are getting so dry that nothing can be done with them. Where dry bog soils predominate the best thing seems to be to practice as clean winter cultivation as possible, to keep the weeds from getting a start. Doubtless it would be better if cover crops could

be handled, but how to handle them is another thing.

Treatment of a Cover Crop.

There are just two ways to dispose of a cover crop—plow it under, or cut it to pieces with a disk. Plowing can not be done until the ground is just right, and the growth is so rank by that time, particularly if spring rains have kept coming, that the job is out of the question, and disking, although it may be done on damp soil on some sandy locations, is impossible on moist adobe with a growth on it. It has been tried and the disks have filled up so with litter and muck that the tools could hardly be hauled out of the orchard. A disk will do nice work on loamy soil, or on heavy soil that is dry and fairly loose on top, but it will be helpless on dry adobe covered with vegetation, or on wet adobe. So, if a disk will not do and a plow will not do, the only thing left seems to be clean cultivation.

When adobe dries in spring with a lot of growth on it, it dries like a sun-made brick, with great cracks in it. When it dries after clean cultivation, the surface slakes and crumbles, like lime, and it can be worked nicely for a long period. Consequently the only solution seems to be clean cultivation.

It is a rather interesting fact that the problem of keeping these old, dry bog, or adobe, orange groves up to standard quality seems more difficult than keeping groves of equal age on lighter soils up to standard. This is in spite of the fact that these heavy soils are strong and rich in plant food. The explanation doubtless is the fact that enough vegetation cannot be put into those dry bog soils, while it can be grown on and worked into the lighter soils.

On the Lighter Soils.

The prevailing practice among orchardists whose soils can be worked to get a cover crop under properly in spring is to grow such a crop, or to let it grow of its own accord. In the latter case the amount of vegetation that can be turned under is usually approximately as great as on a sown cover crop. There is normally a good deal of clover of some kind or other which adds nitrogen from the air; and this is the most expensive and most necessary and valuable plant food there is, but the grass and ordinary weeds add no nitrogen and the only good done is the increase in vegetable matter. It is hard to see why, if it is worth while growing anything between trees, the best plants possible should not be grown, and those without question are legumes. As stated at the start, yellow sweet clover seems best for this locality. Field peas, horse beans, vetch, bur clover, or other related plants will do as well in proportion to the growth made. Last season, in the neighborhood of Lindsay, a number of horse beans were grown and did excellently. They were tall, thick, and made no tangled mass when the time to get them under came.

With sweet clover (and the rest) the best rule without question is, the sooner planted in the fall the better, for the more growth they will make and the earlier they will mature in the spring, therefore the sooner turned under and the better the spring work can be done. Where the trouble comes from early planting is the fall weather. A late, hot fall will mean a big call for water if the clover gets a good start, and when the water supply is only enough for the trees, something is going to be hurt. If it were not for this the planting would be done early, perhaps in early August. As it is, a person must use his judgment according to his conditions. The middle of September and very early in October is a fair rule in this location.

Are Weeds Harmful?

This argument has been made by the manager of one of the largest and best citrus propositions in Lemon Cove, in favor of substituting sown legumes in place of natural crops. Take it for what it is worth.

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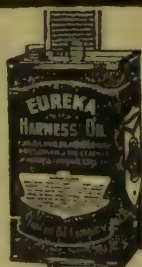
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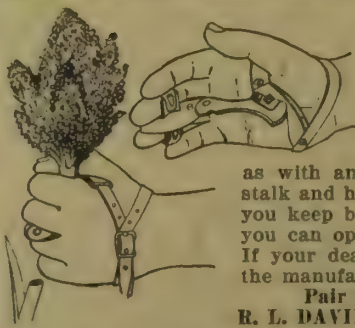
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difficult for other plants to grow near them. This is proved by the way that certain grasses and weeds gradually spread when they get a start, so that nothing grows among them and they have all the ground. This is not the result of crowding, for other plants are still more crowded and yet grow close along side of many other varieties. It must be something that these plants send out. "Now in every natural growth, it is a reasonable guess that there are certain plants whose secretions are harmful. If they are harmful, I do not want them among my trees, but will plant cover crops I know are good and not harmful."

This theory, for practical purposes on the average place, can be neither proved nor disproved any more than a decided change can be seen in groves where cover crops are grown or not grown. In the whole matter it is a question of doing what seems sensible and right and relying on the general results being good.

Winter Irrigation.

On theoretical matters, it is the idea of the writer that some winter irrigation when there is a cover crop would be an excellent thing and easy to do, since as a rule the cover crop is sown with open furrows. Growing vegetation takes the water out of the soil rapidly, as a man soon finds when plowing a clean cultivated strip along side of a grass strip. The clean cultivated ground may have lots of moisture in it when the ground with weeds and grass on it is nearly dry. So cover cropped groves doubtless would benefit by being irrigated, even in winter, when the air is damp, the trees not making any growth, and the weather moist. That would depend upon the amount of rainfall.

The past few winters have been very dry and there has been more discomfort over the June drop than ever before. If the two are at all connected, some winter irrigation of cover-cropper orchards would be an excellent experiment.

No man can carry water on both shoulders and make much headway. He gets cold water thrown on him from all angles and acquires the appearance of a drowned rat.

Now is the time to get ready for next season.

RAISINS AND OLIVES FOR PIGS.

A city man once landed at Edwin Gower's, near Fowler, and saw some fine, fat hogs, just ready for the market. "What did these pigs get to make them so fat?" said the city man. "Olives and raisins," answered Mr. Gower. "Say," said the city visitor, "are there any luxuries you don't feed your hogs anyway?" The facts were that the raisins were culled raisins from the packing house, and the olives were frosted olives, which had dropped from the trees in the olive orchard where the pigs were raised.

Mr. Gower believes that if you do justice to an olive orchard otherwise it will prosper as well, or better, without cultivation as with it. This was an old orchard, with the trees so large and close together that it was hard to cultivate; also Bermuda grass was so abundant that it was wearing him out, so he made the orchard hog tight, turned a lot of hogs in, and they have worn out the Bermuda grass, or kept it down so that it does not bother, and the trees are doing beautifully.

The proposition is that the hogs are meant to be an even greater help to the trees than the land is to the hogs. According to Mr. Gower, if you can keep an olive tree growing well and thrifty, it will yield properly. If you do not, crops are likely to be very light, and the trees show by a very good set of fruit in a year when the set is naturally very small, that the system is good.

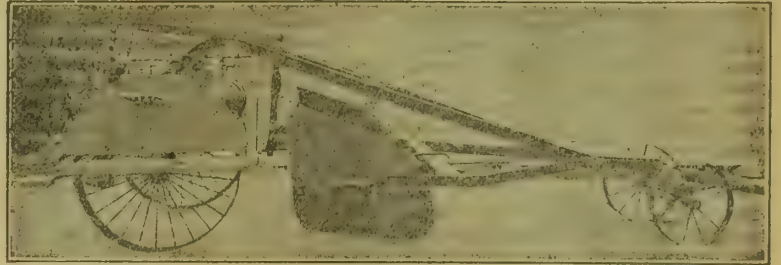
He has high ridges thrown up along each center and floods the trees between them. That supplies moisture. Then he fertilizes well with commercial fertilizer, and relies on the pigs to put in organic matter. The feed that enables them to do this comes mostly from the outside—cull raisins, raisin stems, or anything that is available. They do not bother the trees and use them mostly for shade, and frosted fruit is rare and infrequent, but they keep down the Bermuda grass and the rough feed, and the concentrates that are supplied to them they devour and then distribute the fertilizing value of that feed over all parts of the orchard, in excellent condition for plant use.

Results on this ranch suggest an opening for olive growers who grow alfalfa between their trees.

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J. A. BENNETT, Owner

Walnut Creek,

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What Can We Do About Calif. Potatoes?

(Written for Pacific Rural Press by W. V. Shear, State Department of Agriculture.)

If the question were changed slightly to read, "What we do with California potatoes?" it could be much more easily answered.

Just now the price of hogs is fairly good, and if many of the potatoes now being sold were cooked and fed to these domesticated animals, the consumers of both pork and potatoes would be greatly benefited. The greater quantity of potatoes now on the Sacramento markets at least should be disposed of in this way. It would save the consumers the trouble of paring and throwing away one-half of the potatoes for which they are now paying from 3c to 4c per pound, and it would leave an open market for the few good potatoes that are to be had. It would also be to the financial advantage of the consumer to pay 50 per cent more for good potatoes than he is now paying for most of the stuff that should go to the swine.

Economy in Using Good Potatoes.

An actual test of the waste in preparing an average lot of potatoes now being sold, as compared with fairly good potatoes, showed that it was necessary to throw away 47 per cent of the poorer quality stock in preparing it for the table, while there was but 20 per cent loss on fairly uniform and clean potatoes. Therefore it would be economy for the housewife to pay 4½c per pound for the better quality of potatoes rather than purchase the pig feed at 3c per pound.

Good potatoes must be produced before they can be sold by the farmer to the wholesaler, by the wholesaler to the retailer, and by the retailer to the consumer, with a sufficient percentage of profit to each to meet the high cost of living.

The Best Soil.

Good potatoes cannot be grown on any old soil. Nearly all soils can be put into such a condition that they will produce fairly good potatoes, provided the crop is given the necessary care and attention, but, if your soil is heavy or undrained, or has had a heavy coating of barnyard manure just previous to planting, do not plant potatoes on it or you will come to grief. The potato is an exceedingly sensitive crop, and in these times of good prices for almost every farm produce, select a crop which is adapted to your soil conditions. If you want to grow potatoes on heavy land, begin three or four years in advance to prepare the soil for this crop. Give it thorough drainage and then seed to rye in the fall to plow under in the spring. Then seed to some legume, such as cow peas, to plow under in the fall. We have seen a brick clay soil after five or six consecutive years of such treatment changed into a productive loam. Expensive? Certainly, but if you want to buy that kind of soil from your neighbor, would it not be expensive?

Conditions for Maximum Crops.

The time is now here when it pays to give attention to the soil and sufficient attention to grow maximum crops. If your soil is loamy and wet, drain it, because potatoes abhor a soggy, undrained footing. If your soil lacks fertility, fertilize it. Potatoes require an abundant supply of plant food, and there is hardly any other crop that responds as promptly to a sufficient supply of readily available food material as the potato. The potato requires especially a considerable amount of potash, and a liberal application of a complete fertilizer containing a relatively large amount of potash is necessary for the production of maximum crops. Much of our foothill and mountain soil requires a complete fertilizer for the production of potatoes.

The potato soils of the valley, especially the peat lands, require a large amount of potash with a minimum amount, if any, of nitrate fertilizer. Therefore, if your soil is heavy and you are not willing to lighten it, or wet and you are not willing to drain it, or lacks fertility and you are not willing to fertilize it, for the land's sake, for the sake of your own

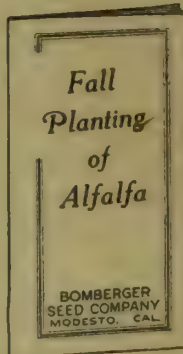
pocket book, and for the sake of the overburdened consumer, who cannot afford to buy uneven, knobby, pointed, diseased, moth-eaten stuff, such as we now have on the market, do not plant potatoes.

One of the projects of the Farm Bureau is the experimental growing of vetches for seed in California where it is largely in demand for cover crops. of sending to Oregon for them it should prove quite a profitable undertaking—even at half the present price. *peatsu! amouq uen h mox uno ew ji*

The 23 Rural Fire Companies of Napa county (permanent) organizations, by their prompt and efficient work, saved the county from bad fires this year. There were six calls and not one of these brush fires burnt longer than an hour.

Vineyards were pretty badly burnt by the last heat wave in Sonoma county. The grapes are much exposed by defoliation. Picking and crushing begins this week.

FALL PLANTING OF ALFALFA



Surprising results have been secured by fall seeding under the proper conditions. Fall-sown alfalfa has shown a growth the next season after planting nearly as heavy as two-year-old alfalfa.

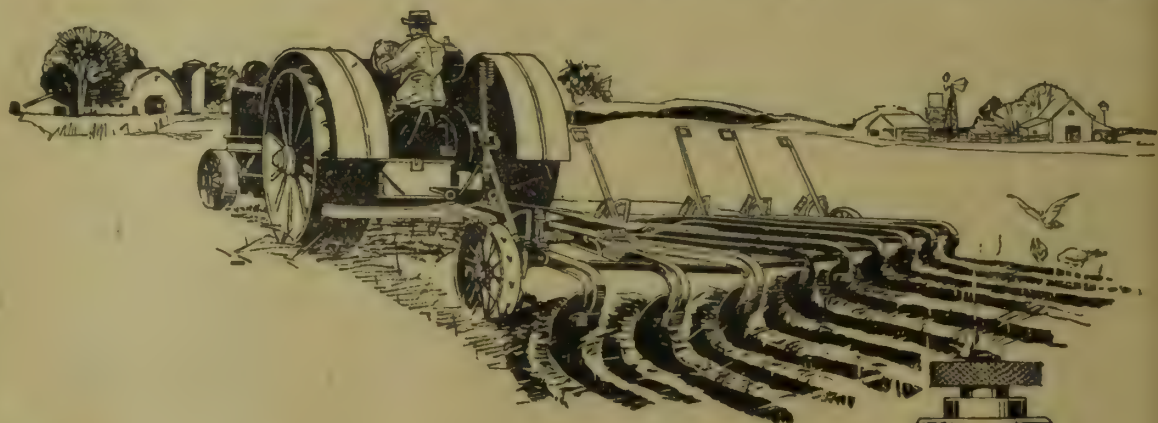
Send for Booklet

which tells about fall seeding—how, when, and where it can be done to advantage. Sent free with Price List and booklet describing Bomberger's Seven Kinds of Alfalfa.



Champion

Dependable Spark Plugs



Play Important Part in Tractor Industry

FOR hours and hours at a stretch, the tractor engine is taxed to its utmost, imposing a sustained, maximum demand upon the spark plugs.

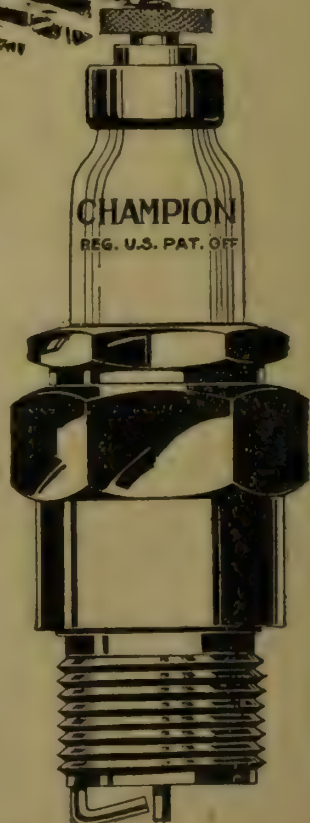
To withstand such brutal punishment and not "miss" even temporarily, spark plugs must be of more than common hardness and efficiency.

Our famous No. 3450 Insulator, with its greater resistance to shocks and temperature changes, together

with our patented gasket construction, fortify Champion Spark Plugs for the terrific battle they must constantly wage in tractor engines.

Because Champion Spark Plugs dependably perform this strenuous service a large number of tractor manufacturers use them as factory equipment.

There is a Champion Spark Plug for every type of motor car, motor truck, tractor, motorcycle and stationary engine.



Champion Spark Plug Co., Toledo, Ohio

Champion Spark Plug Co., of Canada, Ltd., Windsor, Ontario

CHAMPION HEAVY STONE
For Tractors, Trucks and
High-Powered Cars
B-43, 7/8-18 Price \$1.25

THE CALIFORNIA BEAN SITUATION UP TO DATE.

George A. Turner, president of the California Bean Growers' Association, has issued the following statement in regard to the bean situation:

"To thoroughly understand the position of the bean grower one must consider the situation from a statistical standpoint:

Year	Total U. S. Crop	Hold-over Stocks	Total Stocks Available
1917	14,987,000	3,000,000	17,987,000
1918	19,506,000	4,824,000	24,330,000
1919	10,630,000	6,000,000	16,630,000

from the Orient is to the effect that "The best information available from the Orient is to the effect that the food shortage in the past year, particularly rice, was such that much of the acreage that was formerly planted to beans will this year be planted to rice. Consequently not more than one-half of last year's crop of beans will be produced this year.

"No large stocks are held by the wholesalers throughout the country, and all indications point to a steady demand for the product.

"The California Bean Growers' Association is now so financed that as soon as the growers' beans are delivered a payment is made of approximately one-half their value. This will avoid the marketing of a large lot of beans on the market controlled by speculators and will permit of the marketing of the product according to the demands of the trade.

"At the present moment every possible effort is being made to pull the market down, and this is having its effect. The speculator is getting quite a few beans. If a farmer is willing to sell his product less than cost, you can't blame anyone for taking them away from him, but the true situation does not warrant the bean grower selling his beans at prices that do not cover cost plus a reasonable profit. Beans sold on this basis are by far the cheapest food obtainable, and there is no reason on earth why the grower should sell below the cost of production.

"The carry-over from last year (considering the crop) is not excessive throughout the United States. It is about 1,824,000 bushels more than the carry-over of 1917, and from reports at hand the present crop is 8,875,000 bushels less. Thus we go to market with 1,700,000 bushels less to sell than was actually sold last season.

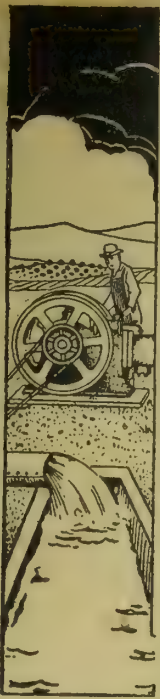
"Of the carry-over quite a lot of beans were off grade. This fact causes the California growers more concern than is warranted for it is such an unusual condition. All other bean-producing sections are frequently confronted with this condition, and there is a wide market for beans of low grade. Of course, there is a differential in the price, but not nearly as great as the grower is led to believe. In the past two weeks large sales of off-grade beans have been marketed by the Association in addition to sales of beans of better grade.

"All informed bean men look for a steady market at fair prices, and the new crop is coming in of such excellent quality that it can and will hold its own with beans of any section.

"Claims have been made that beans are no longer popular as an article of food. These claims are silly, when one knows that 5,207,000 more bushels of beans were consumed in 1918 than were in 1917, in spite of the fact that an order of "pork and—" is billed from two to six times what the restaurants formerly charged.

"My advice to the bean grower is to demand cost plus a fair profit for his product. He is entitled to it and can obtain it. I do not wish to convey the idea that he can obtain anything he demands. He must always keep in mind that beans are essentially a poor man's food and must always be relatively cheap. They can be kept so and still return the grower a fair marginal profit."

The Klein-Simpson Produce Co. and H. C. Vignes, charged with violating the apple-standardization act, have entered a demurrer attacking the validity of the law.



Dependable Pumping Plants

When you install a pumping plant you want water—plenty of water—full-rated production and more, if possible. And that's what you get when you install

American Centrifugal Pumps

These pumps produce the full guaranteed amount of water and they keep power bills down to a minimum! That's more than a claim—it's a guaranteed fact.

Write for Catalog

—which illustrates and describes the entire line of American Pumps and proves their advantages beyond a question. The American Catalog points the way to irrigation efficiency.

Open territory for live dealers.

California Hydraulic Engineering and Supply Co.

68 Fremont St. Dept. A, 420 E. Third St.
SAN FRANCISCO. LOS ANGELES

- Horizontal Pumps
- Vertical Pumps
- Deep Well Heads
- Deep Well Cylinders
- Oil Engines
- Direct-connected Motor and Pump
- Gas Engines
- Motors

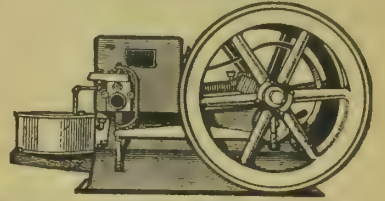
WITTE Engines

2 to 30 H. P.

Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

A. H. SIMPSON CO.

129 FREMONT ST.
SAN FRANCISCO, CAL.



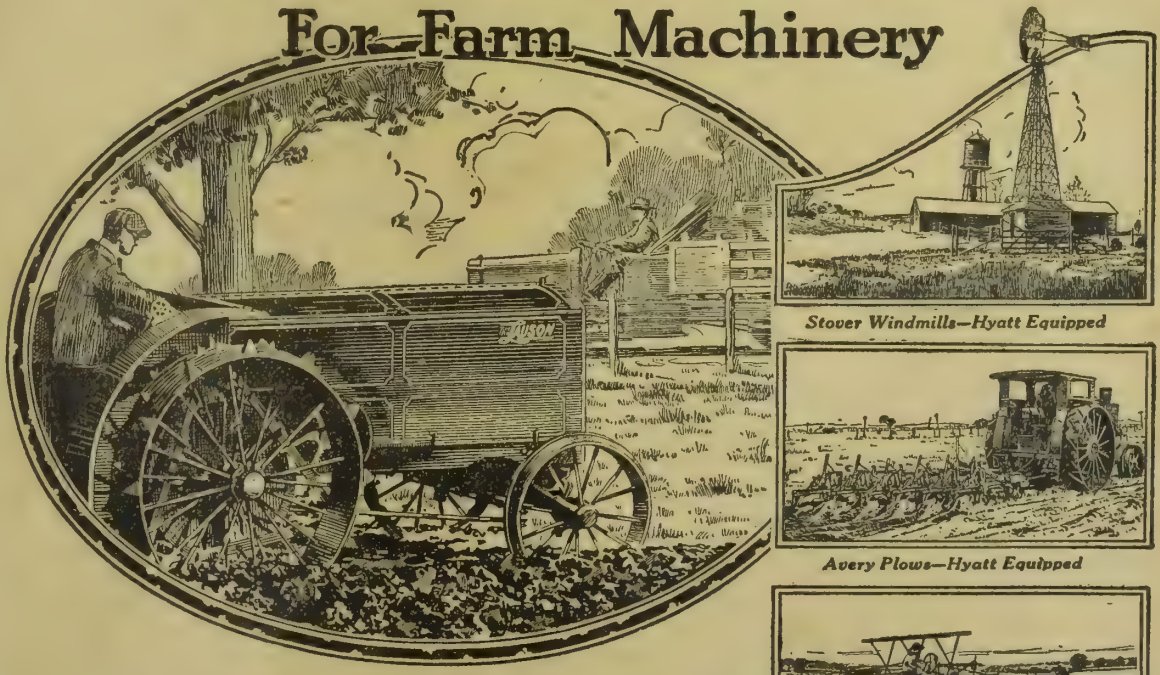
BLAKE, MOFFITT & TOWNE

Dealers In 37-45 First St., San Francisco
PAPER Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

The price for drying raisins in Sutter county this year is \$80 a dried ton. Last year the charge was \$60.

HYATT

ROLLER BEARINGS For Farm Machinery



A Greater Agriculture

OVER 38,000,000 acres were added last year to productive acreage of American farms, in spite of the great shortage of labor. A twenty-billion dollar crop was raised.

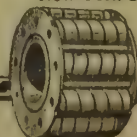
The factor largely responsible for this remarkable showing is the farm tractor and power farming machinery. The tractor has given the farm dependable power, requires attention only when in use, accomplishes far more work in less time, and is capable of being used 24 hours a day every month in the year, if necessary.

The part the Hyatt bearings have played in producing this remarkable farm power unit, has been to provide an efficient and life-long protection for axles, shafts and other points of wear. Hyatt bearings make possible the delivery of more power at the drawbar and belt, at a saving of fuel and never require adjustment.

Hyatt bearings are now being used in nearly all of the best tractors built, in threshers, grain-binders, plows and other farm machinery, enabling them to provide a vitally important contribution to the making of a still greater agriculture.

HYATT ROLLER BEARING COMPANY

Motor Bearings Division Detroit, Mich. Tractor Bearings Division CHICAGO Industrial Bearings Div. New York City



Stover Windmills—Hyatt Equipped

Avery Plows—Hyatt Equipped

Moline Binders—Hyatt Equipped

Aultman-Taylor Threshers—Hyatt Equipped

Hochenauer Alfalfa Grinders—Hyatt Equipped



RU-BER-OID and MALTHOID READY ROOFINGS

Are made to last

Most ready roofings look the same but they vary greatly in quality. The actual test of service must be made before you can tell the difference between good and poor ready roofing.

Ru-ber-oid and Malthoid have proved their merits under every condition. They have stood the test of time and weather because the finest quality is built into them.

In their manufacture, only long-fibred, tough felt is used. This felt, which is made in the company's own plant, is saturated with asphaltum of just the right consistency to preserve the fibres. Then the whole is coated with a special weather-resisting compound. Ru-ber-oid and Malthoid, the finished products, have an exceptionally long life, are fire-resistant and will not dry out or rot.

Standing back of Ru-ber-oid and Malthoid quality is the great organization of The Paraffine Companies, Inc. Every process of manufacture, from the gathering of the rags for the felt to the turning out of the finished roofing, is carried on within the one organization. This fact, and constant supervision by experts, make it certain that the quality of Ru-ber-oid and Malthoid is always maintained.

It is this careful choice of materials and precision of manufacture which have made Ru-ber-oid and Malthoid the recognized standards of ready roofing.

THE PARAFFINE
COMPANIES, INC.
San Francisco



Roofings, Felts
Building Papers
Waterproofing
Materials
Wall-Board
Floor Covering
Industrial Paints
Box Board
Paper Boxes
Fibre Containers

EACH THE STANDARD OF ITS KIND

Notes on the Tractor Demonstration

(Written for Pacific Rural Press.)

At the Los Angeles Tractor Demonstration four tractor concerns—the Yuba, Holt, Best, and Avery—used tractors of 70 to 80 horsepower on the heaviest tractor disks, subsoilers, chisels, and plows.

A great many of the tractors were turned loose to run in circles, unattended, but followed by implements. A Moline circled backward with a mower.

A strong feature of the Demonstration was the great number of tractors showing their inwards exposed, and many of them being operated by one of their mates.

The Union Sure-Grip tractor straightened a plowbeam in the hard plowman. One of these tractors pulled an eight-foot double-disk, followed by an eight-foot Oliver double corrugated roller to work down the clods.

A caterpillar 75 pulled a 9-standard Killefer chisel about ten inches deep, leaving a strip eight feet wide in better condition than if it had been plowed that deep.

The rear wheel of an Avery 18-36 had been run up onto a thick block of wood and then onto a piece of 2x4 standing on end to show not only flexibility of frame, but also sensitive control. It was left standing on the up-ended stick.

The Stockton 6-12 vineyard tractor pulling a six-foot double disk over the clods it had plowed was calculated to make the driver seasick or else put wings on him, so big were the clods. The disk didn't do much to the clods, but the tractor wheel lugs did make a notable difference.

We were invited to hold our handkerchief under the Twin City exhaust. No oil or carbon soiled the handkerchief, indicating perfect combustion in the 16-valve engine.

Sixty-five of the 12-22 All-Work tractors have been sold in Northern California since they were introduced at the recent State Fair. The highest point on this machine is 55 inches above the ground. The 14-28 All-Work is to be remodeled into a more powerful machine.

The G. M. C. Samson attendant showed the camshaft of this machine. It is driven by worm gear half-way between its ends. A bearing on each side of the worm gear keeps the shaft from "whipping." Samson tractors were located at various parts of the field doing belt and drawbar work.

The Heider tractor was equipped with a three-gang plow, which is lifted out of the ground by the tractor driver pushing a foot-lever. In this position it can be backed into any corner.

The little Allen 10-20 built in Los Angeles is a new one on the market. It has a positive clutch on each rear wheel and no differential. It turns in a radius of 6½ feet.

A Cleveland tractor was put up in a horse-stall labeled "The Cleveland takes one-sixth of the stall-room required for horses needed for the same amount of work and it doesn't eat during idleness." One of these tractors, circled among posts set 20 feet apart, pulling implements as close to the posts as desired, to show close orchard cultivation.

The Fageol easily negotiated the turns on soft ground among stakes set orchard fashion. One machine circled unattended with a double disk.

Several sections of a Trundaar track had been taken off from a farmer's machine after being used a year. They were hung up beside a piece of new track. The old track had plowed, disked, chiseled, cycloned, and dragged 400 acres. There was no evidence of wear except that one side of the removable sprocket teeth had been worn so much that the track had just been turned end for end to present the other sides of the teeth to wear. After another year, new teeth will be put in. They would cost \$14.40 now.

A "horribly" cloddy field was worked down to a fine seedbed by the Sanduskies. The 15-35 pulled a ten-foot double disk followed by a double-

corrugated roller. The 10-20 pulled an eight-foot double disk followed a spike-tooth harrow.

CALIFORNIA LAND SHOW.

Agriculture received greater recognition than usual from city folks at the California Industries and La Show in San Francisco, October 4-19. It is right that agriculture should receive even more attention, for it is the industry for which this State is chiefly noted the world around. The various countries might have seized this opportunity, for attendance during the first three days averaged over 25,000 daily. Two three counties did reap great advantage from their displays, and several local communities were enterprising enough to compete for the prizes offered.

The industries and Land Show was entirely distinct from the California International Livestock Show to be held in San Francisco November 1-8, so no livestock was exhibited except rabbits and poultry, including quackless ducks.

Several tractors and trucks made in California added agricultural interest, and there was a great variety of exhibits intensely interesting to ranchers' wives as well as to the women.

At no previous show in the Exposition Auditorium have the decorations been so artistic. Mountain and agricultural relief scenes with paintings in the background were supported by realism by the odor of growing wood that filled the air from branches and trees used in the decorations. Myriads of lights were suspended, star-like, in the great dome, and shaded by a large red poinsettia.

The aim of the Show was to call public attention to the wonderful variety of products "made [and grown] in California." 'Twas worth driving many miles to see.

A SUCCESSFUL GROWER'S SPRAYING METHODS.

We were in one small pear section this season where the fruit averaged 15 to 20 per cent wormy. We saw some that also ran over a third of a fruit scabby. The weather was against doing a good job, it is true, but a little more "steam" would have obtained better results in this heavy section.

Now for the story. A large pear grower came to San Francisco a week to order his spraying supplies for next season, including his arsenical sprays. He had a large crop of very high grade pears absolutely free from worms or scab—the cleanest pears that were delivered this year. How did he do it? Last year he bought more material than he needed so as to be on the safe side and have it on hand. He sprayed his pears about a week earlier than anyone else around him and did the work very thoroughly—no skimping on material. As soon as his crop was delivered he went to his spray man for the next dose and placed the order.

A man from the same section sprayed late and used far less spray to the tree; in fact he returned unused material to the hardware man. The result was that he had a crop of wormy pears, though scab was so bad. The cost to number one was approximately \$40 for four sprayings. Supposing this had been cut down to material and one spraying to \$20 an acre, the difference in quality, given the same tonnage, might at the present prices be estimated as a loss of \$150 an acre in fruit—a reduction of \$20 a ton in value!

Fred Shaffer of Yolo county has been chosen president of the California Exhibitors' Association, organized for the purpose of getting the question of a one-million-dollar bond issue submitted to the people for the purpose of improvement of the State Fair grounds at Sacramento.

Look Ahead to Next Year's Harvest and the harvests of years to come

HARVESTS measure the health of your land. The farmer who uses wasteful methods of manuring robs himself of from five to fifteen bushels per acre. And more, he robs his soil of fertility which even proper manuring cannot restore for years.

PROPER manuring means light applications. It means applying manure while it is fresh. It means thin, but thorough, applications to every square foot of soil.

Your farm paper editor, county agent, or experiment station men will tell you that light applications the year around pay best. For government tests show that six months storage means an actual loss of one-half the valuable nitrogen, potash and phosphoric acid plant-food properties of manure--a loss that any farmer can ill afford to stand.

So begin right now-- and through every week of the winter continue--to spread manure direct from your stable onto your fields. Neither cold weather nor snow will stop this good work if you use a



THE NISCO Straw Spreading Attachment

NEXT to your manure pile, straw is your biggest, most valuable by-product. Burn it, and you burn fertilizer that is worth, at the very lowest, \$8.00 per ton. Burn it, and you burn the greatest protection you can give your wheat against winter killing. For adding humus to your soil, preventing soil washing and blowing, **straw is almost invaluable!**

The NISCO Straw Spreading Attachment--for old machines or new--shreds the straw and spreads it evenly 8 to 10 feet wide. Easy to put on or take off --a one-man machin.. Your dealer will show you. Or write direct for literature.

NISCO

The Original Wide Spreading Spreader

(Known as the NEW IDEA in the East)

The time to buy your NISCO is NOW! No other investment will pay for itself so quickly. No other labor will show up so big on your next year's profits. And in no other way will you save so much disagreeable, dirty work in handling your manure.

Just look at the illustration. See how the NISCO spreads--a full seven feet wide--laying a thin, uniform blanket of finely shredded manure on every square foot of your ground covered.

Loads High--Hauls Easily

The NISCO is built low down--it is easy to load. Pile it a full 30 inches high, and your team will handle it on any ground--spreading 3, 6, 9, 12 or 15 loads to the acre as you wish.

No gears on the NISCO to break in cold weather. Strong chains drive the pulverizing cylinders and the big steel distributor paddles that spread the manure in an even stream well outside the wheel tracks.

Simple in construction, extra strong, yet light-draft --this is unquestionably the spreader you need.

See Your Dealer

If you don't know the exact money value of your stable manure--used right--ask your NISCO dealer. Let him explain how the farmers of this country are actually losing \$700,000,000 each year through failure to get the most from their manure. And then let him show you just how the NISCO will **change your share of this loss to profit.**

We have prepared a mighty interesting and valuable booklet, "Feeding the Farm". It is packed with facts and figures about the money your manure pile can make. Sent, with a copy of the latest NISCO catalog, on request. Use the coupon below.

THE NEW IDEA SPREADER CO.
"Spreader Specialists" COLDWATER, OHIO

New Idea Spreader Company,
Coldwater, Ohio

Gentlemen:-

Please tell me the name of your nearest dealer. Also send me free a copy of your booklet "Feeding The Farm."

Name

Street or R. F. D.

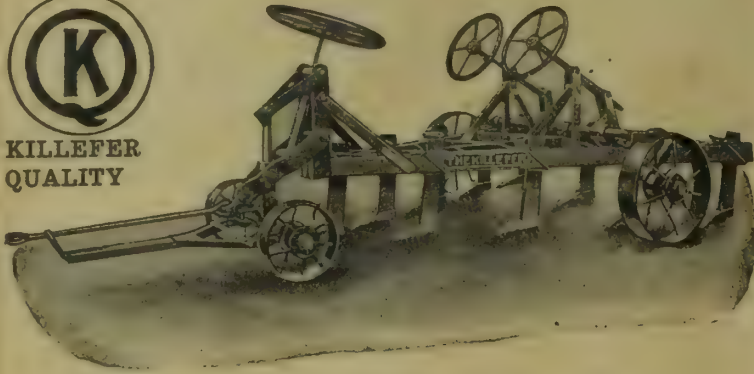
City

State

8-ft. Extra Heavy Tractor Chisel



KILLEFER
QUALITY



Now is the time to commence deep chiseling and subsoiling. Do it in time to prepare the ground thoroughly to receive the benefit of the winter rains. Break away from the old habit or mistaken idea of scratching the ground and expecting to harvest a crop.

Plow pan, although frequently referred to as mechanical hard pan, should not be confused with natural hard pan. However, so far as crop production is concerned, the effects of plow sole and hard pan are the same. Both must be destroyed before proper cultivation can be had, and the only difference in the two that will be considered here is in the method required for their destruction.

Plow sole offers less resistance to the available methods of breaking it up than hard pan, and, with the tractor and tool of sufficient

strength now available for tractor use, it can be broken up and subdued, bringing the land back to the point where a full yield may be expected.

Plow sole offers less resistance to tillage implements than does hard pan; both are in many cases impervious to horse teams and ordinary plows, and in some instances are difficult of handling with tractors and modern implements. Yet before a full yield may be expected, this condition must be subdued, and to date the only satisfactory means is by use of the chisel or subsoiler.

DEEP TILLAGE AND OTHER AGRICULTURAL IMPLEMENTS
EXTRA HEAVY TRACTOR PLOWS
AUTOMATIC DOUBLE TRACTOR DISCS
AUTOMATIC COVER CROP DISCS
TRACTOR CHISELS ORCHARD CULTIVATORS
MONARCH CULTIVATORS AUTOMATIC BEET PLOWS
CROSS KILLS OR CLOD CRUSHERS
GOPHER OR DRAINAGE PLOWS SUBSOIL PLOWS
(One, Two, Three and Five Standards.)

Send for Catalog and Prices.

The Killefer Manufacturing Co.

2209-21 SANTA FE AVE.

LOS ANGELES, CAL.

Fifteen hundred pounds of seed from one acre of late Italian cauliflower were produced at the University Farm flower.

AGRICULTURAL NOTES.

Bean bags are unobtainable. There is no lief in sight or some time to come, say those who are handling bean bags.

Frost has practically stopped shipments of cantaloupes out of Rocky Ford (Colorado), according to a recent dispatch.

Onions have been shipped East in large quantities with a heavy demand. Prices to the wholesale market have been from \$2.50 to \$2.75 per hundred pounds.

The early vegetable growers in thermal belts are now busy getting their ground into condition for planting. The rains have helped all along the coast section.

The rainfall at Lodi for the recent storm was less than half an inch. Last year, when so much damage was done, there were 3.88 inches which fell September 12, 13 and 14.

The Bean Growers' Association have requested the State Department of Weights and Measures to establish a bureau of grading and certifying as to size and quality of beans.

The Hawaiian sugar crop is estimated at 600,000 tons this year, while the Philippine crop is only estimated at 150,000 tons. California, Utah and Idaho will yield perhaps 350,000 tons of beet sugar.

Because of inadequate supplies of hard wheat in the middle western states, flour millers of the Northern Pacific States, Oregon, Washington and Idaho, are the centers of attraction for buyers.

The bean growers are to be financed by credit on warehouse receipts through the Bean Growers' Association—a system of trade acceptances that will obviate embarrassment for current expenses.

The representatives of California bean growers will appear before the ways and means committee of the "House," October 15, to present facts in favor of the proposed 2-cents duty on beans, it is said.

The new season's beet sugar is arriving on the market and will relieve the sugar situation with regard to daily consumption. Present appearances point to a good outlook for beet growers another year.

A dollar a pound for hops is the price looked for by growers in Butte county, who have not yet sold. At the present price of 65 cents a pound, Butte's hop crop is estimated as being worth \$750,000.

Pumping plants costing over \$200,000 are to be installed in Reclamation District 108 (Yolo county) for the irrigation of rice next season. Over 15,000 acres will be planted to rice in this area the first season.

The Pacific Rice Growers' Association have filed a petition with the Railroad Commission, asking that

warehouses be compelled to operate 24 hours in order to expedite shipments and eliminate car demurrages.

Rice men still find the number of ducks increasing on them, and the ducks spoil more than they eat tramping it into the ground. Five cents a day per duck means some loss. It is said there are ten ducks this year to one last year.

The recent storms had not, it is believed, damaged the bean crop to any extent, though some were being cut or threshed and others still growing. All right up to October 7. A fair fall will result in a good harvest in the North, barring bad weather till the crop is threshed.

The California rice crop will exceed last year's by 50 per cent, it is estimated, or at least 1,000,000 bags more. Last year there were 110,000 acres planted as compared with 140,000 acres this year. The crop's value is placed at \$21,000,000.

"The Fresno Turkish Tobacco Company" is the name associated growers of tobacco have assumed in Fresno county. At present there are 90 acres in the county. Last year's returns showed 1,000 pounds of tobacco to an acre with prices from 80 to 85 cents a pound. This year of scarce water the crop will run from 300 to 700 pounds to the acre.

The United States government, acting through the Department of Agriculture, under the Plant Quarantine Act of August 20, 1912, has promulgated regulations absolutely forbidding importations of seed or paddy rice, except under strict supervision.

Solano county is co-operating with Napa and Lake counties in forming a marketing association to handle their products. Their delegates have met with the State Market Director for this purpose. Eighteen crates of Kelsey plums, shipped through the Placerville Fruit Growers' Association, sold in the East at \$6.60 a crate!

In 1917 California produced 44 per cent of the country's bean crop and in 1918 63 per cent of the total crop. A heavy importation of Oriental beans left our warehouses full. The California Bean Growers' Association at Stockton and the Lima Bean Growers' Association at Oxnard have been the chief means of alleviating an intolerable situation for the grower.

Cotton exports for August were almost double the figures for the same month last year, according to Government statistics just issued, the figures being 479,058 bales, as compared with 287,450 for August, 1918. For the eight months period, ended in August, exports were 4,166,668 bales in 1919, and 2,423,489 in 1918.

ORANGE COUNTY COMMUNITY FAIR.

(Written for Pacific Rural Press.)

'Twas good fun just to watch the home folks from all over Orange county comparing their canned fruits, cakes, sewing and pumpkins, apples, and garden truck of all sorts at the second annual Orange County Fair at Huntington Beach October 2, 3 and 4. This one, which is the culmination of several local "community" events, has not lost its community flavor, for we noted no exhibits from outside the county except tractors, trucks, and machinery. Each neighborhood had its own tables and corners filled with home-grown fruits and vegetables.

Livestock is still a minor feature of this community county fair. Classes for hogs included "Miscellaneous" only. Goats, rabbits, pigeons, and poultry received more attention. Forty-eight coops were installed for poultry alone.

It was not a still exhibition. Tractor demonstrations were held daily. Entertainers performed free for Fair visitors in one of the biggest tents every afternoon and evening. The third day of the Fair saw an auction of implements and another of livestock. Every day the people had lunch on the beach with free coffee furnished. Water sports, school athletics, band concerts, and lectures added interest.

Spain's raisin crop this year is about 11,000 tons.

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ACTUAL PHOTOGRAPH

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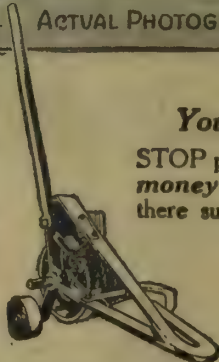
Clear your stump land cheaply
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STOP paying taxes on your stump land turn it into money. Never in the history of the World was there such a demand for the product of the soil.

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Man or woman single handed can pull from 50 to 150 stumps a day. Weight without cable 171 pounds. NO STUMP TOO BIG.



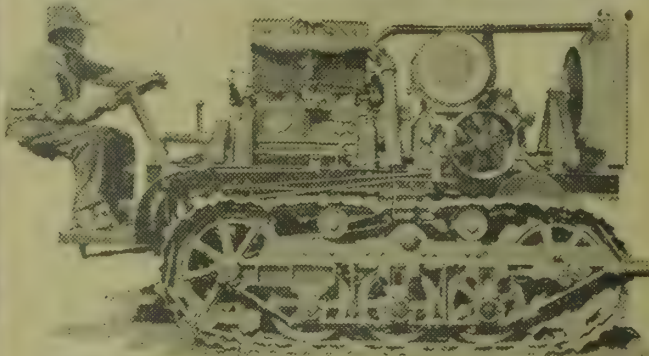
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All-Weather Tread
have plainly written
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*This is an actual photograph of
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TRACTOR

The very words are so closely related that you can see the more traction it has, the better it is. Traction is what counts. Every detail of construction on a MONARCH Tractor is directed toward the ultimate purpose of the machine—to give traction.

There is only one way to get proper traction on a tractor—and that is the MONARCH way—by means of the endless MONARCH tread. It grips the ground with an unfailing creep to which hills, grades and loads are no obstacle.

The Monarch Tractor

with the track that laughs at grades and hills

There is no secret to MONARCH success. The cause is self-evident as soon as you look at a MONARCH Tractor. It is built to perform—to give traction and it looks the part. It has a combination of mechanical features all designed to give that brand of continuous, reliable service that makes tractor farming an economy.

Let us send you our catalogs and literature explaining the different construction features of the MONARCH Tractor. This will prove to you that it is the logical tractor. No one can afford to buy a tractor without seeing a MONARCH demonstrated. They are now made in the following sizes:

16-9 H. P.—The right size tractor for the average farm. Small enough to be handy for such work as orchard cultivation, powerful enough to pull from two to three bottoms.

30-18 H. P.—A big brute of a tractor—able to tackle heavy farm and road work. 18 H. P. at drawbar, 30 H. P. on belt pulley.

Do not confuse MONARCH Tractors with the so-called "track-laying" types. The track on the MONARCH is made of wear resisting manganese steel. We guarantee to duplicate for MONARCH Tractors any written warranty put out by any other responsible tractor manufacturer.

Write for MONARCH Tractor literature. It gives hard facts in a worth-while fashion. Ask for "PERFORMANCE BOOKLET."

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SIMONDS SAWS

See that your Drag Saw has a Simonds blade to get the most from your machine. Save power and time.



Simonds Manufacturing Company

The Saw Makers Since 1832.

Fitchburg, Mass.

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Accessories at L. A. Demonstration

(Written for Pacific Rural Press by R. E. Hodges.)

One of the chief values of the accessories tents at a tractor and implement demonstration is to give everyone an opportunity to investigate equipment and machinery which has been put on the market during the preceding season. Another of the great values is in letting salesmen tell of the best features of their machines and then looking right away at other machines of the same kind to see how they compare. Dozens of new ideas have been worked out on plows, disks, harrows, grinding machines, and all kinds of machinery and accessories for tractors and motor vehicles. The passing observer does not see these things, but the stopping listener is surprised at the variety of new wrinkles applied to commonplace machines.

The accessories tent at the Los Angeles Tractor and Implement Demonstration September 16 to 21 covered over 34,000 square feet. Various exhibits overflowed to the outside and extra tents were used for some. The writer tried to hurry through the big tent, but ten or twelve hours proved only enough to skim off some of the cream. The notes below indicate some of the things that could be learned by the stopping questioner, but they do not cover the subject in any complete way.

Around the Double Seal piston ring a square shoulder is cut for another ring to fit on loosely with its ends at the other side of the piston from the ends of the heavier ring. When these are put on right side up, the force of explosion expands the double ring to make it fit the cylinder even if the latter is out of round. If put on upside down compression would leak side down compression would leak past it, but it would keep oil from working past the piston from the crank case and would hold vacuum in the firing chamber to suck fuel in. To get both effects, the upper ring on a piston is put on right side up and the next one upside down. The close fit of these rings was shown by the attendant who had a cylinder which was worn on one side. A stopcock had been inserted at the head of the cylinder to permit the piston to be pushed in or pulled out by hand. With the cock closed and a ring right side up the attendant stood on the piston a minute or two, but could not force it down because there was no leakage. With a ring on upside down he could push it in but could not pull it out until the cock was opened.

A two-inch section of a five-inch Norwalk inner tube was holding the weight of a 285-pound rock. It was stretched to about two feet long. The attendant explained that all Norwalk inner tubes are of nine plies all sulphur-cured. In the red tubes each ply is dipped in coloring matter before putting them together. Many other kinds of red tubes are of composition rubber with the coloring matter mixed in and cured with antimony. An outer casing had been cut diagonally and its five plies of fabric were separated.

Tuition in Motor Management.

Two schools for the teaching of automobile, tractor, motor truck, and gas-engine operation had exhibits and gave daily lectures on the inward workings of gas machines. The National Automotive School had a separate tent, including a representative exhibit of its facilities for teaching. Their school is located down town, but they also have a tractor field for practical work. The U. S. Tractor, Truck, and Auto school had a section of the main tent with seats for visitors and a tractor operated by a gas engine to illustrate the daily lectures. These lectures are copied by students each day. The students then adjourn to the shop, where each day's lecture is worked out in practice. This lasts about fifteen days, after which actual commercial trouble work is done by the students under supervision.

Bosch magnetos and impulse starters were shown working in clouds of dust and under jets of water. One of

them was fitted on a Ford engine to show its special adaptation. This was explained in our columns last spring.

In the Fairbanks-Morse engine section was a sign, "All Z engines are Bosch equip." Several of these, in various sizes, were suggestive of work done while you do something else. A vertical one-cylinder 50-horsepower Y engine, installed by Fairbanks, Morse & Co., was running smoothly and quietly. Part of its power was used to operate an eight-inch centrifugal pump, running the water over a weir.

Among the many displays that attracted the wives of ranchers was that showing Dreadnaught Oil-gas burners, heating all kinds of stoves, including spiral heaters for hot-water tanks and baths.

The Splittorf Electric Co. displayed a sign saying that 66% per cent of all the tractors demonstrating at this event were using Splittorf spark plugs.

Looking over the varied exhibit of the Germain Seed Co., showing poultry feeds, fertilizers, and labeled dishes of seeds, we were told of a new grain sorghum, the Higari, which will be put onto the market next year. About 22 acres are being grown in Arizona now for the Germain Seed Co. It is a hybrid, lighter in color than milo, but said to produce considerably heavier crops.

Practically the only paraffine-base California oil was played up in a striking manner by the Ventura Oil Co., who built a reservoir of paraffine at a slightly greater elevation than the miniature farm beside it and then overflowed the reservoir with oil from a fountain in its center. The overflow was carried off by an open concrete (paraffine) flume to distant miniature mountains.

One of the toughest-looking aggregations of big, knotty, crotched logs was vigorously sawed into slabs by the R. M. Wade crosscut saw, running 300 to 500 strokes per minute, the power being supplied by a gas engine mounted on a frame, which is moved from cut to cut on the log by one man.

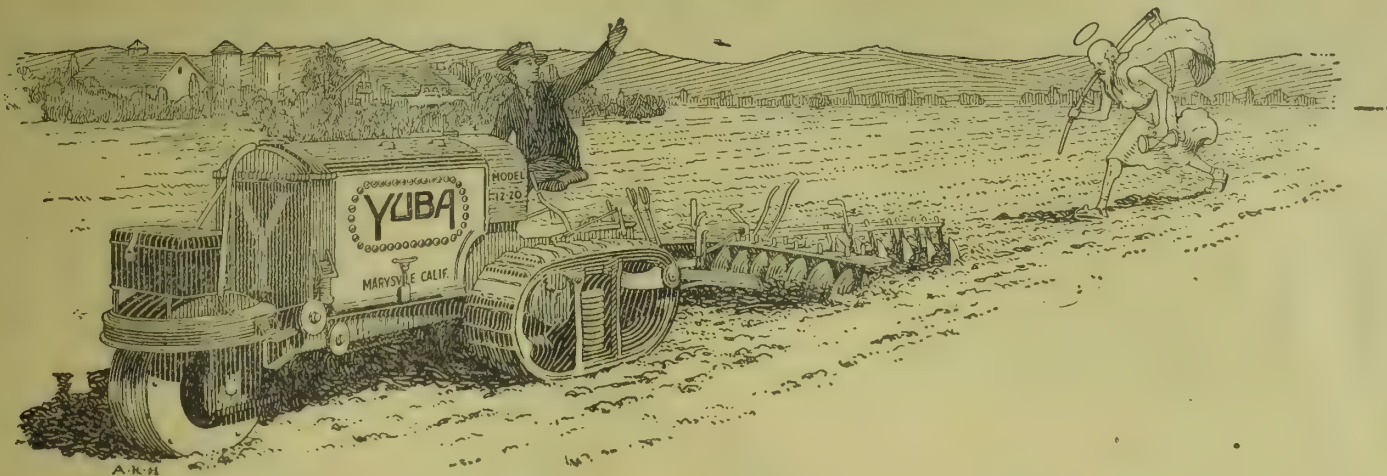
In keeping with a feature of tractor demonstrations and tractor buying that is sure to come, was the exhibit of Tractometers designed for use of farmers in determining how much their tractors pull. It is one way of telling on a dial when the tractor is being overloaded, and how much pull it can exert on the drawbar at various speeds. It is an inexpensive dynamometer costing \$75 to \$150. It lengthens the life of a tractor by absorbing some of the shock when the drawbar is jerked, as well as by telling the driver when the tractor is overloaded.

Domestic Accessories.

A house-watering system new to Southern California was the Westco, shown by H. W. Schillinger. A suction pipe is put into the cistern and the pump connected in with a motor, which is connected to an ordinary electric light bulb. The faucet constitutes the switch, so that when it is opened, the motor and pump automatically start and water comes a-running. This is a little more expensive in operation than a similar outfit, which includes a pressure tank. The motor starts automatically when pressure in the tank drops to 15 pounds, or whatever pressure it is adjusted for. It stops when the pressure reaches 40 pounds, or at any other adjustment desired. Forty pounds is claimed to force water about 90 feet high.

Electricity designed to lighten a score of tasks in the farm home is supplied by the Delco Light machine, which generates electricity by the power of a very small gas engine and stores it in storage batteries whenever the farm lights or other electric appliances are not using electricity as fast as it is generated. "Juice" from the storage batteries can be used without starting the engine until the

Time has no terror for the owner of a Yuba



HE is confident of his ability to do his work well, quickly, and in proper season by reason of his knowledge of its long record of reliable performance.

HE is insured from the haunting dread of a breakdown at a time when minutes cost dollars by the high quality and superior strength of its working parts.

HE knows from experience and observation that he will continue to use his YUBA year after year, as a workman uses a fine tool—that a moderate annual outlay for repairs on wearing parts will restore its efficiency to par.

HE is certain that *time* will prove the economy of his investment in his YUBA tractor.

Ready for Immediate Delivery

There are two sizes of YUBA Ball Tread Tractors:

12-20, 20-35

Write us for the catalogue of the size you need; tell us how many acres you farm, and the kind of soil.

Address:

Yuba Manufacturing Company
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YUBA
DEALERS:

A. F. George Co., Fresno
Pengilly & Clarke, Stockton
San Jose Truck & Tractor Co., San Jose

Ketterlin Bros., Santa Rosa
Young Hardware Co., Napa
Mayfield & Long, Suisun

juice is nearly all gone, when the generator starts to recharge the batteries. A little motor connected into the circuit was operating a churn. An electric fan was keeping up a noticeable breeze. A vacuum sweeper was handy to connect into a socket when desired. Those who have used electricity for home work can scarcely conceive of themselves being without it.

The lowering water-level during 1918 and 1919 has left many centrifugal pumps dry. This has led to a good business in deep-well pumps of various kinds, which replace the centrifugal because they do not require pits. One of those shown at the Tractor Demonstration was the Bean, which has been described in our notes regarding the State Fair, where it was exhibited. Another, which attracted attention in the accessories and machinery tent was the Kimball, a rather recent product made by an old concern which has heretofore devoted its attention to municipal and other large pumps. The one at the Demonstration was throwing about 160 miner's inches with a very small lift, the power being furnished by a 6 h. p. Z engine. The Kimball turbine propeller is like a simple auger. As the auger motion of the water would waste considerable power, curved fixed vanes are placed just below each propeller to correct the whirl. A propeller and its vanes within an iron casing constitute a section of the pump separate from all

other sections. Deep in a well the sections, which are about fourteen inches long, are screwed one into another. Nearer the top, the casing for each section is lengthened to as much as six feet per impeller. Balls of about 1 1/4 inches diameter in a ball-bearing at the head of the pump support the weight of the shaft and its column of water. The balls are enclosed and running in oil. They can stand 13,700 pounds weight at 1,000 revolutions per minute, which is four or five times their maximum load on this sized pump. The shaft is hollow for grease to be forced to all bearings under 600 pounds pressure.

Several tractor crank cases and transmission cases were operated in the Standard Oil exhibit by a line-shaft which was run by a Western Electric Co. farm-generating machine. The tractor cases were cut away to show how the transmissions and crank cases are lubricated with zerolene and other Standard lubricants.

Most of the American Manganese Steel exhibits were lost in the freight mess, but several tractor track links were there to show how they can be bent and twisted without cracking or breaking. An increasing number of track type tractors are using manganese steel. This material is also designed for use on the exposed drive

gears of wheel tractors.

A canvas-covered pulley a foot in diameter hung throughout the show with one end of the canvas stripped back an inch.

THE IMPLEMENT AND TRACTOR DEMONSTRATION.

(Written for Pacific Rural Press by E. E. Hodges.)

It was a place to try the effectiveness of soil refining machinery. We watched one tractor making a noticeable impression on the clods which rolled and twisted it like a small boat on a choppy sea. It was pulling a loaded double disk, but the disk was riding over the clods. The crushing was done by the lugs on the tractor's wheels. This led one rancher to observe that it would be more economical to put longer lugs on the wheels and forget the disk.

On these hard big clods, other rollers and clod crushers and heavier disks were found which eventually did the work. Most of their efforts were displayed near the headquarters tents and attracted many visitors. It is a settled fact that tractors will plow adequately, but whether they will cultivate thoroughly and economically and conveniently, close to trees, seemed still to be a question in some minds.

HAIL, THE MILK BAR!

Has it come to stay? There is only one answer to that question, and that is, yes, to judge by the patronage accorded the experimental bar conducted by the Associated Dairymen of California in the gallery of the Exposition building at the State Fair. Nothing but milk drinks were served, but they were of wide variety and ranged in price from ten to twenty cents each. Everything from plain buttermilk to the more aristocratic drinks, like the Hereford Highball, Jersey Island Chocolate, Holstein Elixir, etc., were served by beautiful barmaids, dressed becomingly in white.

This association intends to start bars of this kind in all the larger cities and at the same time carry on a campaign of education as to the healthfulness of milk and its products as a human food in every way possible. Again we say, All hail to the milk bar!

A recent bulletin from the U. S. D. A. treats on methods to reduce losses of livestock from Loco Weed. It tells how to identify the three different kinds of this weed, methods of prevention and cure; also how to eradicate the weed from the ranges.

The New 16 valve Twin City Tractor

PAYS BIG DIVIDENDS

For the first time in the history of the tractor industry, the 4-cylinder, 16-valve engine (valve in head type) is now applied to a tractor. The TWIN CITY 12-20 with its 16-valve motor actually develops 25 per cent more than its rated horsepower.

This new 12-20 is a light weight tractor that will out-pull, out-last, and out-dividend other tractors of equal rating.

Not built down to a price, but built up to a fixed ideal—to do the work assigned to it better than it has ever been done before.

The highest grade tractor will unfailingly prove the least expensive and pay the biggest dividends.

Frank Penstrom & Co.
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Van Ness at Golden Gate,
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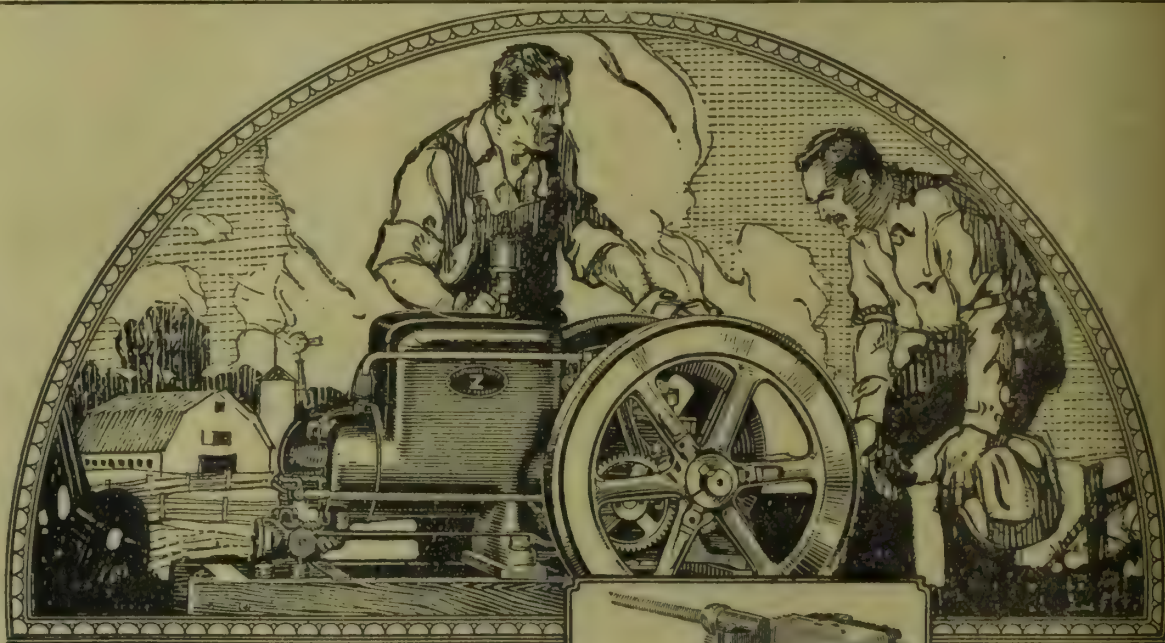
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GARDEN TRACTOR

It plows, harrows, cultivates, runs any 4-h.p. stationary machinery

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*Fairbanks-Morse
"Z" Engine with
Bosch Magneto*



Farm Engine Supremacy

THE famous "Z" Engine and the Bosch high tension, oscillating magneto combine to make the one SUPREME farm engine. ¶ The dependability of the Bosch in delivering a steady succession of hot, intensive sparks is well known and adds the one possible betterment to the "Z"—always recognized as America's foremost farm engine. ¶ Call on your "Z" Engine dealer and see the result of this newest combination—FAIRBANKS-MORSE "Z" WITH BOSCH MAGNETO. ¶ Over 200 Bosch Service Stations assist our dealers in delivering maximum engine service. ¶ Prices—1 1/2 H. P., \$75.00—3 H. P., \$125.00—6 H. P., \$200.00—all F. O. B. Factory.

Fairbanks, Morse & Co.
MANUFACTURERS CHICAGO

Dairy Cattle at Coming Los Angeles Show

(Written for Pacific Rural Press.)

Situated very favorably as to distance and shipping facilities, Los Angeles will have a great show of dairy cattle, drawing from all parts of the State and Arizona. There may be some Eastern shows that will have a few more on exhibition, but there will be none better. From Lockeford on the north to Phoenix, Arizona on the east and San Diego on the south, they are coming to compete for the honors and display their economic charms to an admiring public.

Burr Farm of Los Angeles that has long been one of the mainstays in supplying the city of Los Angeles with milk, cream and butter, has gone into the registered Holstein-Friesian business extensively and will have a fine exhibit. Kenneth Abbott has had the management of the registered herd lately and that means they will be in the pink of condition.

Off to the west of that beautiful little city of Chino, far enough to be somewhat by itself and still near enough to be convenient, is located the George Jr. Republic, a school for boys, with agriculture and livestock features always uppermost. They will show a fine lot of Holsteins with their great herd sire, Dichter Spofford Korndyke Lad 5th, at the head of the bunch. The boys at the school care for and will fit the cattle under the supervision of R. A. Condee, farm superintendent.

When you think about Jerseys you cannot help but think about the cattle owned by Grant A. Brown of El Monte, and be sure and see them at the Los Angeles Live Stock Show. He will be on hand with seven head of his beauties to demonstrate the ability of the south to grow the very finest of the breed. To see them once is to remember them always.

Down in the southernmost end of the State are found some of the greatest Guernseys in America. Edgemore Farm, W. H. Dupee, proprietor, Santee, will show a strong herd. He has a large number of good ones to select from and should be right up at the top in all of the classes.

Frampton Bros. of Artesia grow the best Indian corn in California, according to their statement, and back this up by actual figures. They grow this corn and feed it to some of the best Holsteins found anywhere, and they will be at the show with a very strong bunch of not less than five head. They won grand championship on their bull, Segis Pontiac De Kol Burke Clyde, last year at the Liberty Fair and this individual has not deteriorated, to say the least.

A. J. Stalder of Riverside has Holsteins that are good in performance and in the show ring. They will be at the show with a contingent that will engage the eyes of the judges in a way that will make it somewhat dangerous for his competitors.

Guernseys from Grape Wild Farms, Escalon, A. B. Humphrey, owner, will be at the Los Angeles Show this year. They will have a show herd representative of all stock shown by this great breeding establishment. Production and supreme conformation go hand in hand in this herd and their show cattle are always found in the ribbons with the blue color predominating. There is always a Guernsey show where Grape Wild Farms herd is exhibited.

Santa Anita Rancho, Santa Anita, will have a herd of high-honor Holsteins in the show ring of the kind that take the eye of the dairyman every time. Their herdsman, Mr. Earl Sturgis, knows the game from production to show ring and has done some great work along production lines, and in the show ring this fall the cattle under his care will bespeak a place right up in the front row.

E. L. Haas of Downey has Jerseys entered, and although a new man on the list, will help to make a good show.

Phoenix, Arizona, is in a rather warm locality on the earth in the summer time, but it does grow alfalfa nearly the whole year round and, therefore, dairy cattle thrive and produce wonderfully. Mr. Buckley is

bringing a herd of Jerseys to Los Angeles to compare with those owned in California and to compete for the honors at this great show. If his cattle are as good as the Salt River Valley climate in the winter time, California breeders will indeed "sit up and take notice."

Jerseys are not the only good dairy cattle raised in the Salt River Valley of Arizona, as Frank Reed Sanders will have herds of Dutch Belted and Holstein-Friesians to prove that black and white is a good color for dairy cattle in that region. Mr. Sanders has shown Dutch Belted cattle before in California, but now he comes doubly armed in this popular color and will make a fine showing.

When J. E. Thorp of Lockeford starts out on the show-circuit he keeps on going, therefore, he will be found in the ring at Los Angeles with something like a dozen and a half of his favorite cattle. Mr. Thorp is really one of the constructive breeders of the State, and while he has one or two new ones, his herd is practically all his own breeding and they are good ones, too, as his winnings at the State Fair and elsewhere this year will tes-



Dichter Spofford Korndyke Lad 5th, Herd Sire in Holstein herd of George Jr. Republic, Chino.

tity. His showing will be Jerseys.

Riverside, California, is a great place for many things and among them is a herd of the aristocratic Jerseys just on the outskirts of this beautiful city, and they surely detract nothing from

its beauty. J. E. Wherrell takes great pride in his beautiful cattle and is coming to the Los Angeles Show to see just how blue ribbons are won. The show of Jerseys promises to be a great one, and Mr. Wherrell is confi-

Calco Farm Products make and save you money - -

—because Calco Farm Products, made of Galvanized Armco Iron and Cast Iron, last. They resist rust, and hogs or stock cannot chew them to pieces.

—because, being metal, they are easily washed and cleaned. There are no cracks in which germs can hide. And clean feeding and watering equipment means fewer sick animals—and more profits.

—because they save the time of yourself and costly farm help. The watering fountain—the Automatic Grain Feeder—save hours—and money.

—because these feeding products are so constructed that they save grain and other feed—another vital saving advantage.

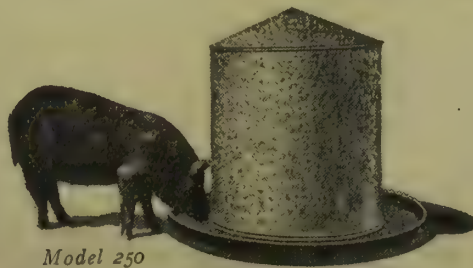
—because the actual money cost is small—compared with the cost of material and labor of wooden disease traps.

Send for descriptions and price lists.

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LOS ANGELES
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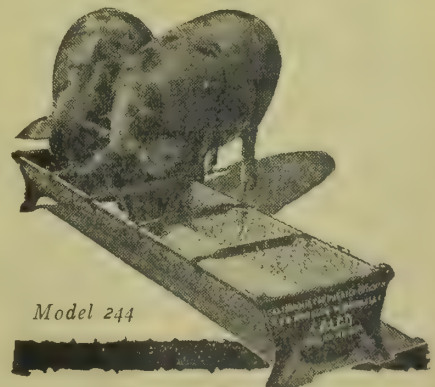
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Calco Automatic Grain Feeder



Model 200

Calco Stock Watering Trough



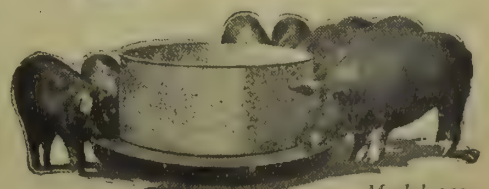
Model 244

Calco Hog Trough



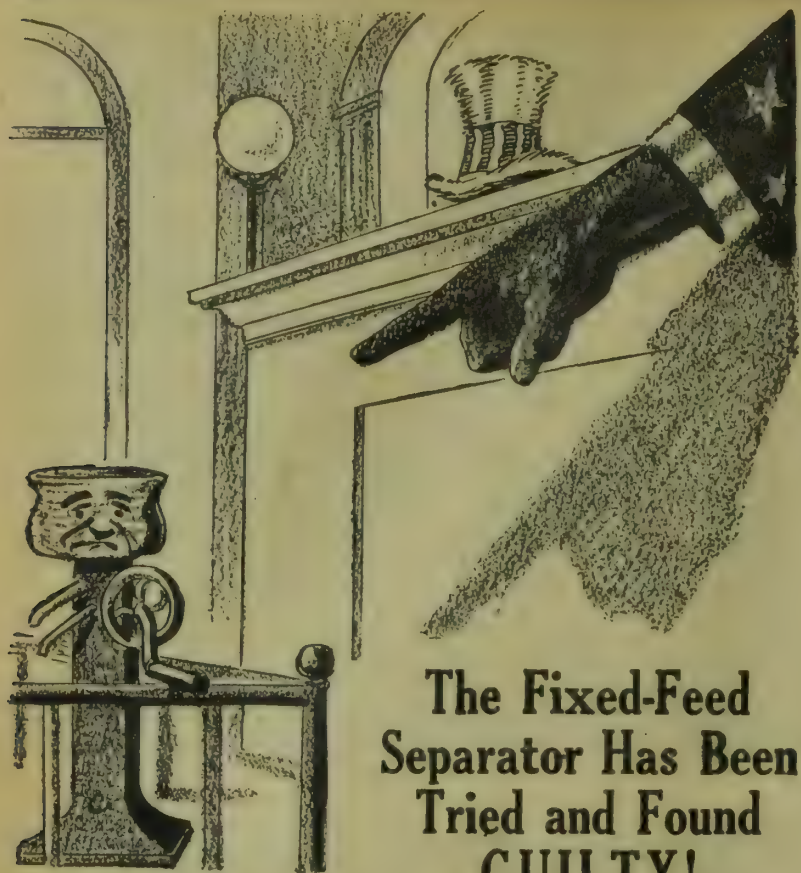
Model 257

Calco Sheep Trough



Model 252

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The Fixed-Feed Separator Has Been Tried and Found GUILTY!

Every year thousands of dairymen and farmers discover that the fixed-feed separator is wasteful. They refuse to accept the alibis put forth by the fixed-feed separator, such as speedometers, speed bells and other contraptions that merely warn the operator when he turns below speed and do not really prevent butterfat loss.

Suction-feed is the only principle in separator construction that prevents butterfat loss resulting from slow turning and Sharples is the only suction-feed separator. The Sharples skims clean at any speed—something no other separator does and that no other separator dares to claim.

SHARPLES

SUCTION-FEED CREAM SEPARATOR

SKIMS CLEAN AT ANY SPEED

Get the evidence. We will send you reports of actual tests made by dairy experts, testing associations, creameries all over the country. These reports show in dollars and cents how wasteful separators are that fail to skim clean all the time.

There is only one way to make a separator fully efficient, and that is to use a Sharples. It is the pioneer American separator—having behind it the oldest and largest separator factory in America, with 100% American ownership.

Write for interesting booklet, addressing nearest branch, Dept. 31

"There are No Substitutes for Dairy Foods"

THE SHARPLES SEPARATOR CO., West Chester, Pa.

BRANCHES: CHICAGO SAN FRANCISCO TORONTO

Over 2,425,000 Sharples Separators in Daily Use

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USE YOUR FORD AS A 10-HORSE PORTABLE FARM ENGINE

The Perfection Belt Power Attachment is all you need.

Easy to line up with the machine you want to drive. Has an extra cooling fan.

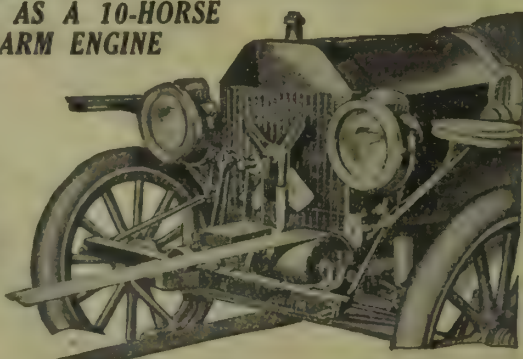
We also make The Ideal Power Jack for rear drive. Fits any car.

Ask us about them.

THE ASHLAND PRODUCTS COMPANY

320 Market Street.

San Francisco, Cal.



dent his cattle will win their share.

The Ayrshires are coming into their own in California and J. Henry Meyer of San Francisco and Watsonville, with his Elkhorn herd, is doing a great work in bringing this great Scotch breed to the fore. His herd won first honors at the State Fair this year and he will show practically the same ones at Los Angeles. Wm. Hendrie, the herdsman, will surely have

them so that they will be "a sight for sair een."

Coming into competition with the Elkhorn herd of Ayrshires is another competition contingent from the Salt River Valley of Arizona in the herd of A. C. McMinn of Phoenix. This valley will grow almost anything and the Scotch "coo" certainly ought to do well for all of its being so widely different from her native heath.

The Coming Swine Show at Los Angeles

(Written for Pacific Rural Press.)

The herds showing at Los Angeles this year are all from California and most of these from the southern part of the State at that. The newer breeds are leading in numbers with the Duroc-Jerseys at the head of the list. This last-named breed is very popular in the south, and if it was not for some noted herds of Poland-Chinas and Berkshires from the north, the Duroc-Jerseys and Hampshires would have it all their own way. Fourteen exhibitors of Durocs, six of Hampshires, and only six altogether of Poland-Chinas and Berkshires. Something is surely wrong in southern California with the older breeds.

In the Poland-China department M. & A. L. Bassett of Hanford will be in line with a large showing of their favorite breed. They were at the Liberty Fair last year and are back again this year. The senior member of the firm has bred more registered Poland-Chinas than any other breeder in the State, and is now showing swine of a

among the smaller breeders on one of the smaller subdivisions of the wonderful San Fernando valley. Their herd may not be as large as some, but it is producing hogs that will look fine in any company and the big fellows won't have it all their own way all the time when it comes to the show ring, for Hewitt Bros. will have some in line when the time comes.

This same Fernando valley is great for alfalfa and that alfalfa is as full of red hogs as some parts of California used to be of fleas. L. Leist of Van Nuys is another breeder whose herd is not the largest, and he means to see how his Durocs will look beside the others that are to be at the Los Angeles show.

Donald H. Graham, owner of Rancho Del Sur, near Lancaster, in the Antelope valley, has heard the call of the show ring at Los Angeles and will come down and fill most of the classes with his Durocs. The wind may blow a little at times on the Mo-



Grape Wild Rose, senior and grand champion Berkshire sow, A. B. Humphrey, owner, Escalon.

very popular type with both the breeders and packers. A quick-growing animal with plenty of bone and an excellent breeder; in fact, the "advanced type."

The George Jr. Republic of Chino will show Duroc-Jerseys, as well as Holsteins. The boys at the school are taking a great interest in the swine department and they ought, under Mr. R. A. Condee's management, make a good showing.

Castleview Ranch, Santa Rosa, will exhibit Berkshires and of the blue-ribbon type. J. Francis O'Connor, owner of the above-mentioned herd, is an enthusiastic booster for the Berkshires, and is comparatively a new breeder, but with an old head on his shoulders. It can be said truthfully that Mr. O'Connor is doing as much or more for his chosen breed of swine as any other man in California today.

The "sheeted" hog finds an advocate and supporter in L. A. Denker of Saugus, who will have his herd in the ring when the "gong sounds."

The motorist on the State Highway, about half-way between Los Angeles and Santa Barbara, notices an attractive sign telling him that the collection of nice buildings in a setting of hills and trees is Conejo Ranch, the place where they breed Hampshires and Duroc-Jersey swine. They have one of the largest swine-breeding establishments in southern California. Last year they made a great showing and will no doubt repeat what they did then when they get started. So far they have not shown, but expect to have a full quota out of each breed at Los Angeles. With their new importation from the East and Mr. Geo. Waltmeyer to manage the herds, they certainly ought to make the upper end of the line some of the time at least.

Hewitt Bros. of Van Nuys are

jaye desert, but do not think for one minute that Mr. Graham's Durocs are filled with it, for they are real top-notchers and will be rooting along toward the top of the line by the time the judge has finished.

Berkshire herds are not as numerous in this southern show as the lovers of this great breed of swine would wish, but there will be a Berkshire show for all that, as A. B. Humphrey of Escalon will be there with his herd, so that while the herds may not be as strong in numbers as some of the other breeds the exhibition will not be lacking in quality. Grape Wild Farm's herd will have a full quota and fill all classes.

Ireland Ranch at Owensmouth will show their Duroc-Jerseys, of course, and it won't be any insignificant, poor stuff either, as they have a lot of good ones, and it won't be best for those making up a slate of the winners to forget this herd. Some of them have been thought good enough to go East, but the owners thought best to hold on to what they have and not go to "chasing rainbows."

The Hampshire delegation cannot help but be strengthened by those shown by the Fairbanks Ranch at Redlands. Mr. Harvey, the manager, is an enthusiastic advocate of the breed and knows good Hampshires when he sees them. They will show a full quota. Only the very best animals in this herd, either male or female, are kept for breeding purposes and the culls go to the butcher and not to some innocent beginner.

E. Avery, Newton, is rather of a new breeder in the Duroc game, but he will compare his good ones with the others at the "big show" and see who has the best ones.

C. J. Gilbert of Lancaster has a herd of Hampshires that are among the

best and he cannot resist the temptation to show with his fellow breeders in friendly rivalry for the coveted blue, red and white ribbons that are really so little in themselves, but represent so much oftentimes to the winners of them.

The Perris valley south and east of Riverside seems to be a great place in which to raise swine, as many good herds are already established in that region, due to the ease with which alfalfa, milo maize and kindred feeds are raised. Falfadale Farms are, located not far from the village of Perris, and they are raising and importing some of the best Duroc-Jerseys. They recently brought out from the East a new herd sire, for which they paid \$2,000, and this, with many other good ones they have, will be shown at Los Angeles.

M. L. Montgomery of Simi, Ventura county, has some Poland-Chinas that are good enough to visit the "big show" at Los Angeles and help hold up the end for this great breed that seems to be lacking in numbers at this particular place.

Llano Vista Rancho, owned and operated by Gordon & Langdon, breed Hampshire hogs that are true exponents of the breed. They have a lot of 'em and are bringing some of their

best ones to try for first place in all the classes. They are bred right and fed right and right in conformation, so look out you fellows that think you are going to have some easy pickings, for you will find some Llano Vista Hamps in all classes.

Some men are born to do things by wholesale and J. E. Thorpe of Lockeford seems to be one of these. He is not satisfied to show one excellent type of domestic animals, but must have two. It is told in another column how Mr. Thorpe expects to exhibit Jerseys and now we have to record in this column about his expectations in the Duroc-Jersey swine department. He has twelve out on the show circuit that are winning lots of ribbons so far. You may stop him at it, but it will take good ones to do it. The beauty of it is, too, that these hogs are all bred by himself.

Bonita is a little place situated in the Otay valley, 15 miles southeast of San Diego, almost in sight of the Mexican border. It is not a large place in point of numbers, but there is located one of the greatest swine-breeding establishments in California, which is known as the Winsor Ranch, with R. K. Walker as part owner and manager. Last, but not least, they breed Duroc-Jersey swine, and it is the home of Model Defender Lady, grand champion sow at the State Fair this fall, and also said to be, by Fred Devore, one of the four greatest sows of the breed in America. Mr. Walker will have 24 head on exhibition and every one of the kind that are fashionable in conformation and breeding. Their consignment will materially help to make Los Angeles a great Duroc show, and that means a great swine show to many.

Out south of Los Angeles, almost on the beach, is located the little place Lomita, where J. L. Hall has his Poland-China ranch. He will bring some of his good ones to the Los Angeles show and help keep the reputation of his favorite breed where it should be.

Keystone Ranch at Lankershim will be on hand with some of their quality Durocs and will let people know that southern California is one of the best places in the world to grow swine.

Mrs. F. M. Connor of Pasadena is a great believer in the hog as one way to reduce the H. C. L., and she raises two kinds, viz.: Berkshires and Duroc-Jerseys. She will have some from both sections of her herd on exhibition and will no doubt be found near the top.

From over or around the Sierra Nevada, from the thriving city of Bishop, in that new and promising agricultural and livestock section, comes C. T. Thompson with his show contingent from his great breeding herd of Duroc-Jerseys. Last year he won the grand championship for boars with Thompson's Pilot Defender, a grandson of McKee's Defender and the pioneer Defender boar of the Pacific Coast. Mr. Thompson is very apt to duplicate his winnings of last year. Of course, the competition this year will be more keen, but it is safe to say that Mr. Thompson has not stood still in the business either.

The Diamond Bar Ranch and Walter Gatton—these are coming to be names to conjure within the livestock game, particularly just at present in the Duroc-Jersey swine department. With a large foundation herd and a new shipment, this season of premier stock selected from the best herds of the East, this establishment, situated 30 miles east of Los Angeles at Spadra, will be at the southern show with 30 or more Durocs.

Mr. F. E. Lewis 2nd, who is owner of this giant livestock enterprise, is a genuine lover of the game and aims to not only buy the best, but keep and breed the best. It sometimes takes some nerve to refuse double or quadruple what an animal seems to be worth, but the true breeder will do so if he is convinced that what he has is what he wants and will perpetuate and improve its kind. Such a man we believe Mr. Lewis to be and we look for him to do a great work in the livestock world of the Pacific Coast.

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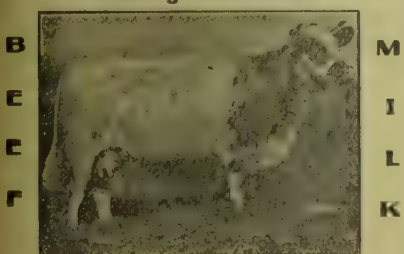
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Nellie Jay 4th, A. R., 20,709 lbs.
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October 18-25

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OWNER
SANTEE, CALIF.**

BEEF CATTLE CONTINGENT AT LOS ANGELES.

(Written for Pacific Rural Press.)

The "doddies," the "whitefaces" and "reds, whites and roans" have combined to make this a beef cattle show. From North Yakima, Washington and Cheyenne, Wyoming, on the north, Kansas City on the east and Perris valley on the south, they have gathered in their glory to amicably compete for the honors so generously listed by the people of the southern city.

Caledonia Farms of West Sacramento and San Francisco, J. C. Cebrian, owner, will make their initial appearance in the show ring with the great bull, Imp. Caledonia, at the head of the herd. They will make a strong showing and will materially strengthen the Shorthorn classes on the Pacific Coast circuit.

The "doddies" will be represented by the premier herd of the Pacific Coast, that of Congdon & Battles of North Yakima, Wash. What they lack in numbers they will make up in quality. It certainly is to be hoped that the future will see an increase in the number of these cattle grown and shown on the coast. They are worthy of a wider distribution.

Conejo Ranch of Newbury Park will show Herefords for the first time. They will without doubt uphold the reputation of this great stock-breeding concern by showing as good cattle as they have swine. They certainly are in a position to breed and grow as good stock as can be grown anywhere in the world. They have ranch, climate, and last, but not least, the brains to make their mark as breeders of premium stock.

F. L. Hall of Perris valley, that wonderful country south of Riverside, where alfalfa is always green and "cattle always contented," will come to the show with a showing of Shorthorns of both beef and milking strains. He has some good ones and will have his eye on the first places.

Henn's Herefords, all the way from Kansas City, will make the Hereford showing stronger and compete for honors in all the classes. It is encouraging to have the Eastern breeders patronize the Coast shows, as it gives the Western fellow a chance to compare his stock with the source of Hereford cattle, as Kansas City is called the "heart of Herefordom."

The Pacheco Cattle Company of Hollister are following the circuit of the big shows this fall with their Shorthorn show herd. They will probably have 12 head of cattle that will be "in the money" in most of the classes. Their ranch situation is particularly good for raising top-notchers and they will always be a force in Shorthorn circles as long as they are in the business.

Rancho San Julian, owned by the Thos. B. Dibblee Estate of Santa Barbara, prominent breeders of Shorthorns, will exhibit their show herd and no doubt duplicate their winnings of the past. They have a strong herd and have added to it from the East this summer. This herd has been in existence for over sixty years, which is quite a record for the coast.

A show delegation from probably the largest registered Hereford breeding establishment in the world. This firm, known as the Hereford Corporation of Wyoming with headquarters at Cheyenne, has close to 1,000 head of registered breeding cows, and a carload of show stuff selected and fitted from such an aggregation certainly ought to be "good lookers."

T. S. Glide, Hillcrest Stock Farms, Davis, has long been noted for raising blue ribbon Shorthorns, and he is keeping up his reputation and following the big show circuit with a typical show herd this season. Such ones as Little Sweetheart, Spicy Lady (white cow with white calf at foot), King's Countess and others will be in line when the time comes. The Hillcrest cattle also are one of the old-time herds so well known in California.

D. H. Odgden of Alpine will be in line with a nice bunch of Herefords. This herd is one of the few show beef herds of southern California.

Appreciation of Auctioneer Service

Lodi, Cal., Sept. 20, 1919.

COL. ORD L. LEACHMAN,
Sacramento, Cal.

Dear Sir:—

You will please find enclosed check for \$125 which we agreed to pay you, with an average as it is.

In behalf of the SAN JOAQUIN COUNTY POLAND-CHINA BREEDERS' ASSOCIATION, I have been requested to send you a letter of thanks expressing our appreciation of the good work and assistance you have given us during our past sale.

You can feel assured that every member of our association will heartily recommend your services as an auctioneer.

Hoping we will be in a position to do business with you again in the near future, I am

Respectfully yours,

(Signed) SHERWOOD W. BECKMAN,
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Young bulls by this sire from highly-bred, heavy-producing cows, with records up to over 35 pounds of butter in 7 days and 139 pounds in 30 days. Have some exceptionally fine young bulls about ready for service at very reasonable prices. Our cows won more places in the list of prizes for production given by the Holstein-Friesian Association for 1918 and 1919 than any herd on the Pacific Coast.

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Horses Then and Now

(Written for Pacific Rural Press.)

The writer can remember how in "auld lang syne" the livestock show or fair was mainly horses and light horses at that. Then the drafter made its appearance and started seemingly an endless controversy between the breeders of the light horse on the one side and breeders of the draft horse on the other. Gradually the drafter won his way to the front until finally it seemed as though he would reign supreme forever more. His supremacy received a setback, however, along in the '90's, when it was almost impossible to sell draft horses at any price, especially breeding stock. Again the draft horse breeder pulled out of his "slough of despond" and again he reigned supreme from coast to coast and from the gulf to the eternal snows of the Arctic circle.

Then the automobile made the burden of the light horse less and less until his usefulness has passed to a large degree. The drafter hung on, however, until the auto's big brothers, the tractor and truck, commenced to grow and expand into "quads," caterpillars or "cats," "fordsons" and "sich-like ants" of the lesser tractors. Then it once more seemed as though the draft horse was a permanent member of the "has been" club, but since the war there have been signs that the great industry is once more awakening, as there is an added demand for breeding stock at home and also from European countries to a limited extent.

At the State Fair there was something to be seen of this in the large showing of beautiful and massive drafters, and now comes the Los Angeles Show, with a long entry list of Percherons.

Hall Bros. of Perris will have a beautiful black quintet composed of four mares and two-year-old stallion weighing 1,900 pounds and as good as he is big.

Mesa Sarita Ranch, J. S. Marwick, owner, will have a string of Percherons that will take us "old-timers" back to the palmy days. He ought to be inside the money in many of the classes.

Santa Anita Rancho will show almost all kinds of horses, that is, Percherons, Arabians, Thoroughbreds, as well as Mammoth Jacks. They have good ones and will make a great exhibit.

Merritt & Bowers of the Tagus Ranch at Tulare will also be in line with the powerful Percheron and of "merit," too.

O. H. Brandt of Shellville, Sonoma county, is the only exhibitor of the bonnie Scotch Clyde; but often one entry in the Clydesdales is a whole show in itself and a good one at that, combining style, action and massiveness all in one. Mr. Brandt shows ten at least, so there will surely be a Clydesdale show.

It must not be supposed from what has preceded this that the light horses are all dead and buried, but far to the contrary. They are now truly the aristocrats of horsemanship, only owned and used by the true lovers of horses and those who can afford such a luxury in these times of H. C. L. and also H. C. of horse feed.

As has been said before Santa Anita Rancho will exhibit Arabians and Thoroughbreds; Robert H. Gudgeon, Santa Barbara, Saddlers; Thaddeus Lowe, South Pasadena, Saddlers; John E. Marble, South Pasadena, Saddlers; Chas. W. Winter, Alhambra, Saddlers.

Riding ponies will be shown by Margaret E. Rock of Santa Barbara.

The above goes to show that things don't always stay down when they are thought to be even dead and buried. We still have some horses with us for so long that it is safe to say a pair would be in the next ark if there ever was to be another flood.

Present Aspect of the Goat Industry

(Written for Pacific Rural Press.)

Some fifty years ago a goat craze swept over the eastern part of the United States, including what is now called the Middle West. This only included the Angora or Mohair goats, with their grades and crosses. This fever soon died out and nothing more was heard of this branch of the livestock business for years.

All at once, about 25 years later, out of nowhere, or a clear sky, seemingly came another goat boom and this time it included all of the United States from the Atlantic to the Pacific and from the gulf to the Canadian line or beyond. The goat boomers "worked" the brushy, partially abandoned agricultural sections of New England, the timbered regions of the South, the cut-over pine localities of Minnesota, Wisconsin and Michigan, and last but not least, the arid sagebrush mountainous regions of the far West.

This last boom was of longer duration, and as in the first one of the early seventies, included only the Angora and its grades and crosses. This finally left the Angoras in regions adapted to them and demonstrated their economic value in those places, although their adaptability is not as general as the boomers would have had us believe.

In late years, or quite recently, in fact, we have another goat craze or boom, but of a different kind. This is the milch goat boom. Just how much of a place they are finally going to occupy is hard to determine at present. Some look upon the question rather quizzically, others with a doubt expressed and say it will soon die out. However, the fact remains that the industry seems to be growing and establishing itself on a more or less sound basis.

The place for them at present seems to be confined to the breeder and to those living in the outskirts of cities and villages, with a few goat dairies supplying milk for infants and invalids when prescribed by physicians.

The claim is made that the milch goat is absolutely free from tuberculosis or any other disease communicable or inimical to man. If this is true it is a great point in their favor, and we hope it is.

This phase of the livestock industry on the Pacific Coast seems to have its strongest foothold in Southern California at present, and whenever there is a fair or show of any kind in that region, from county to county, or the Los Angeles Livestock Show, the milch goat is found in steadily increasing numbers. The coming show at Los Angeles is no exception and following is a list of the exhibitors in various breeds of milch goats:

SAANENS:

S. H. Bowman, Los Angeles.

TOGGENBURGS:

I. M. Burdick, Glendale; J. T. Hoggins, Fullerton; Minnie B. Kiggins, El Monte; John N. Linden, Los Angeles; Mrs. S. O. Rhodes, Pasadena; W. B. Wilson, Lankershim.

NUBIANS:

Archie E. Ford, Hawthorne; Emma Kraft, Los Angeles; C. D. Miller, La Crescenta; Belle F. Miller, La Crescenta.

It will be seen from the above that the believers in and lovers of this growing branch of the livestock industry will have a good opportunity to inspect some of these economical milk producers.

Sheep.

The woolly fellows that furnish people of the temperate zones with so much of the material for their clothing will be represented by flocks from Oregon and California.

Half a dozen breeds will be shown, ranging from the well-known and popular Rambouillets to the newest of all breeds in this country, the Corriedales, Hampshires and Shropshires coming in between.

The list of exhibitors in this department is not at hand at the time of going to press.

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All Tuberculin Tested.

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Large Production and Fine Type



are combined in the get of Prince Riverside Walker Aakie Acme of Riverside 2nd and Miss Valley Mead De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

KING KORNDYKE
PONTIAC 20TH

our young \$8,500 sire, whose great individuality, fine type, and great individuality, fine type, are hard to beat. Come and

and backing of an unbroken line of great producing dams are hard to beat. Come and see the result of this breeding or write us for further particulars.

Our Entire Herd is Tuberculin Tested.

TULARE HOLSTEIN FARM

W. J. HIGDON, Owner

TULARE, CAL.

H. L. REDD, Herdsman

A New Law

Every Dairyman should make a special effort to familiarize himself with the new State Feed Stuffs Law which becomes effective November 1st, 1919. This law was passed for your benefit, to protect you in the selection of your feed stuffs. It makes it possible for you to feed more intelligently and base the buying of your feeds on actual feeding value.

You know what you are feeding in roughage and no doubt what you should feed in a concentrate to strike the proper balance that gives a maximum milk yield.

What you want—is to know the analysis of the concentrate you feed and what simples are used in its manufacture.

You should know what kind of feed you are buying and buy a feed that will return a greater profit to you by way of increased milk yield.

Besgrade Dairy Feed is just such a feed—you can judge its real value, it comes to you tagged, showing analysis and ingredients.

Post yourself on the new feed law, passed for your benefit and also on the value of Besgrade Dairy Feed. Use the Coupon, it does not obligate you.

Great Western Milling Co., Los Angeles

Great Western Milling Co.,
Los Angeles, Cal.

Gentlemen:

Send me a copy of the New Feed Stuffs Law, also your pamphlet on Besgrade Dairy Feed containing analysis and ingredients of same.

Name

Address

P.R.P.-11

Fred Hartsook Ranch

LANKERSHIM, CALIF.

HOLSTEIN FRIESIAN CATTLE—The cows in our herd are continually being tested for milk and butter fat production and are making creditable records. Some records over 30 lbs. butter fat in 7 days. High-class young bulls for sale.

TOGGENBURG MILCH GOATS—Out flock of goats include many of the highest-priced animals of the breed. A few choice young bucks for sale.

BIG-TYPE POLAND-CHINA SWINE—The winnings of our herd is evidence of its high quality. Boars and sows for sale.

We invite you to visit our Ranch.

T. C. LAW, Superintendent.

GET-A-WITTE
At Reduced Price
Buy on your own terms. Save \$15 to \$200. Catalog FREE.
WITTE ENGINE WORKS
0982 Oakland Ave., Kansas City, Mo.
0983 Empire Bldg., Pittsburgh, Pa.

Wm. M. Carruthers, the noted Shorthorn breeder and stockman, is to judge the stock at the fair held at

NUT CULTURE North - South
East-West. All
The Official Journal \$1.50 a Sample 15c.
American Nut Journal Chester, N. Y.

McArthur, October 2-4. This fair is in what is known as the Fall River country and should have a good exhibit of livestock.

Livestock Queries and Replies

Hog Has Staggers.

To the Editor: We have four pigs which have been doing finely, but recently one suddenly seemed to lose the use of its legs, cannot control them and staggers around. Its eyes seem slightly swollen. It eats and seems well enough, only its joints seem all loose.—E. F. D., Aptos.

(Answered by Dr. E. J. Creeley, San Francisco.)
Give a good dose of castor oil. Change the diet to easily digested nutritive food and give the following: Acetanilid, ½ ounce; gentian root pulverized, 2 ounces; nitrate of potash, ½ ounce; slippery elm bark pulverized, 4 ounces. Mix and give a teaspoonful in the feed twice a day.

Symptoms Too Vague.

To the Editor: A sow farrowed 9 pigs, but developed milk fever. Three died and one runs with another sow. The five left have been running with their dam and have received some feed by hand. These five have developed a mouth disease in the form of a sore which is closing their eyes. The whole bunch have quite a hacking cough which I laid to dust around the yard and pen. We took them away and are washing their jaws with a solution of sheep dip, 1 to 50. Could you give me any remedy, and what

caused it? Is it contagious?—A. B. C., Kirkwood.

(Answered by Dr. E. J. Creeley, San Francisco.)
The symptoms are too vague to make a correct diagnosis. Separate the sick ones. Thoroughly cleanse and disinfect with Creoline, 1 cup; formalin, 1 cup; water, 5 gallons. Irrigate, spray and wash every portion of pens where the sick ones are kept. Bathe the affected parts with the following: Saturated solution chlorate of potash, 1 quart; oil citronella, 10 minims; zinc sulphate, 1 drachm; tincture chloride of iron, ½ ounce. Apply several times daily.

Bovine Conjunctivitis.

To the Editor: I have six cows that have sore eyes. A foamy matter runs from them. Can you tell me what to do for them?—J. R., Gonzales.

(Answered by Dr. E. J. Creeley, San Francisco.)
This is infectious conjunctivitis or inflammation of the lining membrane of the eyelids, and involves the canal carrying the tears to the nose. First wash thoroughly twice daily with bi-chloride mercury solution, 1 in 10,000, after which apply the following ointment: Yellow oxide mercury, 16 grams; lanoline, 2 ounces; white vaseline, 2 ounces. Mix and rub directly between the lids once daily.

DAIRYMEN'S DAY.

Dairymen's Day at the Los Angeles Livestock Show occurs Thursday, October 23, 1919, under the auspices of the Los Angeles County Farm Bureau.

9:30 A. M.—Auditorium State Exposition Building, Exposition Park, Figueroa and Exposition Blvd. Vice-president J. B. Vaile, San Dimas, presiding. The Los Angeles County Farm Bureau, Secretary W. S. Rosecrans, Gardena. The State Dairy Council Idea, S. H. Greene, Sec.-Mgr. California Dairy Council, San Francisco. The Place of Cow-testing in the Dairy Business, N. A. Negley, Dairy Division, U. S. Dept. of Agr., Salt Lake City. Ten Years of Testing and Feeding in Humboldt County, the Hon. F. J. Cummings. What Cow-testing Has Done for Our Herd, Wm. R. Harriman, Supt. Los Angeles County Farm. Feeds and Feeding Rations for Dairy Cows, Assistant Farm Advisor G. E. Gordon.

2:00 P. M.—In the Fair Grounds, Assistant Farm Advisor F. H. Scribner, noted judge of dairy cows, will conduct a judging demonstration.

8:00 P. M.—At an up-town auditorium (probably Symphony Hall) all dairymen are invited as guests of the California Dairy Council to a get-together meeting. Interesting program of music and pictures.

Look for the Farm Bureau cow-testing exhibit at the show.

SHORTHORN BANQUET.

Following the third sale of Shorthorns at San Francisco on Thursday, November 6th, a banquet will be held at the Palace Hotel at seven o'clock P. M.

As is usual with these little get-together affairs the occasion will be informal and some interesting addresses will be made.

The importance of the San Francisco Livestock Show coupled with our third sale warrants the attendance of a goodly representation of Shorthorn breeders and their ladies.

HORSE RACING AT LOS ANGELES SHOW.

Special prizes aggregating \$500 offered by Anita M. Baldwin of Santa Anita for the best five-gaited saddle horses, in which classes there are fifteen or more entered, and \$300 for the best three-gaited from Hart Bros., will give admirers of these beautiful, graceful and spirited animals an unequalled opportunity to inspect their favorites.

Superintendent Ed Smith, the well-known race horse man, who has the racing program in charge, has entries from all over the western part of the United States and among them are some of the fastest horses in all classes, trotting, pacing and running. Good judges of tracks and horses say it is possible that records may be smashed in all classes. Those who are still interested in the racing of the horse kind—and who is not—will certainly have their fill of enjoyment at this time.

THE SHORTHORN SALE AT SAN FRANCISCO.

The Ormondale Ranch of Redwood City will enter six head of heifers and two head of bulls in the Shorthorn Sale at San Francisco on Thursday, November 6th.

The quality of these animals, under the able handling of Mr. James McDonnell, the superintendent of the ranch, is assured.

Messrs. H. L. & E. H. Murphy of Perkins have entered the three heifers which they were fitting for the Sacramento Fair, but which owing to the illness of E. H. Murphy they did not show.

Two choice heifers will be consigned by the Pacheco Cattle Company of Hollister.

The beef cattle exhibit at the livestock show promises to be excellent both from the standpoint of numbers and quality.

Land is too valuable anywhere now to grow scrub stock. Get some purebreds—at least purebred males.



ANNOUNCING WESTERN BERKSHIRE CONGRESS

SALE OF
30—BRED GILTS AND SOWS—30
At LOS ANGELES LIVESTOCK SHOW
Wednesday, October 22nd, 1:30 p. m.

This sale will be made up of selections from the best herds in the West, including a number of sows from show herds.

A. E. HUMPHREY, Pres.
Escalon, Cal.

FRANK B. ANDERSON, Sec'y.
Box 724, Sacramento, Cal.

COL. ORD L. LEACHMAN, Auctioneer.

A postcard to the secretary will bring a catalog.

It Pays to Buy a Sire of Character

It pays to put a sire of character and individuality and an animal that will reproduce himself at the head of your herd. I have always believed it. The history of livestock breeding shows it. But this year, my winnings at the California State Fair proved it conclusively.

My Giant fifteen-months-old Berkshire boar, Natomas Baron Duke, was the grand champion of the show. He was pronounced by Judge Wyman Lovejoy of Roscoe, Illinois, as one of the best individuals he ever had seen. Immediately after the show Ruland and Mrs. E. A. Hardy, Manager of the Mark Requa's Anchorage Farm at Orland, purchased the winner from me for \$1,000.00. He has found a home in a herd of splendid foundation sows.

There is more world and national championship blood in my herd of sows than any other herd in the world. A big statement, but true. My sows have been selected regardless of cost, first for excellence of the individual; second on their record as producers of big litters of large, easy-feeding pigs; third, on their breeding and show record.

Only 600 and 700-pound sows that will farrow twice a year.

The three most important prizes are Grand Champion Boar, Aged Herd (three sows and boar) and Get of Sire (three sows and boar), all of which were won by me with Baron Duke 201st pigs.

They tell me I have the greatest herd of Berkshires in the West on my Natomas Ranch, 7 minutes from my Sacramento office, 906 K street.

If you visit the Capitol they will arrange a visit to my ranch.

I have had a new booklet made.

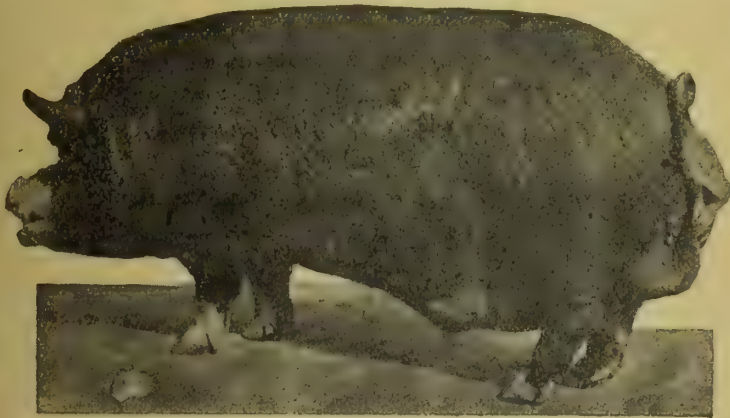
Will be glad to mail you one if you will write.

Yours truly,
W. F. SANDERCOCK.

and raise at least seven pigs of each litter are retained in the herd.

This was my first year to show animals actually bred and raised on my farm, yet Baron Duke 201st's offspring won the following prizes: On Boar, Grand Champion, Senior Yearling.

Champion, First Junior Sows: First Junior Yearling, Reserve Senior Champion, Reserve Grand Champion, First Junior Sow Pig and many other lesser prizes.



Baron Duke 201st, No. 200001
Grand National Champion, The Sire of Champions

A new folder printed just prior to this Fair and now ready for free distribution to those interested has many pictures of my hogs and gives much detailed information about my Berkshire herd. The following are excerpts from this folder, giving the opinion of the man who bred and raised my 780-pound herd sire, Baron Duke 201st, the \$1,400.00 Grand National Champion:

"If Baron Duke 201st is not a good one, I am no judge. His smooth shoulders, great back, width and hams, together with splendid bone and feet, should be appreciated by any judge. I never saw a better width of loin than he has. If more breeders would produce the type of BARON DUKE 201st, there would be many more Berkshires raised and sold. The fact that as good a judge as W. E. Spicer made Baron Duke 201st Grand Champion at the National Swine Show is proof of his superior quality, and there are a good many other leading breeders of the same mind. Every animal on both sides in pedigree of Baron Duke for many generations back was a good one—every one of them. His size, his heart girth, his very smooth shoulders, his back and loin, legs and feet are hard to equal in one animal. If he is not a good one and a well-bred one, there is no other. I am glad to give you my opinion of Baron Duke 201st."

N. H. GENTRY, Sedalia, Missouri.

Judge W. E. Spicer said after the National Swine Show: "Baron Duke 201st is the old-fashioned kind that farmers must have and will have, and will do his part to put Berkshires on every farm."

Wyman Lovejoy, the judge of the 1919 State Fair, said: "I was particularly impressed with the good, heavy bone, great size, spring of rib, large hams, easy feeding characteristics and the uniformity of Baron Duke 201st pigs. They would be hard to beat in any show ring."

The Grand National Champion Baron Duke 201st—the sire of Champions—and his winning daughters are on my ranch and there are a hundred of his sows and boar pigs ready to go into your herd or onto your ranch and help your hogs to gain more meat on the same amount of feed. The prices are no higher than those asked for ordinary purebred hogs. All of the hogs are immunized for life, with Purity Serum and Mixed Vaccine, against cholera.

A letter will bring the new folder and any Berkshires that you might purchase must be entirely satisfactory or they may be returned at my expense.

A letter will bring the New Folder

W. F. SANDERCOCK, President.

Sandercock Land Co. 23 Montgomery St.
San Francisco, Cal.

In Charge of Natomas Land Sales

Grapewild Farm BERKSHIRES=GUERNSEYS WON AT STATE FAIR



GRAND CHAMPION SOW AT STATE FAIR, 1919

6 Championships
8 FIRSTS and 12 SECONDS

Most of our young prize-winners were sired by Big Leader, the greatest son of Grand Leader 2nd, World's Fair Grand Champion. YOUNG BOARS AND GILTS for sale sired by Big Leader and out of our best sows.

We invite the Public to look up our herds at the Los Angeles Livestock Show—October 18-26.

A. B. HUMPHREY, Proprietor
ESCALON, SAN JOAQUIN CO., CAL.

Attend the California International Livestock Show
at San Francisco, November 1-8

BEST BERKSHIRE BREEDING

IN THE WEST

To meet the great demand for bred daughters of **STAR LEADER**. We have purchased for \$1,000 the Grand Champion Boar at the State Fair this year and son of Baron Duke 201st, National Grand Champion at Omaha, 1917,

NATOMAS BARON DUKE

Judge Lovejoy, a national authority, says of him: "As he stands today he is a wonderful boar and bids fair to mature into one of the greatest boars the breed has produced." He is deep and smooth, with a large deep set ham, good feet and plenty of bone to carry his weight.



WE WILL SELL

A few daughters of **STAR LEADER**, mated to Natomas Baron for early spring farrow and also some granddaughters of Star Leader.

ANCHORAGE FARM

ORLAND,

CALIFORNIA

A booklet on "Swine," issued by Armour & Co. is full of condensed information relative to breeds, market types, gestation tables and other items relative to the business.

Lakeside Stock Farm Big-Type Poland-Chinas



MATCHLESS BIG BOB
284659

First Prize, Sacramento, 1919

This herd headed by Matchless Big Bob and Lakeside Defender. These sires are of the type and breeding that are so popular today.

Young stock from these boars and sows of A Wonder, Chief Defender's Choice and Major Hadley Wonder breeding, on exhibition at the State Fair and other fall shows.

Inquiries cheerfully answered and visitors always welcome.

Geo. V. Beckman & Sons
LODI, CALIF.

KINGS COUNTY PORK DAY CONTEST.

Every one in the State of California interested in swine raising for the market and the purebred game as well, should attend the Kings County Pork Day Contest. This is a carload contest, including all the farm bureau centers of Kings county. Each farm bureau center will be permitted to enter one carload. Any farm bureau member in good standing is eligible to enter hogs in his farm center carload.

The carloads will be judged and then ten of the best individuals selected from each carload and the best one selected from the ten. In this way the carloads come in competition, then the best tens from each carload and finally the best ones from each of the tens. Such a contest cannot help but stimulate the raising of better market hogs.

The prizes offered on carloads are as follows: First, \$350; second, \$280; third, \$210; fourth, \$140; fifth, \$70.

The prizes on the 10-hog lots: First, \$100; second, \$80; third, \$60; fourth, \$40; fifth, \$20.

Prizes offered on the individual hogs: First, \$25; second, \$20; third, \$15; fourth, \$10; fifth, \$5.

The hogs are to be judged from the market standpoint entirely in all classes regardless of breed or color. All hogs entered will be auctioned off at the end of the contest. Altogether there will be 25 carloads sold, and there will be a representative from each of the packing companies in California to bid on these consignments.

This will be the first contest of its kind in the United States held in the locality where the hogs are raised and also will be the largest sale of fat hogs ever held on the Pacific Coast at one time. As said before, it will be a great opportunity for breeders and market hogs raisers to see what kind of hogs the packers want and what Kings county can do in the way of raising market hogs.

The older an animal is the more feed is required to put on a hundred pounds of flesh.

52 BIG TYPE 52 POLAND-CHINAS

**FIRST PUBLIC SALE OF THE
Tulare County Poland-China Association
At Tulare Sales Pavilion
TULARE, CALIF. OCT. 21, 12:30 P. M.**

CONSIGNORS:

R. F. Guerin	Mrs. Z. Losleben	A. J. Elliott
W. E. Martin	Thos. Jacobs & Bro.	J. K. Macomber
G. B. Martin	F. E. Fay	Chas. L. Weaver
	Hugh C. Shinn	

Animals in the sale are sired by the following noted boars: King's Big Bone Leader, King's Timm, President, King of Golden Gate, King's Gerstale Jones and others.

Sows and gilts are bred to "The Californian," Big Bone Leader of Sunny Side, King of Golden Gate, Wondergerst, Calif. Big Bone Leader, President's Bob and others of equal note.

This offering has been carefully chosen by our selection committee from some of the best herds in California and only the best individuals are placed in this sale. They are the big easy-feeding utility kind that cannot be surpassed as producers of pork or breeding hogs.

Lunch served on the grounds at 12 M.

Write for catalog to HUGH C. SHINN, Secretary, Tulare, Calif.

COL. GEO. W. BELL, Auctioneer

Trewhitt, Vaughn and Nehls Combination Big-Type Poland-China Sale

The Cream of California Production---Tops from Three Great Herds

SELLS OCTOBER 18, 1919 at Hanford, Calif.

W. D. TREWHITT'S consignment will consist of 40 head, 20 of them fall sows, nearly all sired by MY CHOICE, a son of Big Ben, out of Pfander's Giants 3rd by King of Wonders. The modern type and just the kind you are looking for; also a few by JUMBO EQUAL 2D, prize aged boar at the Panama Pacific Exposition, defeated only by the undefeated grand champion Superba. These are real toppers.

Litters of 5 fall gilts by MY CHOICE, out of Armona Wonder, a granddaughter of King of Wonders and Big Orange. A litter like this will put California in the foreground as Big Type headquarters. The balance of the offering will be big and growthy and equal to the best.

C. A. VAUGHN consignment will consist of A-1 bunch of Eastern bred gilts, bred to the Great Boar MODEL JUMBO, bred by H. B. Walters and sired by his great boar, WALTERS JUMBO TIMON, out of a Big Bob Wonder sow.

As special attractions Mr. Vaughn will consign 3 August yearlings out of a Moor's Halvor dam and sired by Orphan Bob. These and the 4 gilts from the Frazier herd sired by Giant Jones will take the eye of visiting breeders.

GEO. NEHLS will have a select lot of open gilts sired by such boars as Long Nelson 2d, Hanford Boy and Kings Model Longfellow, out of large, big-boned sows. Just the kind to start your herd or improve the ones you have. These gilts can be bred to Nehls' Bob Wonder by Big Bob Wonder free of charge.

Our catalogue will be of interest to all breeders of Big Type, but we especially urge breeders and farmers on the Pacific Coast to send for a copy. Express charges from the East are high and you can make a substantial saving by buying at home. Mention Pacific Rural Press.

Write for catalog to

W. D. Trewhitt, C. A. Vaughn or Geo. Nehls
HANFORD, CALIFORNIA

Marsh-McCracken Poland-China Sale

(Written for Pacific Rural Press.)

The initial auction sale of purebred animals in a locality is generally looked upon with more or less doubt and uncertainty by those interested, but when such breeders of Poland-Chinas as Hale I. Marsh of Modesto and Les McCracken of Ripon combine and sold a sale, there is no doubt about a favorable outcome. Of course, the herds and men are well known and an offering from the favorably known herd of McCarty & Starkweather was an element not without its advantages. Another item in favor of the success of the sale is the fact that Modesto is a good town and centrally located. It would seem that a town of such size, with the finest kind of country surrounding it and developed to a very high state of efficiency, should have a sales pavilion suitable for such occasions.

The sale started promptly at 1 p. m. with Col. Geo. W. Bell of Tulare in the box, and Cols. Leachman and Cy. Clark in the ring. The first animal sold was a Blue Valley gilt, bred to Major Hadley Wonder 2nd, that sold readily to J. Y. Peterson of Lemoore for \$130, followed immediately by another gilt owned by Les McCracken to the same party for \$140. From this point on, without a break, a sharp and snappy sale continued until at 5 p. m. the sale closed with 58 hogs sold for \$9,280, or an average of \$160 each. It is seldom that the initial sale in a locality will average nearly as much. It certainly is encouraging to the breeders of registered swine to have such a sale when the tendency of the sales of meat-producing animals at the abattoirs is rather downward than otherwise. It shows that there is no glutted market in the purebred line where the animals are up to standard.

Such prominent breeders as M. Bassett, W. L. Haag & Son, Wm. Bernstein, John M. Bernstein and F. D. Ross of Hanford; H. D. McCune of Stratford; C. G. DeRaad of Lemoore; H. C. Shinn and A. J. Elliott of Tulare; Geo. V. and Sherwood Beckman, Eugene Miner, and Frank Langhorst of Lodi; J. H. Cook of Paradise; O. H. Plagge of Oroville were present and most of them taking part in the buying. A delegation of pig club boys from Bakersfield were there and bought one or two. Two or three ladies also that are believers in Poland-Chinas bid and bought some of the good ones.

The largest buyer so far as numbers were concerned was J. Y. Peterson of Lemoore, who bought fifteen head for \$2,105, or an average of \$140.33. The top of the sale was the sow, Ripon's Panora Girl, bred and owned by Les McCracken, going to W. L. Haag & Son of Hanford, owners of Lendorris Ranch, and prominent breeders of Poland-Chinas for \$420. Several others went for long prices, in fact, there were ten that sold for \$200 and better. Four from the McCarty & Starkweather herd sold for \$1,150. Again it might be said that this sale is encouraging to breeders of purebred swine in California.

The animals were widely distributed and aside from the one buyer from Lemoore that bought 15, they went in small lots.

While much credit must be given Col. Bell, who cried the sale, and Cols. Leachman and Clark, that worked in the ring, it must be remembered that a very high class of buyers were present and that in nearly all cases the bidding was rapid and sales quick.

The Hampshire Hog

The Hampshire has become America's most popular hog by sheer force of merit. At the 1918 International he won Grand Championship over all other breeds, and sold for \$2.25 per hundred above his nearest competitor. And when it comes to high dressing percentages the Hampshire is in a class by himself.

Ideal for California Conditions

The Hampshire is a natural foraging, green-feed hog, and thrives particularly well on California's alfalfa and other succulent grasses, therefore requiring less grain than other breeds. Send for free information about the progress of the breed and its adaptability to California conditions.

American Hampshire Record Association

E. C. STONE, Secretary.

PEORIA, ILL.

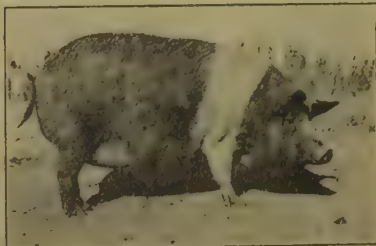
LLANO VISTA HERD Champion Hampshire Swine

Pure-bred Prize Winners

You will eventually buy and make big profits. Every animal in our herd is a Champion or their Sires or Dams have been Champions at some of the leading Expositions of the United States. Boars and Sows of all ages for sale at all times.

F. V. GORDON
Owner

PERRIS (Riverside Co.) Calif.



JUDITH—No. 126448
Sire: Calif. Lad, 45021. Dam: Mabel, 113078
F. A. LANGDON
Manager

OAK KNOLL CHESTER WHITES

The Breed Progressive Farmers Want

Large Litters--Quick Maturity
Easy Feeders--Top Prices

AT the Chicago International, 1918, this breed again won over all breeds on carcass tests. Either straight bred or crosses, the Chester White has for six years proven superior to all other breeds in Open Competition at these Internationals.

We have the Largest Herd on the Pacific Coast--The Finest Blood Lines in America



HIGHLANDER—The Boar You Can't Forget.

This great boar is at the head of our big herd of over 100 mammoth brood sows. He is a son of William A. and Our Maid 3rd, both undefeated Grand Champions at three International Shows. He embodies all your ideas of a perfect boar, and stamps his pigs with his superior qualities.

This is the blood you need to insure your success. A wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs. Prices reasonable. Write us your wants.

Oak Knoll Farm,
San Francisco Office,

Lakeport, Calif.
601 Balboa Bldg.

Lendorris Ranch Poland - Chinas

GREAT HERD BOARS



YOUNG JUMBO (see cut), the great son of Jumbo Bob, is our Senior herd boar. We are breeding his gilts to LENDORRIS LIBERTY BOND, a son of Liberty Bond, for whom \$10,000 was refused.

This breeding combines great size and great quality—a combination hard to beat anywhere. A big demand, so write or call early.

W. L. HAAG & SON,
Hanford, Calif.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

Livestock and Dairy Notes

Dairy.

The Bridgford Holstein Company's new barns and buildings are just about ready for occupancy and is the most up-to-date and largest establishment of its kind in the West.

Grape Wild Farms of Escalon report sale of a bull to go to Central America and one to Placerville. These are two sales of many consummated during and since the State Fair.

H. E. Cornwell since arriving home from the State Fair has completed a very creditable record with the senior two-year-old shown at Sacramento, of 18 pounds butter and 386.5 pounds of milk in 7 days.

The Carnation Milk Products Co. have purchased a site at Gustine, Merced County, on which to erect a large condensary. This is in the center of a large dairy district and will cost \$250,000 and employ several hundred people.

Patterson is to be the Holstein center of the State if real hustling can make it so. N. W. Thompson has been elected president of the Farm Bureau Center and has appointed a committee to select Holstein calves to place in calf clubs in that Center.

A circular entitled "Feeding Dairy Cows in California," the work of Prof. F. W. Woll of the University Farm, Davis, covers the diverse conditions existing in California, with timely suggestions as fully and completely as possible in a publication of this length. With present high prices of feed it is worth every dairyman's time to procure this circular.

An item has been handed in that is entitled a "New Dairy Breed" and gives the results of a test of a two-year-old Brown Swiss heifer, Bravura 3rd, at the Michigan Agricultural College. Her year's work resulted in 12,918 pounds of milk and 558 pounds of fat. This is somewhat of a new breed on the Pacific Coast, but is well known in the East in certain localities. It is a cow of this breed that holds a well authenticated world's record for one day's production of butterfat.

The Jerseys seem to be favorites in the Humboldt County region. J. C. Mankin, who conducts a modern dairy on the Lord-Ellis road above Blue Lake, has just purchased a 7-months Jersey bull calf from Bonniksen Bros. of Ferndale. This calf was first prize junior bull calf at the Arcata Fair. Mr. Mankin lives where he makes his own butter and finds a ready sale for it in Korb. He is milking 30 cows at present.

C. S. Rasmussen of Ferndale had a fine exhibit of Guernsey stock at the Arcata Fair and his 4-year-old bull, Proud King, was grand champion of the breed. Proud King was purchased from W. H. Dupee, Edgemoor Farms, Santee, and is an animal of rather unusual size for the breed, weighing 2,000 pounds, but losing none of the refinement necessary in this splendid breed of dairy cattle. This bull was a winner at Sacramento and Phoenix, Arizona, in 1916.

The increased interest in Guernsey cattle is increasing rapidly, according to a press report direct from the American Guernsey Cattle Club. The number of applications for membership entry and transfer of cattle Advanced Register and subscriptions to the "Journal" are unparalleled in number since May 1, beginning the fiscal year. There has been an increase of over 25 per cent in the number of subscribers to the official paper the past year. An era of unprecedented prosperity seems to be looming large ahead.

A. M. Bibens of Modesto is much pleased with a Segis Fayne Boone heifer that has just dropped a heifer calf sired by a grandson of Prince Gelshe Walker, that he paid \$270 for at a recent sale in Newman. He has recently been offered \$1,000 for her, but thinks she is good enough to keep. Mr. Bibens has two females just started on test that are promising exceedingly good records. One is a third calf cow that is testing plus 5 per

cent and milking between 50 and 60 pounds. The other just started and is traveling at the rate of 35 pounds of butter in 7 days. Some prospects.

A bulletin giving the results of the use of milking machines at the University Farm, Davis, for the past three years shows results favorable to the milking machine if it is handled as it should be. According to this bulletin the milking will have to be done by machines in the future in all dairies having 30 cows or more, where help has to be hired to do the work. There are at present eight different makes of milking machines on the market that are considered reasonably "fool proof" and will give satisfaction if a reasonable amount of intelligence is mixed with the use of the machine. This bulletin was written by F. W. Woll, Prof. of Animal Nutrition at the University Farm, Davis.

Swine.

W. L. Carruthers of Live Oak and Mayfield reports things moving along nicely on the ranches, and the sale of two yearling Berkshire sows and an 8-months service boar to a prominent breeder in Yuba City.

It is estimated that more than \$1,500,000 worth of swine were on exhibition at the National Swine Show at Des Moines, Ia., the past week. One boar, Grand Model's Equal, died at the beginning of the exposition. He was owned by Thos. Robinson of Independence and was insured for \$10,000.

The Diamond Bar Ranch, breeders of Duroc-Jersey swine, will stage a swine exhibit at Los Angeles next week that will equal any made in the East this year. The value of this exhibit will not be much under \$100,000, a feature in itself that will be worth going miles to see by anyone interested in swine raising.

Jack Borge, the prominent Duroc-Jersey breeder of Dos Palos, reports the sale of 11 sows to Dr. Belknap, owner of the Jersey Queen Farm at San Jose. Mr. Borge took 9 hogs to the State Fair and sold 8 of them. This speaks pretty well for the quality of his stock. He also says that he has sold \$4,000 worth of Durocs since the first of April.

Oak Knoll Farms, Lakeport breeders of Chester White swine, report marketing a carload of hogs that dressed out an average of 72.3 per cent. This for a carload is exceptionally good, and speaks exceedingly well for the Chester White breed. Mr. Lea Bleakmore, owner of this farm, says that he always received 1 cent above the market, but on this carload he received 1½ cents premium. Why not more of these high priced porkers?

El Profito, the 900-pound boar of the Poland-China herd owned by Mrs. Viola L. Renwick of Santa Barbara, won first honors at the Ventura Fair. The rest of the herd came in for their deserved share of the prizes also. Mrs. Renwick is certainly making a great success of the Poland-China business and her hogs are of the very best type for present day conditions. El Profito is such a prepotent fellow that even when crossed on the old Berkshire breed, his progeny look like prize-winning Polands.

McCarty & Starkweather's herd is looking fine since coming back from the State Fair and promises to make an even better showing at San Francisco than at Sacramento. They have five Kansas King sows that are about a year old and alike as "peas in a pod," and of the long, strong, "up-on-their-toes" kind that every one wants. Taken as a whole they have one of the best footed lot of hogs found anywhere. Mc's Miss Wonder is a great sow in every way and only lacks in one little point to be perfect just as one looks at her. She is truly a great sow of a great breed.

J. M. De Vilbiss, the well-known Duroc-Jersey breeder of Patterson, has recently completed a new farrowing barn 50 feet long and divided into twelve pens. Mr. De Vilbiss has recently purchased some California-

bred Durocs along the Crimson Monarch, Pathfinder and Orion blood lines that are as good or better than any of the Eastern importations. His herd sire is a son of his old grand champion boar, Crimson Monarch 2nd, with a dam strong in Orion and Taxpayer blood. This veteran breeder has some good ones and is liable at any time to drop back into the show ring and win some more ribbons. Every individual in his herd is of the smooth, long, strong-backed kind, well up on legs, and will please anyone who is looking for fashionable Durocs.

Miscellaneous.

Los Gatos reports rain three-quarters of an inch deep the past week, which is enough to start grass on the ranges.

Samuel C. Hildreth of New York recently refused \$300,000 for his 3-year-old horse, Purchase. It is the largest offer ever made for a racehorse in the United States.

Hiram J. Hill, Jr. of Toyon Farms is on a trip East to visit the National Dairy Show, and to try to make arrangements so that it will be possible for California to have dairy herds on the Federal Accredited List. (Continued on page 506.)

CHARNOCK RANCH

Hemet, Calif.

CHAS. H. TYLER, Mgr.



Home of CHERRY FRIEND,
Second at National Swine Show
Omaha, Nebraska

RHOADES & RHOADES

EXPERT LIVESTOCK AUCTIONEERS

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

BEN A. RHOADES, Auctioneer

Falfadale Farms

HERD OF LARGE-TYPE

Duroc-Jersey Swine

They are strong in the blood lines of Golden Model, Great Wonder, Defender and Orion Cherry King Jr. Young stock for sale sure to please you or no sale.

See us at the Los Angeles Show.

Our new \$2,000 herd sire, litter mate of the boar that was Grand Champion of the breed at the Missouri State Fair this year and said by his breeders to be a better Duroc than the Grand Champion.

B. H. WILKINSON
PERRIS, CALIF.



Great Orion Sensation Jr.

WINSOR RANCH DUROCS

HOME OF WINSOR'S GIANT ORION

The largest Duroc Boar on the Pacific Coast.

82 inches from between eyes to root of tail, 40 inches high, weight 965 lbs. weight 965 lbs.

Great Sensation III

12 months old, 65 inches long, 36 inches high—a giant.

By Great Sensation and Uneeda Lady, the highest-priced sow ever sold at public auction—a 900-pound sow.

40 BIG-TYPE FALL GILTS BY THE WORLD'S GREATEST SIRES will be offered for private sale, bred to these two wonderful sires.

"Look up our State Fair Winnings this year."

Address R. K. WALKER,

Bonita, San Diego Co.



UNEEDA QUEEN MODEL,
Grand Champion State Fair, 1918.

UNEEDA GLENN COUNTY HERD OF Duroc-Jersey Hogs

KEY HERD OF PACIFIC COAST

Won at Sacramento:

Grand Champion Sow, Senior Champion Sow, Junior Champion Boar, seven Firsts, 23 other prizes.

CLASSY STOCK FOR SALE.

40 sows and gilts, many bred to our great eastern boar, Experimental Defender, by old Defender. Also a few choice service boars, and some topdy pigs of King's Col. and Defender breeding. Just the kind you need.

H. P. SLOCUM & SON
WILLOWS, CAL.

JOHNSON'S DEFENDER JR.

Owned by GREENWOOD FARM, Live Oak, Cal.

Is California's greatest representative of Defenders, the greatest Duroc family. At the State Fair he was the smoothest boar shown, weighing 700 pounds at 17 months and carrying it on a perfect set of feet and legs. He won second in the strongest class of boars ever shown on the Coast and was a popular favorite. Three of his brothers won ribbons in the same class, showing the strength of this line of breeding.

Five Ribbons Won on Five Entries.

H. C. WITHEROW, Mgr.

LIVE OAK, Sutter Co., Cal.

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH
ROUTE 4, BOX 735, SACRAMENTO, CAL.

RANCHO DEL SUR DUROCS

ORION'S KING GANO, a wonderful grandson of Orion Cherry King and Col. Gano, and the greatest Duroc boar in the State, heads this select herd of sows.

Young stock for sale.

DONALD H. GRAHAM
P. O. Box 177, Lancaster, Cal.

TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes.

Sure to please.

SWINELAND FARM

W. O. Pearson, Prop., Woodland, Cal.

LIVESTOCK DIRECTORY.

Rate 3½ cents per word each issue.

SWINE.

Berkshires.

CASTLEVIEW

GIANT TYPE BERKSHIRES

We are booking orders for spring pigs from Grand Champion Sows and sired by Mayfield Rookwood, sire of Champion Barrow at 1919 Western Berkshire Congress.

CASTLEVIEW RANCH, SANTA ROSA

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

BOAR

Sired by Baron Duke 201st
Weight 780 pounds
Grand National Champion
Dammed by Rookwood Lady 100th
Weight 712 pounds
Grand National Champion

One and one-half years old. Big-boned, vigorous boar. Half-brother to 1919 Grand Champion that sold for \$1,000. I do not need this great breeder and he is being offered at a very low price. Sandercock Land Co., 23 Montgomery St., San Francisco. In charge of Natamas Land Sales.

GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. R. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH—Top Berkshire gilts. Bred right, prices right. Satisfaction guaranteed. Geo. A. Stingle, El Monte, Cal.

WRITE FOR MY BERKSHIRE CATALOG, giving names, ages, breeding of service boars, bred gilts, specially selected trios. Frank B. Anderson, Sacramento, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

RIVER GARDEN FARM BERKSHIRES—They are sure to please. E. H. Whiting, Ukiah, Calif.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

Poland-Chinas.

ELDERLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our ½-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

MAKE BIG MONEY with Cloverdale Farm big-type Poland-Chinas—the prolific, fast-growing, easy-feeding, money-making kind. We purchased the famous Whitten Ranch herd including great boar Jumbo Model. High-class stock for sale—farmers' prices. Write us. Cloverdale Farm, R. F. D. 1, Escondido, Cal.

NOW BOOKING ORDERS for fall pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas. D. H. Forney, Route G, Fresno, Cal.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

MARCH BOARS for sale—Sired by Kings Big Bone leader, grand champion at State Fair, 1918. Will stand inspection. Prices right. J. S. Rogers, Chowchilla, Calif.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Rt. 1, Box 39, Watsonville, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D. Box 180.

WAUKEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Les McCracken, Prop., Ripon, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

POLAND-CHINAS—If you want perfect type in a March boar or gilt I have it at the right price. J. E. Thomas, Gilroy, Cal.

BIG-TYPE POLAND-CHINA, sired by a real boar. Pigs of both sex from 3 to 10 months old. W. S. Adams, Gridley, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

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Chester Whites.

CHESTER WHITES—BILLIKEN TYPE—The big winners at the State Fair. 15 extra choice spring boars, sired by the Grand Champion boar and out of Billiken sired sows. A few spring sow pigs; three bred Billiken sows and two gilts; all to farrow in October. Priced to sell; a chance to get the best type in the West at farmers' prices. Write for special catalogue and price list. C. B. Cunningham, Mills, Calif.

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FOR SALE

THOROUGHBREDED DUROC—JERSEY HOGS

Choice boars and gilts of April and May farrowing of Orion Cherry King and Grand Golden Model breeding.

Come and pick these boars and gilts to head your herd if you want large litters of thrifty, quick-growing pigs.

Prices reasonable.

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Ventura Blvd. and Hazeltime Ave.
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WE HAVE 100 YOUNG GILTS and boars, bred on the purple, which we are selling for about half their value. Money back if not satisfied. Derryfield Farm, Capital National Bank Bldg., Sacramento.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

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BIG TYPE DUROCS—Herd headed by California Orion King. Am offering a few selected boar pigs. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

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DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Hampshires.

REGISTERED HAMPSHIRE—"Belted Beauties." Weaned pigs a specialty. Unseeded Hampshire Swine Farms, Gardena, Cal.

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LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

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EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

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SERVICE JERSEY BULL, bull calves, Financial King blood, Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

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Milking Shorthorns.

DUAL-PURPOSE SHORTHORNS—registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

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A PRICE ON EVERY ANIMAL. Herd free from tuberculosis. All sales subject to sixty days' retest. Son of Findern Soldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

Toyon Farms Association.

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FOR SALE—35 head of fine dairy heifers. Holsteins, Jerseys, from 15 months to 2 years old, 20 to come fresh this fall. J. S. Smith, Box 515, San Jose, Cal.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PALO ALTO STOCK FARM, Palo Alto. breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

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J. W. BENOIT, Modesto, Calif.—Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

MISCELLANEOUS.

BUTTE CITY RANCH

SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale at the Ranch—all breeds—April 17, 1920. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn County, California.

Attend the California International Livestock Show, San Francisco, November 1-8.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. E. Dibble, Santa Barbara or Lompoc, Calif., John Troup, Supt.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch, Esparto, California.

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HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

REGISTERED YEARLING SHORTHORN ULLS—Heavy-boned, thick-meated. Scotch and Scotch-top-d breeding. Ormondale Co. Route 1, Redwood City, California.

THE NEVADA HEREFORD RANCH, Jno H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

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GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

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F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUFKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

ONE NUBIAN-TOGG NANNY—Price, \$20. Address P. O. Box 344, Healdsburg, Calif.

For Sale

50 Head High Grade Holstein Heifers, at Fresno. 25 fresh in 30 days. Balance freshen November and December. All from Registered Sires, out of Dams giving 80 to 100 lbs. of milk daily. For further information

H. L. BOYER

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Van Nuys, California

FOR SALE
100 HEAD FINE
HEREFORD HEIFERS

Bred up for 20 years and now with calf by the best Registered Bulls I could find. For the man who wants to start in the cattle business right.

You can't beat them on the Pacific Coast.

CHAS. A. TROWBRIDGE
BISHOP, CALIF.

HOLSTEIN
COWS
for
CHEESE
MAKING

They are large, vigorous, and easy to care for, and on coarse feed they produce a large quantity of milk of a quality especially desirable for invalids and infants.

Their great yield contains a higher total of fat than any other breed can produce, and in the cheese and condensation trade their earnings almost double those of breeds whose milk capacity has been sacrificed to get a large percentage of fat.

The Holstein-Friesian Assn. of America
BOX 141, BRATTLEBORO, VT.

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal
R. D. "A," Box 457.
Two miles out North First Street.

GUERNSEY CATTLE

Herd sire strong in blood of ITCHEN MAY KING, the best in the world.

RUSSELL S. COX,

SAN MARCOS, CALIFORNIA
Ranch near Escondido

HOLMES STOCK FARM

WATERFORD RD., MODESTO, CALIF.

Registered Holstein Friesians.

YOUNG SERVICE BULL FOR SALE

Prince Abbecker Aralla Walker, No. 204267—Three-quarters white. Write for pedigree and price. Inspection invited and satisfaction guaranteed.

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HORSE RACING DAILY

At the LOS ANGELES LIVESTOCK SHOW EXPOSITION PARK OCTOBER 18 TO 26

"Five Big Shows in One."

LIVESTOCK SHOW. RACE MEETING.
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\$55,000.00 in Premiums

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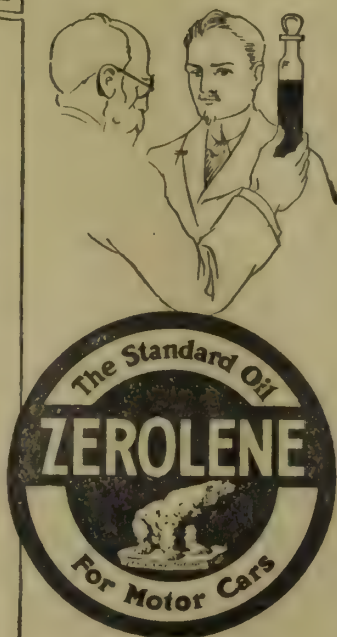
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YOU CAN'T AFFORD TO MISS IT.
It's the West's Finest and Greatest Livestock Show.

EXPERTS AGREE

—that Zerolene holds better compression, gives perfect protection to the moving parts, deposits least carbon. There is a consistency of Zerolene scientifically refined to meet exactly the needs of your car. Get a Correct Lubrication Chart for your car.

STANDARD OIL COMPANY
(California)



DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs
WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

Poland-China Breeders' Banquet

(Written for Pacific Rural Press.)

On the evening of the 3rd inst., at Hotel Hughson, Modesto, a banquet tendered the Poland-China Breeders' Association of California by Hale I. Marsh of Modesto and Les McCracken of Ripon will go down in the annals of the association as one of the "red-letter" events connected with the breeding of Poland-China hogs in California. It was a fifty-plate affair, attended by many prominent members of the association and invited guests of the locality and also of the agricultural press. We hear about political "love feasts" which are not always what they are said to be, but every one attending this particular banquet expressed himself as never having attended such a meeting where such a general good time was evident in every way.

H. C. Carr of Porterville, banker and promoter of boys' pig clubs, made the address of the evening. He told what a pronounced success the boys had made of the swine-raising business about Porterville, and what a demonstration of the soundness and worth of the purebred swine business it had been to not only the people of that locality, but to the whole State as well. Also how farmers and ranchmen had not told their bankers what a firm financial proposition the registered swine business is and worthy

of the fullest confidence and support of the banks. Mr. Carr made a great point of the actual necessity of bankers in a community financing boys on their own notes for the purpose of getting started in the registered swine business. That is, if the communities where they have not done so wish to keep up with the others that have.

Elmer Lamb, of Ceres, a prominent Duroc-Jersey breeder, furnished some amusement and also facts in a very acceptable talk. He touched upon the color scheme for swine and about handicaps arising from crossbreeding.

Wm. Bernstein of Hanford, president of the association, acted as toastmaster in his usual very pleasing and able manner. Other prominent breeders from a distance were M. Bassett and Fred Ross of Hanford, Geo. V. Beckman of Lodi, A. J. Elliott and Hugh Shinn of Tulare, E. K. Brown of Dos Palos and others from all the Poland-China centers of the State.

It may not be always possible to have such a banquet preceding every sale of importance in the future, but there is no denying the psychological effect produced upon the minds of those present and placing them in a very plastic state of mind for the following day.

Fresno Co. District Fair a Great Success

The fair this year on the whole eclipsed that of any previous display in every way, and particularly so in the livestock department. Dairy cattle, swine, sheep, horses and jacks and jennets were in evidence in large numbers and of highest quality. It is encouraging in the extreme to the breeders of purebred livestock to see so much interest manifested in these departments.

A Classy Dairy Display.

In the dairy cattle classes the Holstein-Friesians and Jerseys were strongest. The Holsteins were represented by five prominent herds from near and far. W. J. Higdon of Tulare, H. E. Cornwell, of Modesto, R. E. Holmes of Modesto, J. R. Phillips, Fresno, and Mrs. Annie Donders of Fresno all had cattle in line and were awarded prizes.

The beautiful Jerseys were represented by three noted herds, one owned locally and two from outside of the county. J. E. Thorpe of Lockeford, A. A. Jenkins of Tulare, and W. R. Eichner of Fresno owned the herds shown.

Holstein winnings were fairly well distributed, with W. J. Higdon of Tulare winning the largest number of firsts and grand champion bull and cow, first on aged herd, first on calf herd, first on produce of cow, and first and second on get of sire. H. E. Cornwell of Modesto won senior champion cow, two years old or over, and junior champion heifer. Mrs. Annie Donders won first on senior heifer calf. It certainly was a great Holstein show.

In the Jersey classes J. E. Thorpe of Lockeford won grand champion cow and bull and first on aged herd, young herd, calf herd and get of sire. E. R. Eichner won first on bull, two years old and under three. A. A. Jenkins won first on senior yearling bull, junior yearling bull, and first on junior yearling heifer. Truly a Jersey exhibit that might have been larger, but not better. Those who were second or third were just barely less good than those placed first.

In the contest for the W. F. Chandler special dairy herd prize of \$500, awarded on herds of ten animals consisting of one bull three years or over, four females three years old or over, one bull two years old or under three, and four females of same age. First, J. E. Thorpe, \$200; second, W. J. Higdon, \$150; third, J. E. Phillips, \$100; fourth, A. A. Jenkins, \$50.

The Best Swine Exhibit Ever

The swine exhibit was the best ever seen at this fair, with herds mostly

from Fresno county, although good ones also from Kings and Tulare counties were there.

The list of Poland-China exhibitors are as follows: H. D. McCune, Stratford; J. C. Palmeter, Jack Hall, Kerman; J. W. Hall, Caruthers; W. C. Ficklin, Chas. E. Dack, Fred Grant, Fresno; J. Van Cleef, Riverdale; Buckland Ranch, Fresno; E. S. Myers, Riverdale; W. L. Choisser, Riverdale; Thos. Caesar & Son, Reedley; John M. Bernstein, Wm. Bernstein, W. T. Dice, Hanford; Harry Barkena, Fresno; A. W. Uridge, Fowler.

Duroc-Jersey exhibitors were in large numbers and are as follows: C. G. McClune, Jas. Mallory, E. Borges, Fresno; Joe N. Chinoweth, E. Fulgham, Visalia; R. E. Clifford, Strathmore; J. E. Thorpe, Lockeford; R. M. Cross, Raisin City, and J. P. Walker, Visalia.

Horses and Mules Again to the Fore.

The horses, mules and jacks and jennets were in evidence and there are indications that these lines of livestock that were once so prominent are coming into their own again, although they may never attain to the high place once accorded them.

Altogether, this year will be a high mark in the livestock classes that may not be exceeded for some time. Of course, with the stimulus of the high prices of the past two or three years and continuance of the same, next year can be even greater.

LOS ANGELES LIVESTOCK SHOW JUDGES.

Manager Thomas has certainly selected a corps of judges for the coming Livestock Show that are of the very highest in ability and reputation. Exhibitors may rest assured that their animals will be rated correctly and placed according to their exemplification of the breed they represent. The list of the judges follows:

Shorthorns and Aberdeen Angus—Frank Brown, Carlton, Oregon. City, Mo.

Herefords—Wallace Good, Kansas Dairy Cattle, all breeds—Ed Carey, Carlton, Oregon.

Draft Horses—Prof. F. W. Wilson, Reno, Nevada.

Berkshires, Duroc-Jerseys—E. J. Barker, Thorntown, Indiana. Poland-Chinas, Hampshires, Sheep—C. R. Doty, Charlton, Illinois.

Poultry—E. C. Branch, Lee's Summit, Mo.

Goats—S. H. Bowman, Los Angeles. Light Horses—Eastern judge to be named later.

An Improved Stock-Watering Device

(Written for the Pacific Rural Press by Marsden Manson.)

Several years' experience with and successful use of a simple and cheap type of watering trough warrants placing this type before stock raisers. The original water supply in this instance was both inadequate and severely foul, so that not only was more water necessary, but clean water. Clean water was the first requisite, abundant water next. The stock was forced to drink the water in which they stood or wallowed. To keep stock healthy and avoid severe losses I devised and installed the following simple type of closed trough, with open drinking cups, or small buckets permanently attached to the sides.

Construction.

The trough is shallow, say 12 or 14 inches deep, and of any length and

placed so as to water one to four fields. Another instance: The owner of one place not only lost several head of stock, but over 60 per cent of his turkeys, the young ones of which had passed the nine weeks of infancy and should have been healthy and hardy. His loss aggregated several thousand dollars in one season. This loss could be attributed to no other cause than foul water, and gave rise to the conclusion that turkeys do not pay. Five per cent of these losses would have given these young turkeys a chance for life and incidentally a profit to their owner. The

Development of an Adequate Water Supply

Is often possible from either underground or surface sources. In some



Pacheco Marshal, First Prize Shorthorn bull, property of Pacheco Cattle Co., Hollister.

width required, and can be made of galvanized iron, or better still, of concrete. The drinking cups are riveted on the sides if of galvanized iron, and built thereon if of concrete; near their bottom they are connected with the trough by a $\frac{3}{4}$ - or 1-inch hole, and, they extend to about 1 inch above the full water line of the trough. The flow of water into the trough is controlled by a flat float valve. Hogs or other stock can get their noses into these drinking cups, but cannot foul the contents. The usual open water trough is covered with green scum, harmless in itself, but which in decomposing affords developing ground and lodgment for dangerous germs and bacteria. The open pool or sluggish stream is full of certain sickness and loss of stock results. A few actual examples may be instructive.

By the use of these shallow troughs with drinking cups 100 per cent of the pigs born alive were raised, while nearby raisers lost 33 per cent and in one instance 50 per cent of the pigs. Ten per cent of this loss would in either instance have built the clean, sanitary drinking troughs above described, as of either material they are cheap and simple, and, except in quite large concrete troughs, easily moved. They can of course be readily concreted up with tank supply and

instances these are not fully developed and in others not known or even suspected. The following case came under the writer's observation:

An owner was contemplating sinking a well in strata of doubtful water-bearing reliability, and, pumping the hoped-for supply to a tank 150 feet above the surface of the ground at the doubtful well. Very simple investigation by an experienced authority disclosed a nearby supply easily and cheaply made available in part by gravity and with a pumping head of only 30 feet as a high service supply.

In these days of high-priced food supply it is necessary and economical to give stock of all kinds not only clean and abundant food, but clean and abundant water.

H. G. Gross, M.D., of Eureka, not only practices medicine, but he breeds registered Jersey cattle as well. The doctor finds both pleasure and profit in conducting the Butter Valley Ranch and likes to come down to the State Fair and see what other breeders are doing with his favorite animals. He has 30 head of his own with Raleigh's Fairy Boy 9th of Financial Countess breeding as his herd sire. The doctor not only breeds Jersey cattle but raises Spitzenburg apples

IMPORTANT NOTICE

The closing entry dates of the Ninth Annual Pacific International, Portland, Ore., are:

BREEDING CLASSES, OCTOBER 15, 1919

FAT CLASSES, NOVEMBER 1, 1919

POSITIVELY no entries will receive consideration unless in our office at 431 Northwestern Bank Building, Portland, on or before noon of the above closing dates.

Rambouillets

Noted for

HEAVY FLEECES AND CARCASSES
I make a specialty of big, smooth, heavy-wooled rams.

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Fresno,

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RAMBOUILLET RAMS

Just the kind you need to increase the size of carcass and fleece. Registered rams only used on the original registered flock of ewes and their descendants. Call on or write.

E. C. SPEAR ESTATE

One mile east of town.

St. Helena, Calif.

Lump Jaw

The farmer's old reliable treatment for Lump Jaw in cattle.

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Sold for \$2.50 (war tax paid) a bottle under a positive guarantee since 1896—your money refunded if it fails. Write today for FLEMING'S VEST-POCKET VETERINARY ADVISER. A book of 197 pages and 67 illustrations. It is FREE.

FLEMING BROS., Chemists, 327 Union Stock Yards, Chicago

Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers. Write for New Data. See actual figures showing you how to increase your calf profits.

COULSON CO., Petaluma, Cal.

FOR SALE—HOGS—COWS—PIGS

120 Spring Shoats, 100 Weanling Pigs, 30 Brood Sows, some registered Duroc-Jerseys, some cross breeds, 3 Boars—two of them State Fair prize winners; 8 cows—heavy milkers and rich in cream. Ranch for rent. 55 acres alfalfa, 45 acres pasture. Abundance of water. Machinery.

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BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. E. Clay. Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.

A few yearling heifers of same breeding.

Also registered Berkshires of both sexes of best breeding.

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Perkins, Sacramento Co., Cal.

ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, Grand Champion of Ormondale Maid, 2nd prize junior yearling at State Fair.

Every animal positively guaranteed. Prices on application.

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DUROC-JERSEY SWINE R. D. No. 1



THIRD SALE OF SHORTHORNS

under the auspices of CALIFORNIA SHORTHORN BREEDERS' ASSOCIATION,
will be held on **THURSDAY, NOV. 6, 1919**
at 1:30 P. M. sharp

At CALIFORNIA BUILDING, EXPOSITION GROUNDS,

In conjunction with the SAN FRANCISCO LIVESTOCK SHOW, NOVEMBER 1-8, 1919.

30 Head Registered Cows and Heifers, 10 Head Registered Bulls

UNQUESTIONABLY THE GREATEST LOT OF SHORTHORNS EVER OFFERED AT PUBLIC SALE IN CALIFORNIA

For Catalog, Address

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222 Sharon Bldg., San Francisco.

AUCTIONEER, EARL GARTIN,

GREENSBURG, IND.

LIVESTOCK AND DAIRY NOTES.

(Continued from page 502.)

About two and a third inches of rain were recorded at Northfork (Madera County) in the storm ending Oct. 2. It spoiled what dry feed there was, but the young grass is springing up rapidly all over the ranges and there should be a good stand of feed before the weather gets too cold.

The Los Angeles Live Stock Show constructed two special barns to house the livestock exhibit of the Santa

Anita Rancho. This ranch will show Holstein-Friesian cattle, both draft and light horses, including Percherons, Arabians, Thoroughbreds, and Mammoth Jacks; swine and Airedale dogs. Some show in itself. Altogether, there are six barns full of cattle, 60 draft horses, 7 barns of swine sheep and goats. Truly a great show.

More than 20,000 employees of Swift & Co. have been vested with part ownership in the packing concern.

Announcements have just been made of the results that came of the gigantic profit sharing plan offered by the company to its people. The employees were allowed to purchase shares according to their earning capacity and nearly all of them have taken advantage of the opportunity offered. No employee was allowed to purchase more than five shares and it is paid for at the rate of \$1 per share per week.

Director G. H. Hicks, in charge of all agricultural departments now, was in the office last week talking over prospects for the coming year. He stated that Dr. J. P. Iverson, in charge of the Animal Industry department, is in the East at present and will attend the National Dairy Show while there.

The Sonora office of the Stockton Record reports excellent results by farmers feeding the best of alfalfa hay in connection with other nutritious feeds to "locoed" horses. This is a subject that has been given quite some thought by local farmers lately, as quite a number have reported "locoed" animals and veterinarians have advised the treatment. The writer knows from his own observations that such treatment has produced excellent results in Arizona in years past.

THE BASSETT-ROSS-CRAWSHAW SALE.

Sale commenced at 12:30 p. m., with Col. Ord Leachman in the box. After expatiating upon the merits of the various herd sires noted for reference in the catalogue, he introduced Wm. Bernstein, President of the California Poland-China Breeders' Association, who as usual gave a very pleasing address about his favorite breed and the breeders holding the sale. Wm. Bernstein and Fred Gatewood of Fresno worked in the ring, rendering valuable assistance to Colonel Leachman throughout the sale.

While the sale did not carry quite as high an average as some recent sales as a whole, it could not be considered anything but a satisfactory one. Everything included from one end to the other, 62 head sold for \$9,190, or an average of \$148.22 per head.

F. D. Ross, with 7 females selling for \$1705, or \$243.57 each, had the highest average. The December boar pig California Buster, bred by A. Buckland & Son, and consigned by Mr. Ross, sold for \$160.

M. and A. L. Bassett sold 30 females for \$4,230, or at an average of \$141. They sold 4 young boars for \$365, or an average of \$91.25.

T. A. Crawshaw's twenty females brought \$2,730, or \$136.50 each.

The top of the sale was a substitute for Model Wonder, catalogue No. 2, consigned by M. Bassett and bought for \$360 by J. F. McSwain of Merced, an enterprising young breeder that was right after the good ones, and purchased 12 head that will be a fine addition to his already excellent herd.

Les McCracken of Ripon also indulged in 9 head, and you know they were good ones, for this young man had the nerve to pay \$700 for King's Big Bone Leader, one of the greatest boars of the Poland-China breed on the Pacific Coast both as an individual and as a breeder.

The Bakersfield Pig Club Boys, with H. K. Dickson, District Club Leader of Bakersfield acting in an advisory capacity, purchased \$1,560 worth of good ones to take to Kern County and help supply pigs for a big Pig Club sale next May.

Altogether the sale was a success, due to the good stuff offered and the aggressive salesmanship of Colonel Leachman.

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW.

With entries still on the way, according to telegraphic advices received by Gordon H. True, manager of the California International Livestock Show, close to a thousand head of livestock have already been entered for the big livestock show to be held in the Californian Building on the Marina at San Francisco, November 1st to 8th. This is exclusive of the entries for the horse show, which, according to Superintendent Thomas Mangan, will number right around 200, as San Francisco society has taken hold of the horse show feature with great enthusiasm.

CALEDONIA SHORTHORNS

LARGEST HERD OF HIGH-CLASS SHORTHORNS

In this country—400 head of wonderful breeding matrons, combining the noted Blumendorf and Harkness herds.

The fountain-head of international prize-winning stock, producing the dam of the Grand Champion steer over all breeds at the 1917 Chicago International; the dam of the Grand Champion Shorthorn steer at the 1918 International; the dam of "CALIFORNIA MODEL," the highest priced Shorthorn bull ever sold on the Pacific Coast, bringing \$5,500 at public sale.

Prof. Trowbridge, Shorthorn Judge at the State Fair, says of our herd: "I do not know where I have seen a more valuable lot of cows." Prof. Cotchell, representative of The American Shorthorn Association, Prof. Burns of Ames, Iowa, and others who have seen our herd recently, say the same.

The Greatest Herd Sires

IMP. CALEDONIA, our senior sire, is considered the best Scotch bull imported in recent years. Sired by the Duthie bull Proud Emblem, the best stock bull in Scotland, whose calf topped the sales last year at \$20,000. Out of a Rosewood cow—the best in the Wm. Anderson herd. In breeding, type, color and individuality, this bull stands supreme.

GAINFORD MATCHLESS, first prize senior yearling at last Chicago International, son of Imported Gainford Marquis, combines finest breeding with unusual scale (weighs 2,500 lbs. at 2 years).

PINE GROVE KING, by Champion King Cumberland, the highest-priced bull of his day, and out of a Clipper dam. His individuality is as good as his pedigree.

SELECT SULTAN, a double great grandson of Whitehall Sultan. This young bull combines with wonderful breeding, fine individuality, and a most promising outlook.

The Home of

Deep-Bodied, Thick-Fleshed, Smooth-Covered Shorthorns

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WEST SACRAMENTO, CAL.

ROSELAWN SHORTHORNS AT PUBLIC SALE

Thursday, October 16, 1919

H. M. ELBERG

ROSELAWN STOCK FARM WOODLAND, CALIF.

PROPRIETOR

Roselawn Shorthorns have for thirty years played a leading part in the progress of the breed in the West, winning consistently in the show ring, always an attraction in the sales rings of California and the Northwest, and now comes the greatest offering ever made from this noted herd, in a sale that will materially reduce the size of the herd, temporarily, due to the settlement of an estate and the readjustment of some farm leases. The offering will consist of

45 SCOTCH AND SCOTCH-TOPPED SHORTHORNS

numbering among the females such outstanding individuals as MISCHIEF E 3D, undefeated in Canada, Grand Champion at 1918 California State Fair, and dam of ROSELAWN CHAMPION, junior champion bull at the same show; ROSIE MAYFLOWER, a rare showyard prospect of rich breeding, by the University Farm bull, Sultan Mayflower, who sired the 1918 Chicago International champion Shorthorn steer, and the \$5500 bull California Model; MAYFIELD MAGNOLIA, also by Sultan Mayflower and selling with a promising roan heifer calf at foot by White Knight; PRIDE'S LOVELY 3D, a beautiful roan heifer of the Cruickshank Lovely family, bred to Roselawn Champion; PEACEFUL 6TH, by Golden Goods, selling with bull calf at foot by Crescent Dale; and a long list of richly bred cows and heifers, about 15 with calves at foot, and all of breeding age in calf to Crescent Dale and Roselawn Champion.

SPLENDID BULLS OF RICH BREEDING AND HIGH QUALITY

CRESCENT DALE, by Whitehall Rosedale, son of Avondale, and out of a daughter of Ruberta's Goods and imp. Crescent 8th, heads the notable list of bulls in the offering. He is a real head header, who must be seen to be fully appreciated. The list of bulls also contains a choice selection of younger bulls, Scotch and Scotch topped, and a most pleasing lot of individuals throughout.

EVERY ANIMAL GUARANTEED TO BE A BREEDER

EVERY ANIMAL OVER SIX MONTHS OLD TUBERCULIN TESTED

Sale begins promptly at 1 P. M.

Auctioneers—
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"See Us at Los Angeles Live Stock Show."

Durham
Hereford
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Hogs
Work Horses
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Attend the California
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November 1st to 8th.

PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

Western Meat Company

SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

Poultry and Rabbits for Profit

FARM POULTRY VS. POULTRY FARMING.

(Written for Pacific Rural Press.)

Farm poultry—that's the thing! Not poultry farming, for that means having a man spend all his time fussing with hens. What the State needs is to have practically all of the eggs and poultry meat come from the ranches of the State. Tulare, the town, or rather the ranchers doing business at that town, is showing what should be done and how to do it, and, ignoring poultry centers where hen folk congregate, it is about the only farming district from Oregon to the Mexican line that is living up to its possibilities.

Doing Big Business.

The Tulare Poultry Association, which is directly and solely responsible for conditions, did a business of \$229,220.11 in 1918 and is handling far more eggs and poultry supplies now than a year ago. Nearly every bit of that business was poultry business. In addition the large firm of McCullough Provision Company has a big branch there, and most of the grocers get and ship a great many eggs.

Describing conditions in another way: Driving through the ordinary farming section, nothing but dooryard flocks are seen. Driving through the Tulare district, dooryard flocks are found on perhaps the majority of ranches, but on practically all the rest there will be seen well kept flocks of say 250 fowls, well looked after and of good type, but clearly a side issue; and many more ranches where the birds will run not far from a thousand, but which are strictly fruit, alfalfa or dairy farms. In other words, poultry raising is a big thing from a real farm standpoint and that is what the Rural Press feels should be the case everywhere. Tulare folks swear that the only way other districts can develop poultry as a big side line is to have a co-operative association, because that is the only way they can get decent prices for eggs and chickens. A person can use his own judgment as to whether that claim is right or not, and why things are so good there and poor elsewhere.

What a Press Representative Saw.

The Rural Press representative visited a number of Tulare farmers and will show just how things go according to varying farm conditions. First, take Egbert George, president of the association, for a long period the largest egg producer in the association and this year second in line. He farms single-handed and with only a little help in haying, 70 acres of alfalfa land, milks four cows, and cares for 800 to 1000 hens as a general average.

Advocates Free Range.

Why, man, if you gave a specialized poultry man 1000 hens to look after, he would have little time for anything else, and when you take an irrigated ranch of 70 acres in addition to that number of fowls, something is proved some way. It must be that the specialized farmer, with his long houses, or colony houses and all the rest of it, cannot stand against competition like that. The reason is that on this place the fowls have free range and so require little care and attention. Hens on free range, particularly when there is plenty of alfalfa, grasshoppers and shade, will be healthy, happy and lay more on less feed than the best looked after fowls of equal merit that are confined. The range here is alfalfa, the shade a eucalyptus grove, but Mr. George says that figs or some other fruit tree will be better, for in addition to the food provided by the fruit, the shade would be denser and more welcome in the hottest days of summer. Many of the hens roost in these trees, a clean, healthy habit and no disadvantage. When it is necessary to catch them, all that is required is to keep them off the trees at roosting time and they will go into the houses with the rest of the hens.

Equipment Needed.

In addition to brooder house for baby chicks the equipment required is composed mainly of four houses 14

feet wide and 36 or 40 feet long, also a scratching shed, and various odds and ends. These houses are nothing like so elaborate or costly as the long houses of the specialized poultry farm. Two of them have smooth concrete floors and the others will have soon. There is an open space about 18 inches high, covered with wire along the bottom of all four sides; the nests are along the north walls, roosts cover the main body of the building and no dropping boards are used, nor is any part of these houses used as scratching area, to feed the grain in.

Some details about roosts and nests may be given later. It is enough to state that Mr. George can clean out all four houses in half a day's work and that this is necessary only once in from two to three weeks. Figuring the year round, under the methods used, only about one-fifth of his working time (he says) is needed in attending to the fowls. The busiest period is in the spring, caring for the baby chicks, until they can care for themselves. Then the poultry take up half of his time.

Free Range Means Less Work.

But free range also means that hens and chickens of all ages will get mixed up together. "How then," you say, "is a man going to know when to market his old hens? He cannot tell which is which." He can on this ranch and on many others around Tulare on account of getting a different breed of baby chicks each year. A person can kill off the culls or inferior fowls at all times, but when a hen has reached the age at which her usefulness is to close, if she is of a different color from all the younger hens, her identification is easy on the darkest night (with the help of a lantern). Simple, isn't it?

Mr. George keeps his hens three years. He now has White Leghorns, Anconas and Buff Leghorns—all of them Mediterranean breeds. He did have Brown Leghorns one year and other breeders select that as one of their colors. Another year he tried Rhode Island Reds, but found that the business of keeping two radically different types of birds on the same ranch was commercially impossible, so ditched them for a light breed. White Leghorns are the strongest, best leghorn variety in George's estimation, but the free range system will not allow keeping a solid white flock and the other colors hold their end up very well.

(Continued on page 510.)

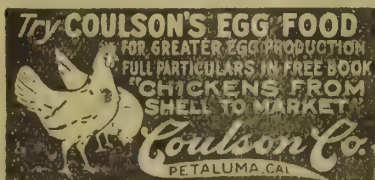
GERMOZONE The Best Pet Stock Remedy

For Poultry, Pigeons, Dogs, Cats, Rabbits, Parrots, Canary and other birds or pet animals. Germozone is a universal and safe remedy for colds, snuffles, roup, sore throat, loss of voice or singing, influenza, bowel trouble, distemper, sore eyes or ears, canker, gleet, loss of fur or feathers, sores, wounds, skin disease, or other affections of skin or mucous membrane.

"My hens have never done so well as this year and haven't lost a single chick."—Mrs. Flora Kapple, Walker, Ia. "Simply grand for rabbits."—L. W. Browning, Boone, Ia. "Cannot praise Germozone enough. I use it for chickens, stock and household."—Mrs. Wm. Hoeppel, Hugo, Okla. "My bird puppies don't know what distemper is and I never had such good success before with chicks."—Curley Smith, Kennett, Mo.

Germozone is sold by most drug, seed and poultry supply dealers, or mailed postpaid in 25c, 75c, and \$1.50 packages from Omaha. Book on treatment of diseases free with each package.

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Start Hens Laying Now Keep Them At It



THERE'S only one reason why most hens lay off laying as soon as egg prices begin climbing—right when you most want them to produce. They simply haven't the vigor in them to lay regularly. And they won't get it either until egg prices drop or until you put it into them.

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Pratts Roup Remedy

This remedy not only overcomes but prevents all these disorders common to bad weather.

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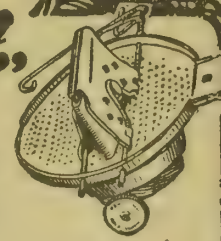
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Biddy's temperature was always right, when she hatched the eggs—you never had to worry. But Biddy was an uncertain quantity in some other ways. Ordinary incubators require so much attention—night and day—then if a cold snap happens suddenly, and the eggs are chilled—or the flame, left unwatched, "runs up"—the whole hatch is lost. That's why poultrymen and farmers, and their wives, everywhere are blessing the

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(Readily attached to your incubator. Part of the equipment of Charters Incubator.)

The Regulator watches over the hatch while you go to town—while you sleep—no matter if you are delayed, or if you forget. It keeps the flame at exactly the right size to produce the right temperature.

No matter how big, or how small your season's "hatch" may be—from one to one hundred machines or more—if they are Charters machines, you can count on a definite saving of time, worry and expensive loss. You need no incubator cellar with the Charters.

J. H. Stubbe, of Palo Alto, now using 66 Regulators and ordering 35 Charters Incubators, says: "We need not give the lamps any thought at night. The Regulator takes care of any change in temperature perfectly."

P. R. Lyding, of Sebastopol, with 26 years of incubator experience, writes: "Your incubators complete are absolutely the best I have ever used."

Write for our free catalog today, or send your order for your machine now, so we can deliver in time for your Fall hatch. The Regulator is \$10; the incubator (with Regulator attached) is \$65.00. If it does not do what we claim for it—your money back.

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FEED FOR SWINE, STOCK AND POULTRY

ASK YOUR DEALER

THE HOME CIRCLE

THE RIVER.

It's the glory of the morning,
It's the coming of the dawn,
And the sun rising red o'er the hill-tops,
When the mist from the river is gone.

It's the laughing rush of water,
It's the thrushes' morning song,
And the splash of the bass when he's feeding,
The rocky banks along.

It's the far-off blue of the mountains,
It's the green of the nearer hills,
And the deep blue-green of the river,
The woodsman's heart that thrills.

It's the wonderful glow of the fire-light,
It's the call of the whip-poor-will,
And the quiet hush at the midnight hour,

When all the world is still.

It's the moon rising over the treetops,
It's the lullaby of the pines,
And the wonderful song of the river
Where the white spray leaps and shines.

So, pal, is it any wonder,
When we live dull city lives,
That we sit by the fireside and dream
and think
Of that River of Paradise.

—John T. Collins in Boys' Life for August.

OPENING META'S EYES.

"Come on," shouted little Helen to Dorothy and Meta, who were slower in getting out of the boat. "Hurry up, and I will show you lazy girls something worth seeing." She dashed through the tangle of the grass and weeds, which grew as high as her shoulders, and was lost from sight.

When the others found her, she was stooping over and looking intently at the under side of every leaf on some stalks of milkweed. In a minute she picked a leaf and, holding it up, said: "Meta, look here and use both of your eyes. Dorothy, keep still because you know, Meta, do you see anything?"

"Why, I don't see anything," said Meta, with a puzzled face.

"Must I show you an elephant before you can see something? Look again, Meta."

"Well," said Meta, slowly, "the leaf is perfectly clean except for a little speck of dirt."

"Oh, you are beginning to use your eyes," said Helen. "That little speck of dirt, as you call it, will surprise you before we get through with it." After having picked several stalks of milkweed they rowed back from the island to the "Lodge."

The girls have come to Natahala Lodge on the Raquette River in the Northern Adirondack wilderness just the day before, and were wild to begin running about. Helen and Dorothy were sisters, aged twelve and ten years respectively, and had spent several summers in this beautiful spot. Their parents had helped them to learn much about the outdoor world. So it came to pass that they were becoming little naturalists. They had brought along with them from Chicago this summer their neighbor Meta, who had romped and played in the country every year, but had never learned to use her eyes upon the wonders of nature.

When the girls reached the Lodge, Helen took a magnifying glass and said, "Meta, look at the speck of dirt."

As Meta caught sight of the little cone, beautifully decorated with pits and bands and resting firmly on the soft, woolly under-surface of the milkweed leaf, she cried, "Oh! oh! what is it?"

"That is the egg of a butterfly," said Helen.

"Egg of a butterfly! Do you mean that a butterfly will hatch out of that little thing?" Meta exclaimed with staring eyes.

"Don't tell her any more," interrupted Dorothy. "Let her find out for herself."

So it was agreed that Meta must wait, but she was comforted a little by being told that it would not be long.

The milkweed stems were placed carefully in jars of water and set in boxes which the girls' father had fastened up to the wall of the porch. Each box had a muslin door which let in light and air and could be opened easily for the change of food.

In a few days each egg hatched out a tiny black caterpillar, which went to work at once eating the milkweed leaf.

"Meta, isn't it curious," said Helen, "that this little fellow begins to eat his own table? The mother butterfly never arranges for twins, but just puts each egg on a table by itself."

Now began the work of feeding the growing caterpillars, and every day the girls rowed to the island for fresh leaves.

"But can't you put in other leaves?" inquired Meta one day when it seemed too warm to go on the river.

"That caterpillar," replied Helen, indignantly, "would rather die than eat anything else. He is just obstinate enough to spite us if we do not get him what he wants! But any way," she went on in a milder tone, "we ought to be good to him because he does not live long."

So the little caterpillars, being

treated indulgently, grew fatter and fatter and longer and longer,—not so fast as Jack's beanstalk, but quite fast enough for their own comfort and the comfort of the little girls who had so many things to do besides setting a fresh table before each greedy creature each day. Indeed, they grew so

fast and so fat that every few days each one was obliged to take off his skin and throw it away, while a new one underneath stretched out comfortably for a time until that also became too tight.

All caterpillars are like the man who never left off eating except to



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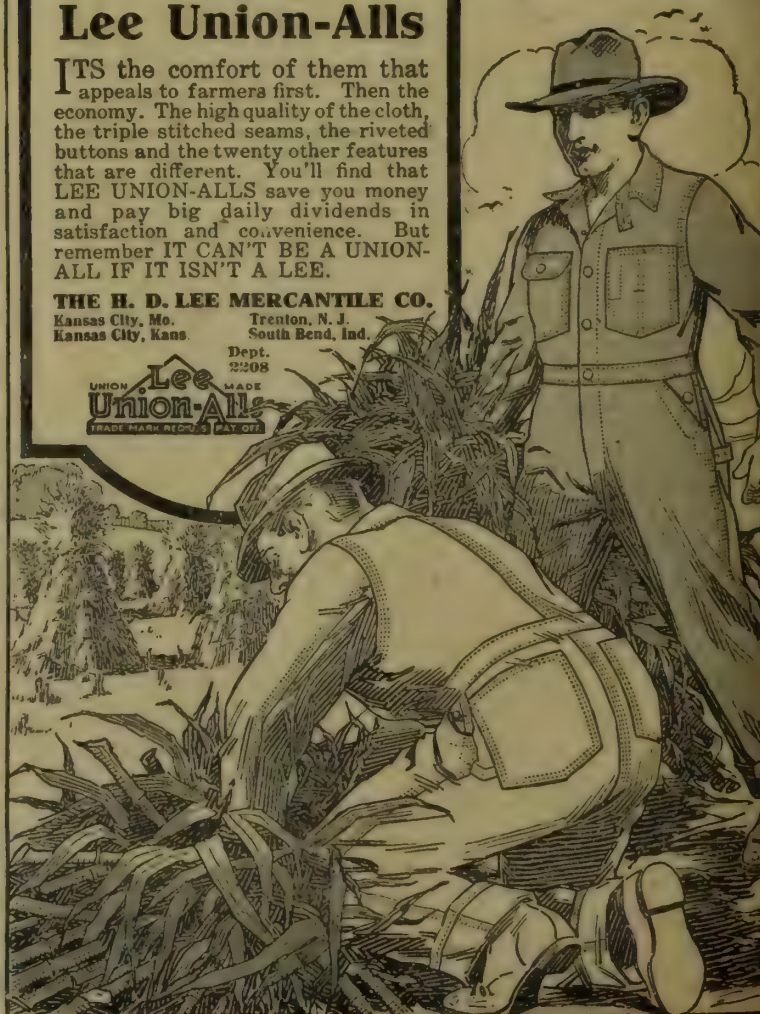


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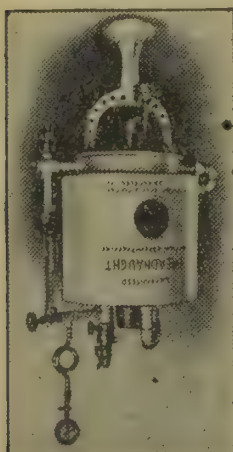
ITS the comfort of them that appeals to farmers first. Then the economy. The high quality of the cloth, the triple stitched seams, the riveted buttons and the twenty other features that are different. You'll find that LEE UNION-ALLS save you money and pay big daily dividends in satisfaction and convenience. But remember IT CAN'T BE A UNION-ALL IF IT ISN'T A LEE.

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"Full Steam Ahead"

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For the Dairyman alone, it solves a great big problem as a means of increasing the milking capacity by steam-cooked feed. As a sterilizer, it cannot be equaled.

Steam-heating systems, dye works, laundry, pig vulcanizers, laboratories and steam-cleaning works are only a few suggestions for its many uses.

Write for detailed information and circular. Do not forget the Little Burner for Cookstoves and Heaters—it is the same burner that does this wonderful work.

Burner and Valve—for Cookstove or Heater
Prepaid anywhere—\$7.50

SCIENTIFIC SPECIALTIES CO. 310 SOUTH HILL STREET
Manufacturers, LOS ANGELES, CALIF.

sleep and never left off sleeping except to eat. It is no wonder then that in two weeks and a half these milkweed caterpillars, with such thick, juicy, tender leaves to eat, should find themselves surfeited and grow quiet as if they were going to die. Meta wondered as she saw them still and dumpy and refusing all food. All the satisfaction she could get from Helen and Dorothy was in the words, "Just wait." The two sisters wore such smiles of assurance as to make Meta sure that something was going to happen.

It was not long before she found out for herself, but she was more mystified than ever. As she walked along the porch the next morning, she looked up at the boxes and stopped in amazement. "Girls," she cried out, "there are no caterpillars here, but just some beautiful little hanging bulbs or thimbles, covered with gold dots and a gold band." Meta had discovered, thanks to her chums, one of the many wonders which continually crowd about us and which can be seen for the looking.

A week went by, then another, and still the little cases hung lifeless. The only answer to her inquiries was, "Wait and see." She often stopped to look and to see if she could find any signs of life, but it seemed hopeless. By the seventeenth day, however, she noticed that the cases were turning dark; and, upon looking closely, as she had now learned to do, she saw strange colors through the thin, outer skin of each case.

Before the eighteenth day was over Meta, who was down at the bank of the river, heard a call: "Come! Come as quick as you can!" She flew to the porch and saw for the first time a butterfly splitting its case and slowly crawling out of its prison. Little by little it released its wings, which had been bent back upon themselves, but now fell apart and straightened out. It clung to the empty case with its feet, while it dried its wings by waving them gently back and forth. Helen and Dorothy never tire of seeing this strange thing again and again, though they have seen it many times.

"Isn't that a curious little suit-case out of which such a splendid creature can step with a new suit and big wings?" said Helen. "Nobody could pack him in there again."

"But does he have a name?" asked Meta.

Both girls tried to answer at once. "Yes, he has a fine name as such a fine fellow ought to have. His English name is Monarch Butterfly because he is so large and royal in his looks, especially in flying. His Latin name is Anosialexippus. Isn't that name all right for a monarch?"

Meta was now busy with her notebook, for the girls had told her that she must put down the dates when the eggs were found, when the caterpillars hatched and moulted, when they changed into the little cases, or pupas, and finally when the butterflies came out. She was ready to do it, for she really wished to learn about the new strange world of nature at whose threshold she stood.

By this time the girls had told their friend that the mother butterfly which laid the eggs on the milkweed leaves had probably come a longer distance than they themselves had journeyed from Chicago, for these butterflies spend the winter in the South. It is thought that they gradually learned to fly farther and farther from their original home in a warm climate, until now they push their way even into Canada. In the fall sometimes great numbers of them can be seen getting together and starting upon their flight of hundreds of miles to the South.

It seemed too wonderful to be true. Meta gazed at the dark, orange-colored wings with broad black veins running through them and tried to think of them waving their flight for nearly a thousand miles.

By this time other caterpillars were living and feeding in the boxes, and strange things were occurring from week to week.

When Meta reached home she exclaimed: "O mother! I've been more happy than I can tell you. I'll go without lots of candy if you will only get me some books about butterflies

and moths, like the ones Helen and Dorothy have." And she showed her mother, with many smiles, the numerous cocoons which she had brought home from the woods and which would give up their surprising treasures of beauty during the following winter and spring.—Stephen Morrell Newman, in the Congregationalist.

FALL FASHIONS.

New York is showing the shorter skirt—eight inches from the floor being a popular length. Afternoon and evening dresses are longer and in the draped effects are quite long.

Side draperies and pannier effects are very popular for evening gowns, but the drapery is not pulled about the figure, but arranged to give fullness at either side, with the bottom of the skirt turned in under in an Oriental fashion.

Top coats are very generous in size and wrap around the figure. They are long enough to completely cover the dress and are often fur-trimmed.

Duvetyn is the most popular material of the fall fabrics. It is wonderfully soft and is used for one-piece dresses, suits and wraps.

Black continues to be very popular for both afternoon and evening, and it is at its best when trimmed with jet.

Deep collars of lace are being worn over dark dresses, a decided change from the severe neck line of last season.

Dancing frocks for girls are made of layers of tulle or net over a foundation of metallic cloth.

Tiers of fringes over a scant black satin skirt makes a very graceful skirt for a miss.

Furs for the coming winter are high in price, but in spite of that, the fur garments are more luxurious than ever; rich, brown tones prevail and many furs are dyed that fashionable color.

More Light Than 20 Oil Lanterns

AT LAST—the light of lights! A lantern that lights with common matches just like the old style oil lantern, but makes and burns its own gas from common gasoline, giving a brilliant, steady, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE

Brighter than the brightest electric bulb.

More light than 20 oil lanterns. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lantern. The

Coleman Quick-Lite

No wicks to trim — No globes to wash. No dirt or grease, no glare or flicker. Absolutely safe. Fuel can't spill — no danger if tipped over. Will last a lifetime. Write our office for Catalog 21-R. P.

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- It Saves Money.
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More than twenty thousand in use and not one dissatisfied user.—This means considerable.

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Style. Fine fabrics. Careful workmanship. Dependable quality that will give service. A perfect fit. These you get in Styleplus. And at moderate cost. Our policy guarantees this. We attach a sealed sleeve ticket, telling the price, to each garment. This makes the price *known* and insures the right quality.

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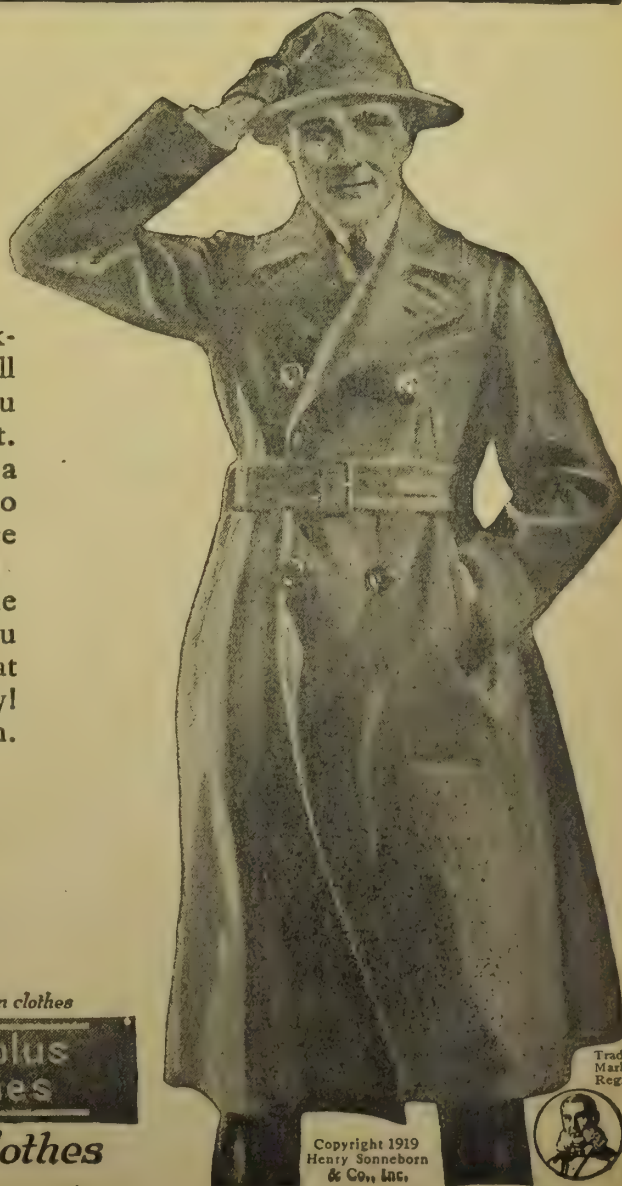
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POULTRY FOR PROFIT.

(Continued from page 507.)

To the Editor: I have learned many things regarding poultry from your paper, but I have never seen anything regarding a way to tell the probable age of a hen, and I would like to know how.—T. C. F., Carson City, Nev.

Our correspondent probably wishes to learn if there is some way to determine the age of fowls that would be as satisfactory as the examination of the teeth of quadrupeds. No such method has been discovered. The general appearance and the development of the bones of the fowls indicate approximately whether they are less than a year old or are fully developed. Under different conditions the same fowls may appear to be about a year or two old or to be several years of age.

Disease infected earth may be fatal to little chicks. It is a good plan to move the coops from place to place frequently.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

BOOKING FOR WINTER, SPRING DELIVERY—Thousands of chicks off weekly now, open most weeks till March, reduced. Leghorns, Anconas, Reds, Rocks, Minorcas, Wyandottes, Orpingtons, ducks, turkeys—cleaning customers \$5 yearly. Bred 20 generations back to lay winters, 200-290 eggs yearly. Half go to former customers. Doubling over 70,000 hatching capacity. Returned thousands dollars for chicks we couldn't supply. Hundreds breeders, laying, younger pullets, reduced. Circular with proof free. J. Beeson, Pasadena, Calif.

WARDS' S. C. RHODE ISLAND REDS caused a sensation at Sacramento by winning: 2nd cock, 1st and 3rd hens, 1st and 3rd cockerels, 1st and 3rd pullets, special for best-colored female. Special for best display. Hatching eggs. Write for circular. Ward's Poultry Farm, 390 South Lincoln Avenue, San Jose, California.

MAHAJO FARM
P. O. Box 597,
Sacramento, Calif.
offers
White Leghorns, Brown Leghorns, White Rocks, Cockerels and Pullets.
High-class, standard-bred stock.

PEERLESS WHITE WYANDOTTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

ORDER BABY CHICKS NOW—For immediate or spring delivery. Several varieties. Safe arrival guaranteed. Write for free circular. R. I. Red, Buff Orpington and White Rock cockerels now ready for shipment. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto, Cal.

YOU WILL MAKE PROFIT in the poultry industry when you make Capons of your cockerels; learn how and learn right. If interested, send inquiries to Perkins & Co., M-St. Store, Sacramento, for Mrs. H. Adent, Capon Specialist.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hogenized and Trapped stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

FEBRUARY PULLETS from selected pens of Barred Rock hens weighing eight and nine pounds and laying from 16 to 24 eggs per month from October to February last season. Prices very reasonable. Geo. L. Horine, Winton, Cal.

PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Hatching eggs. Improve your color and egg capacity. Wm. Larm, 3915 39th Ave., Fruitvale, Cal.

WHITE HOLLAND TURKEYS—Young breeding stock. January and February hatch. Chance to get a thoroughbred young tom reasonable. A. P. Ward & Son, Calistoga.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Voden, Box 3, Los Gatos, Calif.

"EASTMAN'S BRED-TO-LAY" Hogenized and trapped Barred Rocks, Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Calif.

FALL BABY CHICKS from our large heavy-laying S. C. White Leghorns. Send for prices. Tupman Poultry Farm, Box 7A, Ceres, Calif.

ROCK, RED OR LEGHORN baby chicks—large or small lots. Right prices. Madera Hatchery, Madera, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

RABBITS.

FOR SALE—Flemish Giant Rabbits. Both sexes. Prices reasonable. Mrs. J. T. Ramsey, Rescue, Calif.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, October 8, 1919.

WHEAT.

The supply of wheat seems ample for all demands in San Francisco, although it is stated that arrivals are slow. All grain markets are dull.

Per bushel—
No. 1 hard\$2.20
No. 22.17
No. 32.13
No. 1 soft2.18
No. 22.15
No. 32.11
Club or Sonora, No. 12.16
do, No. 22.13
do, No. 32.09
California, per cbl\$3.65@3.70

BARLEY.

While there are still some shipments of barley being made to Europe, it is stated that these are made up in the most part of barley contracted for long ago, and that there is practically none of the shipping variety left of last year's crop. There is plenty of the feed variety, however, and this is moving very slowly at somewhat lower prices.

Feed\$2.90@2.95
Shipping\$3.15@3.20

OATS.

Lack of interest in oats continues. The local market is dead and the continuance of the waterfront strike makes shipments along the Coast practically impossible. This strike is holding up some shipments of feed barley as well as of oats.

Red feed, per cbl\$2.80@3.00
Red for seedNominal
Black for seedNominal
Recleaned Red or Black for seedNominal

CORN.

The general softening of the grain market showed in reduced prices for corn this week, although this grain has shown greater strength for some time than either barley or oats.

California\$3.50@3.60
Egyptian, choice\$3.40@3.70

HAY.

Receipts of hay for the past week were 1980 tons compared with 2893 the previous week. These lowered receipts are due, doubtless to two causes, the clearing of the fields and the car shortage. The latter is becoming more serious daily and it is practically impossible at some points to obtain any transportation. Hay continues to arrive by boat from river and bay districts, but these fields are now pretty well cleaned up. The later cuttings of alfalfa are now being offered, and where shipment by water be effected they are moving readily.

No. 1 Wheat, or Wheat & Oat\$15.00@18.00
No. 2 Wheat, or Wheat & Oat\$12.00@15.00
Choice Tame Oat Hay\$15.00@18.00
Wild Oat Hay\$10.00@14.00
Barley Hay\$12.00@16.00
No. 1 Alfalfa Hay\$17.00@22.00
Stock Hay\$ 8.00@12.00
No. 1 Barley Straw, per bale50@.80

FEEDSTUFFS.

The feedstuff market reflects the condition

of the whole grain market. When loading of vessels, for the Coast trade especially is again normal, there may be a spurt in feed-stuffs.

Roller Oats\$61.00@62.00
Cocoanut MealNone
Cracked Corn\$78.00@79.00
Alfalfa Products\$38.00@45.00

POTATOES, ONIONS, ETC.

There is very little demand for either potatoes or onions for shipment at this time. This is due to the plentiful supply in other States. Potato prices are unchanged, but the condition of the market is soft, with a tendency to lower prices. Onions, on the other hand, are firm with a higher price for yellows. It is said that onions may show still higher prices before the middle of November. The general vegetable market is slow, with only minor changes in prices from day to day.

String Beans\$4@6c
Peas5@7c
Carrots, per sack\$1.00@1.25
Rhubarb, Strawberry, boxNominal
Cucumbers50@70c
Eggplant, box75c@1.00
Lettuce, per crate75c@1.25
Tomatoes, Early Annas50@75c
do, Stone75c@1.00
Summer Squash, lugs, Alameda75c@1.00
Green Corn, Alameda, sack\$1.50@2.00
Potatoes, Garnets\$2.00@2.35
do, local whites\$2.25@2.50
do, Rivers\$2.00@2.35
do, Sweets, new, lb.3½@4c
Onions, new redNominal
do, Browns\$2.50@2.75
do, Yellow\$2.35@2.50
do, Green, Alameda\$1.00@1.25
Garlic20@22c

BEANS.

The Southern Lima Bean Association has named a high price for the opening of the market and some of the local dealers think the price rather excessive in the face of the stagnant condition of the market in other varieties. It is admitted that 14½ cents at a later date when last year's crop is better cleaned up, might be right, but as an opening price the southern limas are likely to move slowly. The prices on pinks and large and small whites were lowered this week in the face of the jump in limas over the last last quoted price for the old crop.

Bayos, per cbl\$6.25@6.50
Blackeyes\$5.50@5.75
Cranberry beans\$6.20@6.50
Pinks\$6.00@6.25
Pinks\$6.25@6.50
Mexican Reds\$5.50@5.75
Tepary beans\$2.50@2.75
Garbanzos\$10.00@10.50
Small whites\$7.00@7.25
Large whites\$6.25@6.50
Southern limas (new)\$14.50
do, (new), baby\$13.00

POULTRY.

Broilers were in good demand this week and readily sold at higher quotations. With the exception of Belgian hares, which were weaker, the market was firm on comparatively small receipts. The receipts include a car from the East and another car is reported to arrive at the end of the current week. Squabs

are higher on a reported combination of growers in Alameda county to get a better price. Growers and dealers outside the reported combine have raised their prices to correspond to the prices of the Alameda growers.

Broilers, 1½ lbs. and under33@36c
do, 1½ to 2 lbs.32@34c
Frisers, 2 to 3 lbs.30@32c
Hens, extra, per lb. colored33@34c
Turkeys, dressed, young spring, lb.50c
Smooth young roosters, per lb. (3
lbs. and over)32@34c
do, Leghorn30@32c
Geese, young, per lb.28@27c
do, old, per lb.22@23c
Squabs, per lb.60@65c
Ducks, young20@25c
do, old, per lb.20c
Belgian hares16@16c
Jack rabbits\$1.50@3.50
Old roosters, colored, per lb.22@23c

BUTTER.

The butter market was very quiet and inactive throughout the week. While receipts show a falling off the consumption shows even a greater subsidence. This is said to be due to the strikes, and possibly warmer weather. There is a greater demand for storage butter, and daily withdrawals of considerable amounts are now occurring. The cutting of the income of about 50,000 men in the Bay region from about \$40 per week to a \$10 weekly strike benefit bonus is showing its effect on all dairy products.

Thurs. Fri. Sat. Mon. Tu. Wed.
Extra65 64½ 62½ 62½ 63 63

EGGS.

Extra eggs show a falling off of 5 cents from the high price of last week. In spite of the small receipts in this market, the strikes are the important factor in this decline. This is shown in the increased demand for the undersized eggs which showed during the week an extreme advance of 10½ cents over the low price of the previous week. Pullets show a loss of only 2 cents from the high of last week and closed at the opening of last week's market. An average of four cars a week of carefully selected extras is going to the Eastern markets, where prices also are lower on falling receipts. Here again it is said that strike conditions are responsible.

Thurs. Fri. Sat. Mon. Tu. Wed.
Extras72 72½ 70 69 68 68
EX. pullets 59 59 57½ 60½ 57½ 57
Undersized, 48 48 48 48 50 49

CHEESE.

The cheese market was quiet this week. California flats first were again quoted on October 8 for the first time for a month, although the business transacted in this description was small. The tendency to bring out the lower-priced grades, which manifested itself in eggs, is beginning to show in cheese. California Flats, fancy31½c
do, Firsts27c
Y. A. FancyNominal
Oregon Triplet29½c
do, Y. A.32½c

FRESH FRUITS.

While there are still some receipts of cantaloupes the season is practically over and few more shipments are expected. The berry market is also passing, although the receipts are keeping up remarkably well for the season. Te apple market is firm.

Apples—GravensteinsNone
do, Alexanders\$1.25@1.75
do, Jonathan\$1.50@2.20
do, King\$1.50@2.00
do, Bellflower\$1.50@1.75
Pears\$1.50@4.00
Pines\$1.00@1.25
do, white75c@1.00
Plums, box75c@1.50
Grapes, Seedless\$1.25@1.75
Raspberries\$13.00@14.00
Cantaloupes, Standards\$2.25@2.80
do, Pines\$1.75@2.25
do, Persian, lb.Nominal
Watermelon, lb.1@1¼c
Quinces\$1.00@1.50

ALMONDS.

The 1919 opening prices of the California Almond Growers' Exchange are as follows:
Nonpareils32½c
I X L's21½c
Ne Plus30½c
Drakes23½c
These prices f. o. b. Exchange warehouse, less one per cent cash ten days. These prices apply on old business. New business is being booked at:
Nonpareils38½c
I X L's32½c
Ne Plus31½c
Drakes24½c
F. o. b. Exchange warehouse, less one per cent cash ten days.

CITRUS FRUITS.

The citrus fruit market was strong and generally slightly higher. Grapefruit is very scarce and readily brings from \$6 to \$6.50 for fancy. Valencia are 25 cents higher, with a decided narrowing of the range. While the top on lemons remains the same the narrowing of the range in this fruit is also noted.
Oranges, Valencia\$5.25@5.75
Lemons, fancy\$7.00@7.50
do, choice\$6.00@6.50
do, standard\$5.00@5.50
Lemonettes\$1.00@4.50
Grapefruit\$8.00@6.50

DRIED FRUITS.

There were no changes in the dried fruit market this week. The product is rapidly passing from first hands and the bulk of the crop is said to be already out of the hands of growers. Reports from the San Joaquin indicate that no serious damage was done the raisin crop by the rains.
Apples17@20c
Pears16@18½c
Peaches17@18½c
Apricots24@28c
Prunes12@13½c
Figs, Adriatic14@20c
do, Calimyrna16@23c

HONEY.

None of the local dealers are buying in large quantities at present prices. The local consumption is comparatively small.

Special Livestock Market Report

San Francisco, Oct. 8, 1919.

CATTLE—Unsettled political and industrial conditions tend to make an unsatisfactory market. At present ample supplies are reaching this city to meet the demands of slaughterers and butchers. Packers are striving to work off stocks accumulated at higher than prevailing prices, and are slow buyers. Cattlemen predict a beef shortage the coming winter, and are optimistic over the outlook. The bulk of the cattle have been coming from Nevada. Calf receipts are light.

Steers, No. 1, 950-1100 lbs.10 @10½c
do, No. 1, 1100-1300 lbs.9½ @10c
do, 2nd quality8 @8½c
do, thin6 @7c
Cows and Heifers, No. 18 @8½c
do, 2nd quality6½ @7½c
do, common to thin4 @5c
Bulls and Stags, good5½ @6½c
do, fair4½ @5½c
do, thin3½ @4½c
Calves, lightweight12 @12½c
do, medium11 @11½c
do, heavy8 @9c

SHEEP—There is the usual fair market for fat lambs and yearlings. The continued high-priced wool level still makes growers indifferent about parting with stock.

Lambs, Yearling10c
do, Milk12 @12½c
Sheep, wethers8½c @9c
do, ewes6½ @7c

HOGS—Owing to free receipts and a cautious market prices of live hogs are still on the toboggan. Another decline is noted in our quotations. The general tone of the market is drab.

Hogs, hard, grain-fed, 100-15014½c
do, 150-22515c
do, 225-30014½c
do, 300-40013½c

Los Angeles, Oct. 7, 1919.

CATTLE—Steers steady and a good demand for them. Offerings are light. Cows, dull and weak. A good many coming in now. All quotations the same as reported last week.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000@1100 lbs.\$9.50@11.00
Prime cows and heifers\$8.00@9.00
Good cows and heifers\$7.50@8.00
Canners\$5.00@5.50

Calves\$10.50@13.00
HOGS—The demand is fair and market steady under light receipts. No change in prices reported.

Per cwt. f. o. b. Los Angeles:
Heavy averages 275@350 lbs.\$12.50@14.00
Heavy averages 225@275 lbs.\$14.50@15.50
Light\$15.50@16.00

Rough docked 20 lbs. piggy sows 40 lbs. and stags, 40 per cent.

SHEEP—Lambs and yearlings selling well. Ewes and wethers dull. All prices the same as quoted last week.
Prime wethers\$8.50@9.50
Yearlings\$8.50@9.50
Prime ewes\$8.00@8.50
Lambs\$12.50@13.50

PORTLAND LIVESTOCK.

Portland, Ore., Oct. 7, 1919.

CATTLE—Weak; receipts, 80; quotations unchanged.

HOGS—Fifty cents lower; no receipts. Prime mixed, \$17 to \$17.50; medium mixed, \$16.50 to \$17; rough heavies, \$14.50 to \$15; pigs \$15 to \$16.

SHEEP—Steady; receipts 2772; quotations unchanged.

EASTERN MARKET.

Chicago, Oct. 7, 1919.

HOGS—Receipts, 22,000; estimated tomorrow, 32,000; generally 25 to 50c higher, closing dull with advance partly lost; heavy, \$15.50 to \$16.75; medium, \$15.75 to \$17; light, \$15.25 to \$16.75; heavy packing sows, smooth, \$14.50 to \$15.25; packing sows, rough, \$14 to \$14.50; pigs, \$15 to \$16.

CATTLE—Receipts, 28,000; estimated tomorrow, 14,000; firm. Beef steers, medium and heavyweight, choice and prime, \$16.75 to \$18.50; medium and good, \$17.25 to \$16.75; common, \$8.75 to \$11.25. Lightweight—Good and choice, \$15 to \$18.25; common and medium, \$8.25 to \$15. Butcher cattle—Heifers, \$6.50 to \$14.75; cows, \$6.50 to \$13.50. Canners and cutters, \$5.50 to \$6.50. Veal calves, \$18.50 to \$19.50; feeder steers, \$7.25 to \$12.50; stocker steers, \$6.50 to \$10.25; western range steers, \$8 to \$15; cows and heifers, \$6.50 to \$13.

SHEEP—Receipts, 15,000; estimated tomorrow, 35,000; weak. Lambs, \$13.50 to \$16; culls and common, \$9 to \$13.25; ewes—medium, good and choice, \$6.75 to \$8; culls and common, \$3 to \$6.25; breeding, \$7 to \$13.25.

THE OPENING PRICES FOR WALNUTS, 1919.

(Written for Pacific Rural Press.)

Following are the opening prices named by the California Walnut Growers' Association for the 1919 crop:

Diamond Budded, 34 cents a pound; Golden State Budded, 32 cents a pound; No. 1 Softshell, 31½ cents a pound; No. 2 Softshell, 26 cents a pound.

The new crop comes onto a bare market. The cost of labor increase and the extra irrigations needed because of dry seasons, as well as spraying and dusting, have increased the cost of production to a marked degree. The fact, therefore, that opening prices to the trade are little more than those paid last year has given rise to expressions of satisfaction on the part of dealers and handlers of the nuts. Opening prices last year were 31½ cents for budded nuts, 28 cents for No. 1, and 25 cents for No. 2. This year's crop has already been sold, with about 55 per cent of the orders at opening prices.

This year's crop of walnuts is the largest we have ever produced. The lightness of the June drop is attributed to the extraordinary and assiduous irrigations and cultural methods practised. Little damage also from sunburn was in evidence.

RICE.

Rice is showing further declines, and spot and futures in both fancy and choice were reduced this week. Fancy is quoted, for spot at \$11.25 and \$10.25 for futures. Choice is quoted for spot \$11.00 and for futures \$10.00. No. 1 Paddy, f. o. b. shipping point, is quoted at \$5.25 to \$5.50.

HIDES.

There is little interest shown in the country hide market, a situation due doubtless to the disturbed economic conditions now prevailing throughout the country. Holders are trying to force sales, with but little success.

WOOL.

It has been anticipated for some time by growers that the wool market would improve, but the general unrest has had a depressing effect, and prices will not stabilize. There is little trading in this commodity in this state at present, and prices are anywhere as between seller and buyer.

LOS ANGELES.

Los Angeles, Oct. 7, 1919.

BUTTER

Receipts are lighter in this market than a week ago. Prices the same. A good demand is reported. Receipts for the week, 297,500 lbs.
Fresh extra California creamery67c
Fresh prime first65c
Fresh first63c

EGGS.

Offerings are lighter than last week. The market is steady and firm and an advance of 1 cent is reported on fresh ranch. Receipts short of demand, and for the week 423 cases.
Fresh ranch, extra69c
do, case count60c
do, pullets55c

POULTRY.

Broilers are in fair demand, and so are heavy hens. Friers and light hens dull. Turkeys coming in more freely and in fair demand, but weak. Ducks steady and in fair demand.
Broilers, 1 to 1½ lbs.38c
Broilers, 1½ to 2 lbs.38c
Friers, 2 to 3 lbs.33c
Roosters (soft bone) 3 lbs. and up33c
Stags and old roosters, per lb.19c
Turkeys40@42c
Hens30@35c
Ducks25@27c
Geese27c

BEANS.

Limas in good demand and quoted higher. All other beans reported to be dull.
Limas, per cwt.\$12.00@13.00
Large white, per cwt.\$6.25
Small white per cwt.\$6.50
Blackeyes, per cwt.\$5.00@5.25
Tepary, per cwt.\$3.00@3.25
Pink, per cwt.\$6.25

FRUITS.

All good choice to apples in fair demand. Poor stock dull. Apples coming in freely. Peaches and pears in only fair supply. Grapes coming in more freely, and prices steady.
Peaches5@6c
Strawberries—
30 basket crates, fancy\$5.00@5.50
Poor to choice\$3.00@3.25
Blackberries, case 30 boxes\$4.00@5.00
Raspberries, case 30 boxes\$5.00@5.25
Plums—Sugar, lb.5@6c
do Nectarines, lb.6@7c
Grapes, Malaga, lb.5@6c
do, Muscat4@5c
do, Tokays6@7c
do, Rose Peru, lb.3½@4c
do, Hamburgers, lb.3½@4c
Crabapples5@7c
Pears, Bartlett, lb.6@9c
Apples, White and Red Astrakhan, lb 4@7c
Apples, Bellefleur, 4 tier\$1.35@1.40
do, 4½ tier\$1.30@1.40
do, 3½ tier\$1.25@1.30
do, Jonathans, lb.6@7c
do, 4½ tier\$1.35
do, Spitzenburg, lb. 5lb6c; box\$3.25
do, Red Pearmain, lb. 3@4c; box\$1.65
do, White Pearmain, lb. 3@4c; box\$1.80
do, Yellow Newtown Pippins, lbs. 3 and 4c; box\$1.85

VEGETABLES.

Potatoes steady and demand fair. Onions steady and selling fairly, more coming in now. Lettuce scarce and higher. String beans and Lima beans higher and selling well. Tomatoes steady and demand fair for them. Cucumbers slow and sale lower. Green peppers higher and selling fairly.
Potatoes, local, per cwt.\$2.00@2.25
do, Northern Burbanks\$2.25@2.50
Sweet Potatoes\$2.25@2.50
Onions, Stockton, yellows, cwt.\$2.75@2.80
do, White Globe, cwt.\$2.40@2.65

Cabbage, per 100 lbs.\$1.00@1.25
Lettuce, crate\$1.25@1.50
Rhubarb, per 30-lb. box75c@1.25
Summer squash, lug30@40c
Peas, per lb.8@10c
Kentucky Wonders7@8c
String Beans, wax7@8c
do, Green6@7c
Tomatoes, lug box25@65c
Lima Beans, local, lb.7@9c
Cucumbers, local, lug box40@50c
Cantaloupes, Tip-tops, Stand. crates 90@1.00
do, Pineapple, crate90@1.00
do, Paul Rose, crate1.00@1.25
Watermelons, 100 lbs.75c@1.00
Corn, lug box50@65c
Peppers, Bell, lb.3@3½c
do, Chile, lb.3@3½c
Casabas, lb.1¼@1½c
Celery, crate\$4.00@4.50

Geo. L. Horine, the very well-known Duroc-Jersey breeder of Winton, writes he has sold 62 head of breeding swine in the past 7 months and is about cleaned out for the present, but will have some more sows in about two months. About 90 per cent of the business was obtained through the Pacific Rural Press.

FALL FAIRS AND SHOWS.

October 4-19—California Industries and Land Show, San Francisco.
October 6-8—San Joaquin County Fair and Livestock Show, Stockton.
October 6-11—Land Show, Martinez.
October 6-11—Tulare Livestock Show, Tulare.
October 7-11—Southern California Fair, Riverside.
October 13-18—Northern California Apple Show, Second Annual, Eureka.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912.

OF PACIFIC RURAL PRESS, published weekly at San Francisco, California, for October, 1919.

State of California,)
City of County of San Francisco,)ss.

Before me, a notary public, in and for the State and county aforesaid, personally appeared Frank Honeywell, who, having been duly sworn according to law, deposes and says that he is the Publisher of the PACIFIC RURAL PRESS, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, Frank Honeywell, San Francisco.
Editor, E. J. Wickson, San Francisco.
Managing Editor, E. J. Wickson, San Francisco.

Business Manager, Frank Honeywell, San Francisco.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock): Frank Honeywell, San Francisco.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state). None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

FRANK HONEYWELL.

Sworn to and subscribed before me this 26 day of September, 1919.

(SEAL) E. F. HOBBSON, Notary Public,
In and for the City and County of
San Francisco, State of California.
(My commission expires June 26, 1922.)

October 15—Kings County Pork Producers' Contest, Hanford.

October 13-18—Tulare County Fair, Visalia.

October 23-25—El Dorado Agricultural Fair.

October 18-26—Los Angeles Livestock Show.

October 25—Shasta County Farm Bureau Fair, Anderson.

November 1-8—California International Livestock Show, San Francisco.

November 3-7—Western Royal Livestock Show, Spokane.

November 9-14—Northwest Livestock Association, Lewiston.

November 17-22—Pacific International Livestock Exposition, Portland.

Classified Advertisements

Rate 3½ cents per word each issue.

MISCELLANEOUS.

RANCH SUPERINTENDENT open for engagement, thoroughly experienced with tractor farming, cattle sheep and hogs. A-1 construction ability and maintained. No small proposition considered. References, J. H. Cochran, 1747 Webster St., Oakland, Cal.

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ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

FOR SALE—Ranch, Contra Costa County. 2 miles southwest Brentwood. 36 acres alfalfa, 5 acres orchard. Improved. John E. Davis, 3221 Illinois Ave., Fresno, Calif.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

WANTED—Married dairyman, experienced in A. R. O. fitting for shows; calf raising, etc. Sunnybrook Ranch, Willits, Calif.

A NEW ALFALFA—Investigate now. Our great "Hardy Hybrid" alfalfa. For facts, write J. L. Lawson, San Jose.

MAMMOTH JERSEY KALE SEED—2 oz., 15c, by the pound, \$1.00. A. P. Ward & Son, Calistoga.

12-20 YUBA TRACTOR, used very little. P. M. Pederson, Oakdale, Cal.

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If so, join us in forming a company where each will own his land but have it FARMED AS A WHOLE under scientific supervision by the company. We will raise dairy cows, hogs, poultry and vegetables.

WE WILL FINISH THE PRODUCT on the farm and sell hams, bacon, lard, milk, butter, cheese and fresh and canned vegetables, DIRECT TO THE CONSUMER. We save middlemen's profits and duplication of equipment.

We have no solicitors or agents.

Particulars can be had by communicating with H. W. McSpadden, 2234 Haste St., Phone Berk. 149 W. Berkeley, Calif.

FOR SALE—20 acre ranch, 5 miles from Oakdale, ½ mile from S. P. Flag Station, 1½ mile from Valley Home Railroad Station, ½ mile from Highway; under Oakdale Irrigation System, plenty of water; property all checked for alfalfa with laterals for irrigating every part of ranch; land ready for re-seeding to alfalfa; good sandy soil of A-No. 1 quality; good barn; enclosed tank house; good tank and windmill; family orchard around the house; four-room house covered with vines. Price \$5,000 gross. If bought direct from owner real estate agents' commission will be thrown off. Owner, BERKELEY SECURITIES COMPANY, 218 First National Bank Bldg., Berkeley, California.

160-ACRE CORN, GRAIN FARM, \$7920.
On improved road, near railroad town, splendid community. 100 acres high cultivation tillage, chocolate loam, clay subsoil, producing heavy grain, corn, grass. 60 acres wire-fenced pasture, home-use wood, fruit. 2-story house, built 6 years, 3 verandas, big barns, granary, corn, smoke, poultry houses. Partnership owners dissolving, quick buyer gets low price—\$7,920; easy terms. Details page 88, New Fall Catalog, 100 pages farm bargains from Maine to Florida and west to Nebraska; copy free. STROUT FARM AGENCY, 831AF, N. Y. Life Bldg., Kansas City, Mo.

WANTED TO BUY in Santa Clara county, in the hills, between Mayfield and Saratoga, about six productive acres and a house, or a good home-site, the same being part of a large, modernly-equipped orchard or dairy farm. The seller to continue, by yearly agreement, to work the six acres, in addition to his own land. Trees, water and view necessary. No agents. Address, Room 324, Merchants Exchange Building, San Francisco.

FOR SALE—Eighty-acre alfalfa dairy ranch in heart of orchard district, two miles from Hollister, including forty milk cows, 28 heifers, four work horses, 150 tons alfalfa hay, 6-inch centrifugal motor-driven irrigation plant, 60x90 barn, modern house, machine shop and other buildings. Address, Owner, Geo. P. Merritt, Hollister, Calif.

RANCH FOR SALE—240 acres, 6 miles E. Santa Margarita, Calif. 25 acres orchard—apples, pears, prunes, peaches; 50 acres cleared; 50 acres level. Live oak on hills. 4-room house and bath; outbuildings. 8 tons hay, machinery, buggy, wagon, harness, cow, horses, bees. School on place. Write Mrs. Bertha Boomer, Santa Margarita, Cal.

FOR SALE BY OWNER—Splendid 20-acre, improved and irrigated ranch. 10 acres alfalfa; family orchard, assorted fruits of choicest variety. 2 miles from railroad station and Highway. Also have 40 acres adjoining. Would sell if buyer wanted larger acreage. Part cash; balance on contract. Address Box 215, Willows, Glenn Co., Cal.

FOR SALE—Ten cow dairy, fully equipped; team, 8 head young stock, 40 head hogs, 50 ton alfalfa in stock. 20-acre ranch for lease; modern buildings. P. O. Box 374, Porterville.



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The hens that pay are the hens that lay!



Just one way to tell the result-producers in your flock—the profit-payers. How? By the amount of eggs they lay. And egg-production is largely a matter of proper feeding—you know that! So it only simmers down to a question of “What shall I feed?”

Surelay is ready to solve this question for you—just as it has for thousands of other successful poultrymen. Then, why waste time and money and energy experimenting with hand-mixed feeds and mashes when Surelay puts the whole secret in the hollow of your hand?

Mixing feeds is our special business. We have the equipment. We have the facilities. *We know how!* We have studied it from a scientific and practical standpoint—have worked with Government and State Experimental Stations—and this, together with years of actual experience, enables us to produce a *uniform*, high-grade feed that will make your hens *pay* by making them *lay*.

And don't forget—Surelay keeps your flock in fine condition all the while. It's a perfect balanced ration—there's nothing in Surelay to “throw your hens off their feed.” For Surelay is *always* uniform, *always* the same, *always* dependable! You will find a guaranteed analysis of Surelay printed on the back of every sack; and what's on the sack is in the sack—and that's what makes the eggs.

It has been proven time and again that cheap feeds lessen the profits of every hen in the flock. Thus, a uniform, high-grade feed like Surelay is *always economical*—and especially when prices reach the level they are today.

Our booklet, “Makes Hens Happy,” takes up this feeding question in detail. It is full of practical information and money-saving suggestions. It has served as a guide-post to success for many a poultryman; perhaps it will be of help to you. This booklet is yours for the asking—simply fill in the coupon and mail *today!*

[Be sure to look in your Surelay sack for the Certificate that entitles you to our 1920 Surelay Egg Record and Calendar]

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SURELAY

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THE PACIFIC RURAL PRESS

SAN FRANCISCO

OCTOBER 18, 1915

LOS ANGELES

The American Grape in California

Written for Pacific Rural Press by Wilbur S. Tapper.



WHY IS NOT THE AMERICAN GRAPE more generally found in California gardens and vineyards? For domestic purposes it is of great value. It is, par excellence, the grape for jellies, jams and grape juice. And the grape pie is a joy to the housewife and the entire family. People accustomed to vinifera grapes prefer them, as a dessert fruit, to the Eastern kinds. But, on the other hand, those accustomed to American grapes generally prefer them to the viniferas. Wines and brandies are better from the viniferas. But grape juice now appears to have a decidedly better future than the wine and brandy industry, and grape juice is made from the eastern grape.

American Grape Culture Quite Recent.

The growing of American grapes is a comparatively recent industry. While the vinifera species has been cultivated from the dawn of history, it has been less than a hundred years that viticulture in America, with native grapes as a basis, has been well established. California was a State before the Concord was developed. Only three other grapes, listed at the close of this article, are as old as the Concord. The finest varieties of vinifera had found congenial conditions in California before there were many American grapes worthy of the name.

There is another reason why American grape culture has developed slowly in the Golden State, and this reason has an important bearing upon the question at the present time. While many species of vitis are native to America, it is chiefly from the species *Labrusca* that our native grapes have been developed. Concord is the best known type of this species in cultivation. Seventy-five per cent. of all grapes grown for market east of the Rocky Mountains are Concord. In the East it is the "grape of the millions." It followed, naturally, that the first attempts to raise the Eastern grape in California should involve the Concord, and especially, since in the East, it is the grape of good quality, most easily and cheaply grown. But the Concord did not thrive in this State. In fact, it developed poorly, both as to vigor and productivity. The habitat of the *Labrusca* has a climate with cold winters; with small daily range of temperature during growing season; and with great humidity of climate, the nights being humid as well as the days. These are conditions rarely found in California. Pure *Labruscas*, therefore, as a rule, do not grow well in California. The only exception, coming under the writer's observation, is *Vergennes*, included in the list below. This variety, as grown here, does not belie its Eastern reputation for vigor and productiveness.

Fortunately for native American viticulture, East or West, grapes of the pure *Labrusca* type form a relatively small proportion of the varieties grown. The better varieties are hybrids of *Labrusca* with *Vinifera*, or occasionally other American species crossed with *Labrusca* or with *Vinifera*. Catawba, Niagara, Isabella and Delaware are examples of these hybrids.

California Soils Adaptable to Eastern Grapes.

Any soil in California, adapted to fruits, will generally be found suitable

for Eastern grapes; but it should be well drained, as grapes will not grow with their roots constantly in water. Irrigation should be provided during the growing season. In the Eastern grape districts the rainfall averages four or five inches per month during the growing season, and two or three per month during the ripening period. Where moisture can be regulated, it is better to give very little water during the ripening season. An excess of moisture at this period produces an inferior quality of fruit. Regulation of the water supply, by irrigation, will, therefore, be a distinct advantage; and the fruit will not be spoiled by unfavorable weather conditions at ripening.

Our California climate, generally, affords enough heat units to ripen the Eastern grape, and we have a greater proportion of sunshine than grape-growing districts of the East.

Treatment of the vine for the first two years is practically the same as that given *Viniferas*. The first year is calculated to develop a root system, and in the winter following the vines are cut back to the ground, leaving but two or three buds. The next year should develop a stem or trunk. During the winter this trunk is cut back to three or four feet, according to the vigor of the vine and the system of training contemplated. During the second winter the trellis should be built. A common form consists of two wires on posts, the first wire being two, or two and a half, feet above the ground, and the other an equal distance above the first. Posts are set every third or fourth vine, depending upon distance between vines. Strong-growing varieties, such as Pierce, Catawba and Niagara should be eight or nine feet apart. Smaller growers, such as Delaware, Iona and Lady, may be planted four to seven feet apart, according to their vigor.

The vine is trained as follows: two canes, at, or a little below, the level of the lower wire, are laid down upon it, running, in opposite directions, and similarly, two on the upper wire. The canes should not be twisted around the wire, but tied on top of the same. During the first fruiting year, two or three canes may furnish enough wood.

The Object of Pruning

is to restrict the fruit-bearing wood to a point where the vine will produce the largest amount of fine fruit without sacrificing the vigor of the plant. The unpruned vine

will produce a much larger yield than the pruned canes, but a larger proportion will be skin and seeds, and the fruit will ripen imperfectly. Further, the great burden of fruit on neglected vines is detrimental to the plant. The vine, under careful pruning, will produce, year after year, a fair crop of fruit of the best size and quality. Forty to sixty clusters is an average yield for the average vine. We may assume that each shoot will average two clusters. Therefore, from twenty to thirty buds should be left, on wood of previous season's growth, to supply the fruit for the coming season. Pruning is done in the dormant season, and consists in cutting away all the canes, (including those that have borne fruit), except four to be laid down for fruit for the ensuing season. The pruner must take

(Continued on page 519.)



The above basketful of luscious American grapes was grown at San Leandro, Alameda county, in a delightful homelike environment.

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EDITORIAL.

A BUSY AUTUMN.

EVERYTHING in California is intensely active. It is usually thus in California at autumn-tide—but this year more abundantly. Our autumn is the birth of the year. The sere and yellow leaf drops not idly to wait the spread of winter's pall and to lose itself beneath it in darkness, dampness and decay. Here it is that the dying leaf "hops off" like an aviator—to course the filmy distance of the sky, or, harelike, to skip over the warm bosom of the earth, as its fate may be. Even if it lodge in chink or furrow of the earth, it only lies secure until the blades of new grass thrust it upward and onward again along the course of moving things. And as it is with leaves, so also with men and women in California. For them autumn is not—

"the season where the light of dreams
Around the year in golden glory lies
While scarce a breath disturbs their drowsy
trance."

Quite otherwise, autumn is always in California the time of beginning, not of ending and of rest—the time to make investments, to take up enterprises: even "moving day" is an autumnal festivity in California! But, wont as Californians are to such sequence of affairs, which even the weeds of the field, humblest of Nature's teachers, proclaim to them, it is an interesting fact that there never has been such sensational activity in California affairs since Americanization began in the fall of '49. The very air is charged with movement California-ward, and the fact that a man has thrown himself from New York to San Francisco by the atmospheric route in less than twenty-four hours of moving time, is only symbolic of the speed and grace with which all our development affairs are moving. Not only are great investments from new sources being made in California industries to an extent and diversity not known before; not only are organizations for irrigation and other improvement agencies being undertaken with greater outlay and area than in earlier years, but individual undertakings are everywhere being entered upon with greater confidence and expansive generosity. It has always been a farming ambition for a man to "own all the land that jines him," but now we see hundreds of those who have played as winners in the current game of production adding piece to piece of good land or promising plantation at prices recently held to be unmentionable. We hope all their ventures will prove wise and good. It is a good thing for a country when those who know it best are the highest bidders for possession of it!

A DAWN OF HUMAN FEELING.

In company with all other residents of the east-hay cities we have been sorely inconvenienced because about 1,200 operators of trolley cars decided to strike and interfere with the normal activities of more than a quarter of a million people, into whose transportation service they entered after eagerly seeking admission thereto in previous years. Either they or their friends pursued a line of public intimidation in addition to ruining business and causing great hardship until riots passed beyond

local control and necessitated an appeal to the governor of the State. We have no present interest in characterizing the behavior of these strikers toward their neighbors and friends except to say that it was apparently wrong and unjust enough to cause the strikers themselves to weary of it, and that is reason for making this reference. There seemed to dawn upon the consciousness of these men, who are really good citizens and estimable members of the community, that they were not right in causing such public inconvenience and hardship, and so, after ten days of suffering and great losses to all the people, the striking carmen concluded of their own volition to go back to work and submit their claims for less time and more pay to decision by conference and arbitration. We count this incident of great public advantage. We honor these men for obeying their own consciences. We consider the example they have set of repentance of selfishness and self-will and of reasonable recourse to settlement of claims in a true American way, as a manifestation of possession of a true patriotic spirit, and we certainly hope that they will receive from fair arbitrators and a friendly public everything to which they are justly entitled. It seems to us that by their expression of their sober second thought they have sounded the keynote in harmony, with which all our discords between groups and interests of Americans may be merged into the music of mutual advantage and good will.

NATIONAL INDUSTRIAL CONFERENCE.

As we write on Tuesday the National Industrial Conference (which is the proper name of the capital-labor approachment) is in session in Washington trying to settle the great "steel strike." It is rather rough on a deliberative body to be compelled to demonstrate its competence for talk by means of its success in embodying its principles in practice. It is as though a great authority on public health were taken with a pain inside of himself while on his way to the lecture platform, and had to cure it before he could speak of the pains of the public. We are not sure, however, that it may not be the most fortunate thing that ever happened—that is, in the case of the National Conference, of course. If it can bring to an end one of the greatest strikes that ever happened in this country, and thus concretely demonstrate that its theories will work, it is hard to over-estimate the attention which will be paid to its subsequent findings. On the other hand, if it disagrees, or if its prescription does not cure this particular industrial pain, very little will be cared what it does afterwards. The Conference seems to be up to a very old test: "Physician, heal thyself."

It is an interesting fact that California as a State is much better represented numerically in this national affair than our pro rata title to representation for we have three out of the fifteen representing the general public of the United States, viz.: Gavin McNab and Louis Titus of San Francisco and Gertrude Barnum of Berkeley. On the distinctively labor group we have Mr. Scharrenberg. On the whole, then, we have four Californians out of forty-five, while our pro rata as a State would be .937 of one. We like to be accurate in a matter of such moment. And California is making her voice heard, for the telegraph says that Mr. McNab has filed a proposition, which has received the approval of the "public interest" group, to the effect that issues between employer and employe shall be referred to a "permanent arbitration board, of which all living ex-presidents shall be members." Mr. McNab's idea to give his arbitration board a national standing and to provide ex-presidents with a good job, so that they can live without creating an over-supply of "professors"—a business which is already worse paid than bricklaying. However that may be, we are glad that California has spoken first in the conference for reasonable arbitration as a substitute for strikes, violence and public hardship. And if he desires to cite a glowing instance of California's preference for peace and fair play, the return of the Oakland trolley-men to reason and humane feeling will serve very well.

HOW THE FARMER GETS OFF.

We are glad that the fact that the farmer is not profiteering is slowly percolating into the public mind. The following statement is printed in the

"Nation's Business." We do not know the exact affiliation of this journal, but it is clearly not undertaking ex parte statements for agriculture under such a name. The following is interesting:

Among the things on which the city man's mir has ceased to function is the perfectly self-evident fact that the farmer cannot profiteer. To profiteer involves controlling the supply and setting it price at a level which involves making large profit. The farmer cannot control the supply, does not and has never set a price. There are 7,000,000 individual farms in America and every farmer sells what he raises in competition with every other farmer, at price fixed by the purchaser. And he buys his necessities in the open market at what the vendor asks for them, and gambles his capital, and the labor of himself, his wife and his children from two years old up against the weather, plant and animal diseases and insect pests, to get his crop without any assurance of even an average crop, without an time more than the probability that he will have a market, and without any assurance at any time that the market price will make him a profit.

Of course, as applied to California, the foregoing is not now exactly true, for we fortunately do have now a few associations which are so capable in their co-operative protection that they do fix the prices of a few articles, and this saves our California face from the charge that the farmer "has never set a price." Still, however, it is not done for a profiteering purpose, though, some of our local groccerymen have been foolishly charging that and back-firing on the farmer to deflect the heat of public indignation from their own alleged activities. The California associations which set prices have reached a co-operative control which enables them to charge back to the consumer the cost of production and save themselves from destruction just as manufacturers have always done, and that is just what all farmers must do, not only for their own solvency, but that the world may be continuously fed. The time has come when the farmer cannot longer live and sell his product "in competition with every other farmer and at a price fixed by the purchaser." It is true, as the writer we have quoted declares, that practically all farmers are now doing that and therefore cannot profiteer. But it is also true that they are starting toward a control of their business which will enable them to profit but not to profiteer. There are too many of them to agree in a profiteering combination, and they have too many and diverse minds to hold together under the stress of profiteering, which requires "addition, division and silence," and which is both physically and morally impossible in a popular assembly of fair-minded men, such as constitute our farming population.

CALIFORNIA PROMOTING COLLECTIVE SELLING.

It was the idea of Congress in 1914 to protect farmers in their right to sell jointly the produce of their labor in ways protective against price-fixing by the purchaser, which the writer in Nation's Business cites as the beginning of the farmers' hardships. There has been, however, some doubt as to the surety of his legal release from being judged as "in restraint of trade." Congressman Hugh S. Hersman of the Santa Clara and southern district, has a bill now in Congress to remove all distrust and danger along that line, and we notice that Eastern farming communities are taking keen interest in it and calling Mr. Hersman to conference with them on the subject. Mr. Hersman's bill has these among other specific reservations of farmers' freedom from anti-trust proceedings:

"Nothing contained in this Act or in the anti-trust or other laws shall forbid or be construed to forbid the existence and operation of associations, corporate or otherwise, with or without capital stock, of farmers, vineyardists, horticulturists, planters, ranchmen, or dairymen engaged in making for the producers thereof collective sales of farm, vineyard, orchard, plantation, ranch, or dairy products, and, incidental thereto, packing, drying, churning, storing, grading, or otherwise processing or preparing such products for market, or to forbid or restrain individual members, shareholders, directors, or officers of such organizations from making such collective sales and prescribing the terms and conditions thereof."

It is intended, of course, that such associations for collective selling shall be non-profit associations, and that the money shall be distributed to the producers of the commodities sold, except in the case of associations with capital stock there

may be "no greater dividends on capital stock or membership capital investment than the minimum gal interest of the State where organized." It is, of course, necessary and right that organizations should be enabled to borrow the capital needed in their operations or to be paid interest if the organizers themselves provide it, but it is just as clearly forbidden that promoters shall organize farmers to make profits for themselves out of the farmers' operations. Farmers do not desire to profiteer at the expense of the public. They have been enslaved hitherto financially and commercially and they now seek a square deal for themselves and for the public which is dependent upon them.

THE LIVE STOCK SHOWS.

On the date which this week's issue bears, the Live Stock Show will be opening in Exposition Park, Los Angeles, and through the full circle of next week its activities will continue, as we stated somewhat abundantly in our last issue. In our paper of October 25, we plan to forecast the California International Live Stock Show, which will open in this city on November 1 and hold until November 8. For this event, which it is hoped to develop into one of the regular events of the year in the metropolis, preparations have been proceeding for several months. The entries assure a great display. These, with the historic, architectural and natural charms and interests of the place, promise an overwhelming popularity and patronage. The fact that the California Building of the Panama-Pacific Exposition will throw open its doors and welcome the people to this new demonstration of the State's resources and capabilities, should add greatly to the popular interest. As already claimed, Californians are unusually awake to great things this fall, and this show of live stock of all kinds will afford suggestive demonstrations of the delights and opportunities in California out-door activities and investments which will be full of significance for the progress of the individual and of the State. Such things will occupy our attention in our next issue.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Pruning Bearing Bartletts

To the Editor: How should I prune Bartlett trees seven years old that have not been topped for two years? They are mostly straight shoots going skyward. This year a number of shoots have grown from the base on the outside of the trees, which are two to four feet long. What should I do with them?—Farmerette, Shellville.

It is hard to tell without seeing the trees. As your trees have not been topped for two years, it is probable that your upright shoots have developed fruit spurs and some short laterals. If they are crowded remove some of them entirely and cut back the others to outside shoots so as to spread your upright Bartlett trees more. Do not cut back short those which you leave—cut back to an upper lateral pointing in the right direction. Keep the laterals and spurs on the older branches unless they are feathered too thickly, and in that case remove some of them. Remove all the shoots below the main forking of the trunk unless you wish to grow bushes.

Green Manure Crop Indicated.

To the Editor: I have 40 acres of grapes, which I irrigate. The soil is coarse, sandy loam, with coarse gravel underlying about 6 feet from the surface. It is situated about a mile from a river, which, together with the coarse character of the soil, augments drainage. I am of the opinion that a cover crop planted this fall and turned under in spring would fertilize and help retain moisture. Please advise me what to plant, if anything, and how would you suggest sowing?—P. M., Escalon.

Yes, a good lot of green stuff plowed under will enrich your soil and make it more retentive of moisture—overcoming the coarseness of it by filling it with fibrous organic matter. The plant of which the seed is most available and which grows best in a coarse, deep soil is yellow sweet clover (*melilotus indica*), and it should be started just as soon as you can seed and get moisture into the ground. On such a loose soil it is apt to catch well by broad-

casting before irrigation—the fine seed being usually sufficiently covered by the process for a good fall start.

Birds and Cotoneasters.

To the Editor: I asked Mr. Vallance a question which he told me to pass on to you as our best authority. Could you tell me of some kind of a spray to keep the birds from eating the berries off the Cotoneaster crenulata? I should not like a poison if I can help it.—R. P., Oakland.

We are afraid we cannot justify Mr. Vallance's high praise, for we are considerably unsettled in mind about birds and cotoneaster berries. We would not kill birds to save anything not necessary to a living for ourselves, and as we enjoy both birds and cotoneasters we would let the birds take half of the berries without complaint. Perhaps the birds could be discouraged by spraying the bush and fruit with some ill-smelling stuff, but that would make the garden as offensive to you as to the birds—besides, the neighbors would make remarks about it, and you will receive a visit from the health officer. Probably you must try to frighten the birds away. This might be done with strips of tin hanging from strings so the wind will make them flash in the sunlight. This works for awhile usually, and there are many such little scaring devices, like children's windmills on tall sticks above the bushes. But probably the most effective scare could be rigged by fitting a collar to the house cat and tying her to a stake in an open space near by. Her ceaseless efforts to get free will drive away all the birds in the neighborhood. Or, if you dislike to do that, perhaps the neighbors have a cat which seems to you useless, which you could take down to the taxidermists and have him set her up in a menacing attitude and put her out in sight of the birds. We admit this advice is somewhat theoretical, but we must do something to support our citation as an authority.

Peas and Barley.

To the Editor: I have been told that to plant Canadian field peas with barley greatly increases the yield of the barley, and that the peas will ripen and fall to the ground before the barley is ripe, and will make great hog feed after the barley is harvested. What do you think about it, and if a good thing, what amount of each should be sowed to the acre?—S. A., Maxwell.

There are theoretical possibilities in your proposition, but the chances are that you will not practically realize them to any noticeable extent under ordinary grain-growing conditions in your valley. It is true that a legume growing with a grain will give some of its nitrogen to the grain and speed it up—providing there is moisture enough in the soil to keep them both at work to the end desired, and that will not usually be the case. There are more chances, unless you have moist or irrigated land, that you will get less barley, and pinched at that, and not peas enough to give you your seed back, nor pea forage enough to much improve the barley stubble. If you wish to grow a lot of green forage for hogs, or possibly to get a lot of mixed hay for cows, the barley and peas combination has more chances of paying out on ordinary rainfall land. As for the Canadian peas after barley is cut for grain, they will not grow in valley heat and drouth after harvest. Even if there is moisture enough (which is doubtful) to start the seed that falls (if there is any), the growth will be very short and scant—yellow, mildewed, and perhaps lousy. We do not think much of the proposition. If you wish to try it, sow 40 lbs. of peas with the barley and watch to have your stock ready to eat it up, as it begins to go backwards in the spring.

Budding-Over Peaches.

To the Editor: I have a hundred or more McDevitt clings, which seem to be an every-other-year bearer. They are from one to five years old. Can I cut them back when I prune this fall and bud the new growth next July or August to Orange cling? Would you cut back as far as for grafting, and would the tree be as strong as formerly?—W. M., Placerville.

On such young trees we would not cut back for a new top but would try to get a new head by starting buds in the old bark or in the spring growth. If your trees have not gone too far dormant you can get buds in now and have them take for a start next spring—cutting back after the new growth is out and going well. If the bark is now too tight you can get buds in next spring by keep-

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ing some bud-sticks dormant until the old bark slips on the stock. If, however, you prefer to cut back and get sprouts to bud into, do it late in the winter, not as early as pruning is usually done, and then bud into the bases of the best-placed sprouts in May or June, and for a growth on then. The plan you propose would cause you to lose two years' fruiting. You ought to work it so as not to wholly lose more than one. If you are pretty smart in handling the buds started in the spring in the old bark you can get some fruit and growth on these buds also and thus not entirely lose any crop.

Broom Corn.

To the Editor: What is the average crop of broom corn, brush and seed per acre? Which month is proper for seeding, and how much seed per acre? Does broom corn require much water?—H. F., Biggs.

The average lies somewhere between a quarter and half a ton of brush, though in rare cases a ton or more is secured. Of seed there may be fifty bushels. The plant is tender and is sown when Indian corn is considered safe in the same locality. It requires about three pounds of seed to sow an acre so the plants will stand about eight inches apart in rows 3½ feet apart. The plant requires either naturally moist or irrigated land, for it must make good growth to secure good brush. A broom corn crop is not like growing forage or grain. It requires a lot of experience to handle the brush right and one should not plant much area to experiment on. The plant must be well grown, not skimmed, and the brush must be cured into strong fiber, not merely dried up.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending October 14, 1919.

Stations—	Past Week	Rainfall		Temperature	
		To Date	Normal To Date	Highest	Lowest
Eureka .....	.00	1.65	2.45	68	44
Red Bluff .....	.00	.86	1.40	90	56
Sacramento .....	.00	.53	.75	84	44
San Francisco .....	.00	.56	.71	80	52
San Jose .....	.00	.26	.71	86	42
Fresno .....	.00	.27	.58	88	52
San Luis Obispo .....	.00	.40	.79	86	44
Los Angeles .....	.00	1.25	.26	84	58
San Diego .....	.01	.28	.26	72	58
Winnemucca .....	.00	.70	.96	72	22
Reno .....	.00	.48	.80	72	28
Tonopah .....	.00	.39	1.54	68	34

Spraying Stone Fruits in November

(Written for Pacific Rural Press by Jno. J. Fox.)

THE time has come to remind growers that a month from now they should be spraying their peaches and almonds for blight and curl leaf, and the apricots for bud-blight and shot-hole fungus. Two sprayings are necessary for these, the first any time between November 15 and December 15, and the second as the buds are swelling. Either lime-sulphur 1-9 or a good, strong Bordeaux is used. We favor the Bordeaux mixture for this November-December spray, and the lime-sulphur when the buds are swelling. The Bordeaux can be used up to 6-6-50. For the few still uninitiated this means 6 pounds of bluestone (sulph. copper), 6 pounds of lime, and 50 gallons of water. The bluestone is dissolved in any kind of vessel except a metal one. The lime is slaked and strained into the tank and the bluestone water added, but not until you are ready to spray it on, as its value deteriorates by standing over after it is mixed.

It is possible that this same November spray may be useful in the control of shot-hole fungus and of the blackheart in apricots. Nothing has yet been found to overcome the latter, the only suggestion being that of planting apricots in the most temperate locations and where changes are least extreme.

For Black Scale or Brown Apricot scale on cots, spray from now on with an oil emulsion or miscible oil spray—the sooner the better, as better results are obtained while the young scale is in a tender condition. The damage that the Brown Apricot scales do in sapping the vitality of the tree, stunting the young growth and weakening the set of bloom is very great indeed, quite apart from the injury to fruit and foliage by the sooty fungus that covers them in the spring. November and December are good months for applying the miscible oil. The pump should furnish at least 150 pounds pressure to give good results, and a good agitator is important with almost any kind of spray. It is absolutely essential with crude oil emulsion, which is also an excellent spray to use against the soft-bodied scales as well as the armored scales.

Brown Rot.

Where brown rot was bad all mummied fruit should be collected and destroyed. Quite a little late brown rot was in evidence in peaches and apricots while still on



With the use of the new spray guns this method of spraying from a height is not so much practised.

the trees, and we notice many on the ground in some orchards. These should be gathered up and destroyed, too.

Many men feel they would like to get through with their pruning before spraying, but it is a great mistake to wait for this with blight, for the time is apt to slip by when it is most effective. If crude oil emulsion is used, perhaps December 1 is early enough to begin using it, but the miscible oils can be applied right away for the Brown scales. We have found generally that prune and apricot growers have remarked on the mellow condition of the bark on trunk and main limbs, after using any of the oil sprays, and it has been quite noticeable.

How Can I Tell Peach Blight?

That is a question still asked. Some wood dwindled, and died this year. Some of the young branches failed to



Here is a peach orchard already pruned and sprayed.

make any growth, the leaves were small and fruit failed to develop on those twigs and branches. Some died back entirely. These are some symptoms. If you examine the growth you will find discolored and dead spots on the shoots as well as round the buds. These buds die out as does much of the fruiting wood, and perhaps a whole large shoot will die back clear to the limb. In the winter time soft, jelly-like gum comes from the affected parts, and you can rub it off with your finger. The spring spray alone will not do. The November spray is necessary as well to get rid of peach blight on both peaches and almonds.

Every Bud on the Tree.

Must be sprayed thoroughly. Get up a good pressure and walk clear round the tree to get results. If there is no blight, it is not necessary to spray till the buds swell in the spring so as to catch everything, though it is really safer to spray in November as well where curled leaf is common and rife. In the

great peach-growing sections of the San Joaquin, it is most essential that all the vitality possible be conserved in the trees. For they have suffered enough from light rainfall, shortage of water and a heavy crop, and it will pay to nurse them along and spare no expense.

BEWARE THE UNKNOWN PEDDLER.

A good many credulous people have been badly "sold" at various points the past four seasons by peddlers going round selling nursery stock under absurd conditions and valueless guarantees. Some men were around one year selling gooseberries at 25 cents a bush that were said to be marvels of production in size and quantity. The way contracts of purchase were signed up was by a reciprocal compact on the part of the peddler to buy all the fruit produced at a huge price f. o. b. The writer knew one man who made a hot bargain. By dickering, he got 500 of these bushes for a paltry \$100! Another "sold" a number of ranchers volcanic ash for fertilizer, showing samples of its mineral value in neat phials.

Don't buy trees or fertilizers from any unknown firm or irresponsible persons.

lands will probably find it far more difficult to get back into the United States than it is to get out.

A cannery man last season visited a peach packing house and claimed that a canned freestone had a higher flavor than a canned cling. They did not believe him, so he opened two cans, emptied out the juice, passed over fruit samples, and got the unanimous verdict that the freestone was fine, the cling tasteless. His explanation was that the syrup gave the cling its flavor, but the freestone had a good flavor without help. Query: from this test was the freestone the superior canned fruit, or since clings are always sold and eaten in the syrup, are they better after all?

In regions where the Russian thistle has been considered a pest, it has been used both in the silo and cut for hay. When cut for hay the mower is started just as the spines commence to harden or even earlier.

The sum of your results depends on whether your calculations have been based on facts or imagination.

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Noted for
It's Smoothness
and
Evenness
of Fit

For strong, smooth, perfect-fitting well casing, specify Madewell.

—Made from Hard Red or Galvanized sheet metal.

—Joints fit perfectly, because they're built to an exact standard.

—Made in all sizes, single or double.

Write for Catalogue A

It describes Madewell Well Casing and other Madewell Sheet Metal Products in detail.

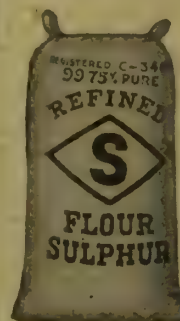
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AND CULVERT WORKS

Dept. 1.

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MADEWELL

SULPHUR



It has been proven and so recommended by the University of California that if you sulphur your grape vines and orchards 6 times they will not be affected by MILDW or RED SPIDERS.

ANCHOR Brand Velvet Flowers of Sulphur, also EAGLE Brand, Fleur de Soufre, packed in double sacks, are the lightest and PIRELLA sulphurs that money can buy; the best for vineyard and other uses.

bleaching purposes, LEAVING NO ASH. VENTILATED Sublimed Sulphur—Impalpable Powder, 100% pure, in double sacks, for Dry Dusting and making Paste Sulphur.

For LIME-SULPHUR SOLUTION, use our DIAMOND "S" BRAND REFINED FLOUR SULPHUR. We can furnish you this Sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out in labor for spraying your orchard, even if you pay your men \$4 per day for making the solution and applying same.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre DIAMOND "S" BRAND POWDERED SULPHUR, 100% pure. This has increased various crops up to 500%.

Also PREPARED DRY DUSTING MATERIALS, Tobacco Dust, Dusting Sulphur Mixtures, etc., and "Anchor" Brand Standard LIME-SULPHUR SOLUTION 33 deg. Be. Fungicides and insecticides. Carried in stock, and mixed to order.

Send for "ILLUSTRATED BOOK-LET", also booklet "NEW USES FOR SULPHUR." Price-list, and Samples.

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624 California St., San Francisco, Calif.
TELEPHONE KEARNY 871.

Get Citrus Trees Now for Next Year

	Age	Size	Price	Per 100	Per 1000
Wash. Navel	2-3	%	.85	.75	.65
Eureka Lemon	2-3	%	.85	.75	.65
Valencia-Late	2-3	%	.85	.75	.65

Send for complete list.

We raise only first-class trees.

SENTO CITRUS NURSERY

E. F. D., Box 421. EL MONTE, CALIF.

How Fast Are We Losing Our Population?

(Written for Pacific Rural Press.)

The only way to alleviate conditions brought about by lessened production during the war is for every man to dig in and produce to his utmost capacity. This axiom is now realized all over the world, and in Germany most of all, where the nation's workers are said to have added "two patriotic hours" to each day's work till they shall have recaptured the trade lost during their isolation.

Apart from strikes, how are we affected in this matter? Though our producers are working hard for maximum results, immigration seems to be going on at a somewhat disquieting rate. We could better afford losing the money they are taking with them and to lose the immigrants themselves—barring a few.

Here are figures covering the immigrants leaving America, recently furnished:

"The full outgoing steerage capacity (of our ships) averages 1200. This is taken months in advance. There

are usually 2,500 on a daily waiting list. Italians, Greeks and Serbians are in predominance—80 per cent being Italians, the average amount of money they are taking over being \$2,000. All amounts in excess of \$1,000 are subject to a 12 per cent tax."

Anthony Caminetti, Commissioner of Immigration, who has been investigating a rumor of exaggerated conditions of exodus, emanating from his own department, finds that since the armistice 102,513 foreigners have left the United States. This, he says, is natural, and does not exceed the normal rate of emigration from our shores.

Mr. Caminetti is the official keeper of records with regard to immigration and emigration, and we have to accept his figures rather than rumor. Accurate data of departures through or to Canada are more difficult to obtain.

Many men now going to their home-

Ornamentals Fruit Trees ROSES

We are recognized as specialists in the propagating of Ornamentals. A thorough knowledge of the business, aided by the best soil, water and climatic conditions, enable us to grow superior stock.

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You will be interested in this year's catalog. Let us have your name and address now.

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WORMY PEARS A DEAD LOSS.

(Written for Pacific Rural Press.)

Many owners of dry-yards that bought windfall pears this year, found toward the latter end of the season as high as 25 per cent of them wormy and in many instances worse than this. Now wormy pears, even when the worms are cut out, never make first-class dried fruit, apart from the great added labor expense involved and the large added loss in cutting.

Some of the dryers have talked this matter over among themselves in order to make arrangement to protect them from losses next year. The following tentative plan has been worked out:

That purchase will be made on the basis of pears free from worms. Should shipments contain wormy pears, those that are wormy will be rejected. In the event of disputes arising between growers and dryers, the Horticultural Inspector will be called in and the average percentage of wormy pears in a shipment will be determined.

If this plan is carried out, the grower whose shipments go 50 per cent wormy will receive 50 per cent of the basis price and will receive no payment whatever for the wormy pears.

The moral of this is, that every grower should make early preparations for more thorough and systematic spraying than ever before. While nearly all growers attempt spraying, in many cases, particularly where there are Oriental tenants, spraying has been so carelessly done that only one side of a tree is sprayed, leaving the other side of the tree unprotected.

In California this year, out of an estimated crop of 110,000 tons of pears, probably 10,000 to 15,000 tons were wormy, entailing a loss to the grower of perhaps \$750,000 or more. Next year, with wormy pears refused, the loss will be nearly double this. Also it is illegal to offer wormy fruit for sale and men have been fined every day in the State for trying to get them on the market. The remedy is to spray thoroughly, to use the right mixtures and to spray at the right times.

One grower told the writer he thought he could safely offer a dollar for every wormy pear found in his orchard of 40 acres. He sprayed five times and on one 10 acres of old orchard netted \$1500 an acre for pears shipped.

PRUNING OLD WALNUT TREES.

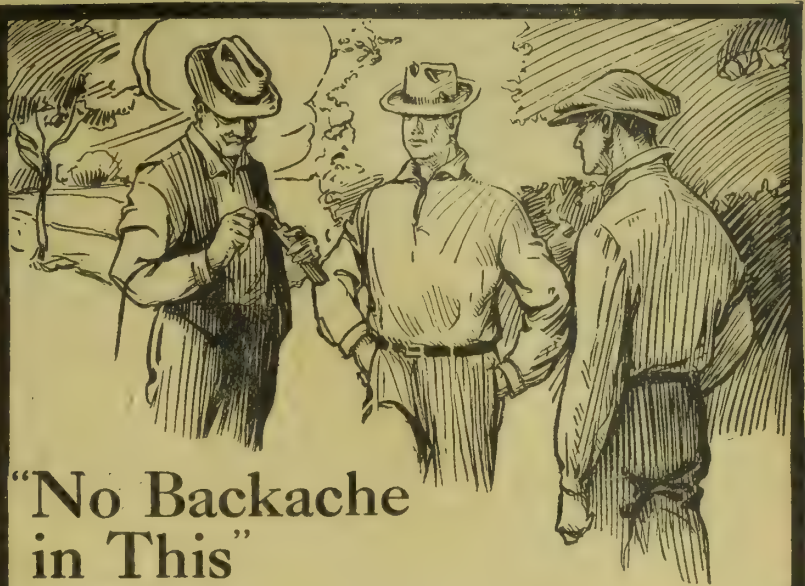
(Written for Pacific Rural Press.)

The difficulty with an old walnut tree that has become dense and full of dead or poor growth is to know just exactly what to do with it. We know it has to be opened up some without laying any wood open to the sun. But with all the nuts on the extreme outside something has to be done, and that seems to be a matter of individual judgment.

We were recently shown some trees in the E. S. Picket place at Goleta (Santa Barbara county), which had been pruned under the supervision of Eugene S. Kellogg, the Horticultural Commissioner. The basis of his system is to cut out practically all branches that don't reach to the outside of the tree. New sprouts were showing strong in trees that had been opened up and these will be pinched for fruit wood. Mr. Kellogg thought some of the thinning had been overdone, but no dead wood was showing and the 26 acres carries a heavy load of nuts. The trees are 18 years old and bore 1400 pounds to the acre last year. They will beat that this year. No irrigation. About half this orchard has been pruned so as to let in light and the improvement is noticeable. The system of letting a vertical gore of space into an old tree is apparent, but needs judgment, and the big cuts should be cared for. These open spaces provide a larger bearing area for new wood, and an orchard could be kept in pretty good shape, it would seem, by taking four or five years to go over it and then start again. Mr. Kellogg covers his large cuts with zinc, covered with as-

phaltum inside and out. This obviates or reduces the possibility of wood rot entering.

A dust of powdered starch in the shoes is a prevention of sore or blistered feet.



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"Dynamite will do your heavy work, boys, but to get the best results you've got to know how to use it right."

"It looks easy to prime this cartridge—and it is easy if you know how. Practically all blasting work on the farm or in the orchard is simple—but there are as many wrong ways as right ways and you want to know the right ways to use"

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"Even if a man has been using dynamite, he can get valuable pointers from this book. The Hercules Powder Co. will send a copy of 'Progressive Cultivation' free to any farmer or orchardist."

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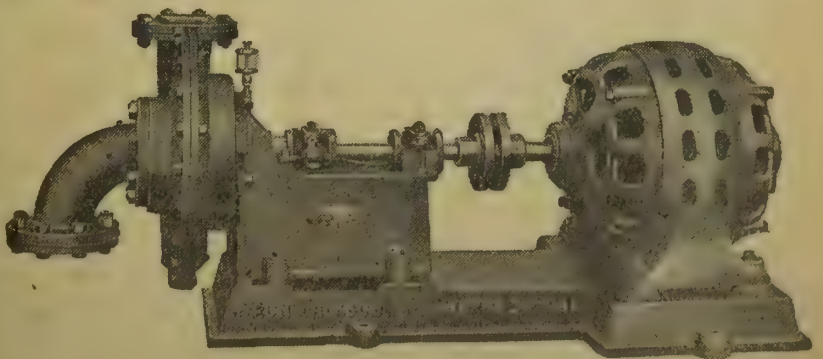
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Is your soil producing the maximum?

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Write us your conditions.

New Catalog No. 60-A for the asking.

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VISALIA

Water!

All you want the year round wherever you want it—for house, barn, field, any place. Bore your own well, as thousands have done, with our time-tested

Standard Well-Boring Outfit

Basily operated by hand. Bore wells 8 to 16 in. dia., up to 100 ft. deep. One man bought outfit 8 years ago and has bored over 25,000 feet of wells.

BORES 100 FT. WELLS BY HAND

Make \$20 to \$30 per day boring wells for neighbors—easy to get 50 cts. to \$2 per ft. E. C. Cole, Porter, Okla., writes—Have just bored 41 foot well for neighbor in one day and made \$41.00.

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THE SPECIALTY DEVICE CO.
106 W 3rd STREET CINCINNATI O.

A GOOD LAND BUY

160 acres unimproved, one-half mile north of Tudor in Sutter County on Southern Pacific Railroad. Bonds voted for highway along front. Abundance of water. Electric power for pumping. Land level, soil excellent, surrounded by good orchards.

Am offering this fine quarter section at \$140 per acre for immediate sale with very liberal terms. After Nov. 1st price will be \$150.

Write for full particulars.

J. A. BENNETT, Owner

Walnut Creek, California

Here and There in the Fruit Business

Squirrel Work in Contra Costa.

Considerable headway has been made in this county in the squirrel campaign, according to Frank T. Swett, Horticultural Commissioner, under whose general direction the work is proceeding. Since May 25 tons of poisoned barley have been prepared and used. In the Delta section good results have been obtained by the use of poisoned corn, which seems to appeal to the taste of the tule squirrels. It is just as effective as the barley and they eat it more readily. Squirrel Inspector Dirion has five men working with him.

Tuolumne Apple Harvest.

Tuolumne county apple growers organized and are having their apples packed under State Inspection this year for the first time and are using the State apple stamps. They produce fine fruit and now that the industry is growing so rapidly they are going to get started right. To this end they have had apple-packing demonstrations at their farm centers by expert packers. W. I. Newcomb, District Apple Inspector, is supervising the whole pack.

Spanish Olive Oil.

During the first six months of 1919 Spain exported 17,994,877 gallons of olive oil. The difficulty of getting cotton-seed oil and the precautions taken to prevent adulteration avert suspicion of its purity. There is a government restriction on wholesale exportation so as to ensure an adequate domestic supply. Applications for this year's export now on file amount to over 26,000,000 gallons. The use of pure olive oil is growing in this country, especially in cooking, as it is in Spain.

How the Citrus Men Buy.

The Fruit Growers' Supply Company, which furnishes the members of the Citrus Growers' Association with all its supplies, from bud-wood to boxes, transacted a business last year of approximately \$6,200,000 at an operating expense of \$1.10 per \$100 of value on purchases. After paying 6 per cent interest on capital invested and setting aside a small reserve, it will refund to its members \$525,000

or the equivalent of 8 per cent on their purchases. The Company has acquired, in addition to its timber tract at Hilt, Cal., 41,414 acres of forest in Lassen county, in order to guarantee its members an adequate supply of box shooks for 50 years to not get tinplate.

Prunes on Peach-Almond.

John Vallance of Piedmont grafted over a six-year-old peach-almond tree to French prunes last year, putting in 12 scions. The wood of the peach-almond takes more after the almond than the peach. The young French scions made such heavy growth that they had to be cut back in June for safety sake. The tree is now one mass of brush and should be a good producer after next year. Mr. Vallance said that his sugar prunes weighed up better this year than his French did.

Giving the Prunes a Turkish Bath.

"I've found out one thing," said Albert Glaser of Dry Creek Valley (Sonoma county), and that is that you can't dry prunes by heat alone. I tried drying prunes in that storehouse; closed the door and put a good stove in to dry them out. I got the heat all right, but when I looked in next day the prunes had whiskers on them. Then I gave them more heat and in a few hours the whiskers had doubled in length. Finally I took them out and dried them outside after dipping again. The thing seems to be to get rid of the moisture that comes out of the prune, and I want to see how it is done cheaply and effectively." So do we all.

The Apple Situation.

The Northwestern apple crop is the largest on record and of excellent quality. Prices started 25 cents to 50 cents higher per box than last year. Export demand is likely to be active, with Canada a keen competitor for business, both here and abroad. The Eastern barrel apple crop is the lightest in recent years. The center of heaviest commercial apple production is moving westward. Washington's commercial crop for this year is estimated at double that of New York.

Precocious Peaches Profitable.

Eighty acres of four-year-old peaches on the Sierra Vista Ranch, between Richgrove and Delano (borders of Kern county) yielded 250 tons of fruit this season, the Elbertas selling for \$60 a ton and the Clings for \$70 a ton. This is better than three tons to the acre at four years old. W. C. Wallace, the proprietor, expects to get three carloads of Red Emperor grapes from eight acres of three-year-old vines. About 1,000 acres of the original Sierra Vista ranch are planted to citrus, olive and deciduous fruit and vines.

Olives in Yuba County.

There is a good crop of olives in the Marysville district, the condition being 110 per cent, according to G. W. Harney, County Horticultural Commissioner. There are three large groves here, all owned by companies operating plants at Oroville. One of them contemplates resuming planting olives next spring. The opening price on olives still stands at \$175 a ton "orchard run."

Another Non-Fruiting Mulberry.

To the Editor: I have a non-bearing mulberry; can have all the cuttings anyone wants; send in orders for spring work: all free.—Wm. Patterson, R. 1, box 68, Woodland.

QUICK FIGURING NECESSARY.

Her lover held up a ripe luscious Bartlett and asked the maiden teasingly, "Will you have a kiss or a pear?" Guess what Miss Innocence replied.

Take your pencil and figure it out. Then do it. But don't take too long figuring or it will never be done.

"What is worse than biting an apple and finding a worm in it?" said Mr. Smart. "Finding only half a worm," said the gloomy one.



The **FRUIT GROWER** says—
"for tree planting
genuine **GIANT** is
most satisfactory"

The Giant Farm Powders—Eureka Stumping and Giant Stumping—loosen and pulverize the soil instead of packing it and throwing it high in the air.

Western fruit growers have used hundreds of tons of these Giant Powders for blasting beds for trees. They have proved that blasting with genuine Giant Powders provides free drainage, increases moisture-storage capacity and insures vigorous growth and early bearing.

"My trees planted three years ago in beds blasted with Giant Powder are 75 to 100 per cent bigger and better than the trees that I planted in dug holes," writes H. H. Smith, Oregon City.

You will enjoy reading "Better Farming with Giant Farm Powders." It describes all the new and money-saving methods of blasting beds for trees, sub-soiling established groves and orchards, clearing land, ditching, etc. Write for it now.

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"Everything for Blasting"

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STUMPING

EUREKA

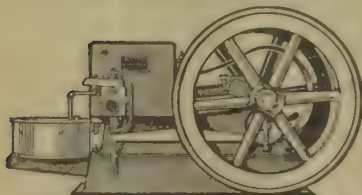
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Built Better—Cost less to operate and to own—Easy to understand—Few working parts—Strongly built—Every part guaranteed against defect during the life of the engine. Built from standardized metal patterns. Every part interchangeable and easily replaced by operator. Ask us for prices on all sizes. Stationary, Portable or Saw-Rig Outfits.

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North - South
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The Official Journal \$1.50 yr. Sample 15c.
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Desires your business for gilt-edge orchard stock.

Strawberry, Logan and other Berry Plants.

Certified and Hill Selected Strains of Seed Potatoes.

APA SCHOOL CHILDREN IN THE FRUIT HARVEST.

(Written for Pacific Rural Press.)

During the three weeks' vacation of the grammar schools at Napa, given for the purpose of relieving labor shortage, the little ones earned \$10,15.66, according to Professor J. L. Wheeler, the superintending principal. Of a total of 1,063 pupils of all ages, from 7 years to 15, the number who picked prunes was 593. The largest amount earned by any one room was that of D. T. Davis, principal of Lincoln, with \$1,301.73. The largest amount earned by an individual pupil was \$98.50 for the 3 weeks. The total amount earned by students of the High School was \$5,867, according to Prof. J. S. Denton, the principal. This is not the first time the Napa school children have saved the situation for the prune grower. One little tot of six was found outside an orchard weeping bitterly because she was not going to be able to report that she had picked. The kind-hearted lady who found her lifted her into the auto and took her forthwith to the orchard and allowed her to fulfill her little mission and brought the sunshine back to her heart.

Professor J. S. Denton said of the Napa High School students: "They were given three weeks' vacation for the purpose of helping to garner the prune crop. One hundred dollars was the highest sum earned by one student, a boy. One girl, 14 years old, earned and received \$85.50. Two sisters, aged 13 and 15 respectively, earned \$70 each."

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30x3	\$9.20	10.95	2.05
30x3 1/2	11.50	13.50	2.50
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31x4	16.30	20.65	3.15
32x4	16.60	21.15	3.25
33x4	17.30	22.00	3.35
34x4	17.80	22.50	3.45
36x4		26.60	
34x4 1/2	24.00	30.35	4.20
35x4 1/2	25.00	31.65	4.30
36x4 1/2	25.45	32.20	4.45
37x4 1/2		35.75	5.10
35x5	28.70	36.15	5.25
37x5	30.25	38.30	5.40

NON-SKID FIRSTS

6000 Miles Guaranteed

30x3 1/2	\$17.85
32x3 1/2	19.95
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33x4	29.00
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All other sizes in proportion.

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The Oldest Automobile Tire Jobbing
Concern in the United States and the
Largest in the World.

Open Sundays and Evenings

Thus the school children, in a town of 7,000 inhabitants, earned \$15,883.50 in three weeks' work in the fruit harvest—a record to be proud of. For it represents picking up 3,000 tons of prunes.

THE AMERICAN GRAPE IN CALIFORNIA.

(Concluded from first page.)

into consideration, not only the vigor and productiveness of the variety, but also the consideration of the individual plant. If the vine is not strong enough to properly ripen the fruit, leave fewer buds; if too strong, leave more.

Many of the American varieties are self-sterile, and do not set fruit well, without cross-pollination. It is a matter of regret that nurserymen, generally, do not indicate in their catalogues the self-sterile kinds. Such a variety, unless set near self-fertile ones, will be very disappointing. In view of the fact that some of our very best varieties are self-sterile, this is a matter of great importance. Only actual observation of vines fruiting in California can determine

Kinds Suitable to Our Conditions.

For several seasons careful note has been made of the behavior of American vines, growing in different parts of this State, in home gardens and nurseries. There are eighty-five varieties growing at the State Farm, at Davis. The writer has carefully checked these over, at different fruiting periods. There is a much larger collection at the U. S. Plant Introduction Gardens at Chico. These have likewise been observed by the writer, during the fruiting season. All observations have been checked and compared. The list following, with one exception, gives varieties of good quality that have shown themselves healthy, vigorous and productive, wherever observed. The Concord has been included, since it is the cosmopolitan grape of the Eastern states. Self-sterility has been noted, and kinds with abundant pollen blooming at the same time have been suggested as pollenizers. The list does not assume to be complete, the ideas being to suggest a few varieties, covering the season, and with differing characteristics. It is offered with the hope that it may stimulate American grape culture generally, and especially in sections where the Vinifera kinds cannot be grown, without special protection.

A Partial List.

A partial list includes the Agawam, Barry, Brighton, Brilliant, Campbell, Catawba, Concord, Delaware, Diamond, Empire State, Goethe, Herbert, Iona, Isabella, Jefferson, Lindley, Niagara, Pierce, Rommel, Salem, Triumph, Vergennes, Winchell, Worden.

WILD GRAPE VINEGAR.

To the Editor: Will you kindly tell me how to make vinegar from wild grapes?—H. W. T., Oroville.
(Answered by Professor W. V. Cruess, University of California.)

I would suggest that you make up your wild grape vinegar in the following way: Crush the grapes into a stoneware crock or an iron bucket. Cover the crock with a cloth and set it aside until the alcoholic fermentation is complete. This will ordinarily be in about three weeks. Then press out the juice and place it in the original container. Add about one-tenth to one-fourth of its volume of strong cider vinegar. Again cover the vessel with a cloth and set aside until it is strong enough in acid to use. This will ordinarily be within four or five months.

WHEAT AND CORN IN AMERICA.

The visible supply of wheat in the United States and Canada October 1, 1919, was 195,073,000 bushels, as compared with 110,571,000 bushels a year previous. The wheat supply east of the Rockies in the United States October 7, 1919, was 84,909,000 bushels as against 96,886,000 a year previous. Corn east of the Rockies October 7, 1919, amounted to 2,163,000 bushels, which was considerably less than half of what was available October 7, 1918.

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All the Best Known Varieties

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Losse Blenheim Apricots

One of the finest 'cots in existence.

The fruit grows to a uniformly large size—is of finest flavor and quality—and brings a big price in the market.

We offer the Genuine Losse Strain—budded from the original Losse orchard.

Write for further information—also our latest price list.

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A good heater with Pearl Oil gives comfort and cheer in the home. Home comfort—at the touch of a match. No dust, no dirt, no smoke, no odor. Oil consumed only when heat is needed.

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We recommend Perfection Oil Heaters.

STANDARD OIL COMPANY



Suggestive Agricultural Pointers

(Written for Pacific Rural Press.)

Unusual Vegetables Displayed.

Unusual vegetables were displayed at the Orange county fair at Huntington Beach October 2, 3, and 4. Lemon cucumbers that look like quinces and taste like cucumbers but have no bitterness were shown by P. R. Canady. A roselle jelly-fruit plant crowned the display on the same table. The only red lima beans in the world were exhibited by C. N. Brush of the Harper-Fairview mesa. beans and [or] adobe or other foreign. They are the product of a sport found on the Irvine ranch last season. Feijoas, guavas, and avocados accompanied this display. Several of the New Guinea beans, each about 3½ feet long and five inches in diameter, were shown by Hubert Head of the Garden Grove district.

Lima Bean Grade Established.

Definite standards for the grading of lima and baby lima beans of the 1919 crop were recently adopted by the California Lima Bean Growers' Association. Choice recleaned beans "shall contain not less than (including splits which shall not exceed 2½ per cent) 97 per cent of edible beans, and not more than a total of 3 per cent of stained and [or] worm-damaged beans and [or] adobe or other foreign matter; and in no case more than one per cent of worm-damaged beans and no more than one per cent of adobe or other foreign matter, and no more than 1½ per cent of stained or discolored beans, all percentages to be determined by weight." A little more adobe is permitted than under the rule of the Lima Bean Selling Agency last spring, and small green beans are permitted as they are of equal quality with the others. Side delivery rakes are held responsible for as much as 15 per cent of adobe in some lots of beans received at warehouses this fall.

Oriental Rice Scarce.

Hong Kong rice shortage had become so critical July 30 that the Government took over all stocks and fixed retail prices. All exports from the colony, which is under British rule, were prohibited, except by special permit; and the Government arranged for importation of 7,000 tons monthly so long as the shortage should continue. The imports were to come from Bangkok, Siam; but Siam's exports had already been restricted 15 per cent by its Government. Emergency measures for feeding the poor in Hong Kong were estimated to cost the Government about \$160,000 monthly.

San Joaquin Water Association.

The old San Joaquin Valley Water Problems Association is to be reorganized at Tulare October 24 if delegates from thirteen counties to be represented there shall so decide. A new

constitution recommended by Secretary A. L. Cowell of the Irrigation Districts Association of California will be discussed and adopted if approved. The purpose of the new association is to consider all water problems of the counties affected and to co-ordinate their solution most efficiently. Boards of supervisors, municipalities, and civic organizations are eligible to membership and each may be represented by one delegate at meetings of the new "San Joaquin Valley Water Conservation and Development Association."

Grain Smut Prevention.

How grain smuts grow, how much harm they accomplish, soil infestations, formulas and directions for treatment, and possible injury to germination due to treatment are discussed in Univ. of Calif. Circular 214, written by Prof. W. W. Mackie and recently published. It is sent free to Californians on application to the Dean of the College of Agriculture at Berkeley.

What's in the Seed You Buy?

Impure seeds may disseminate noxious plant diseases, they may carry the seeds of unwelcome and dangerous weeds, they may not be true to name, they may not germinate well, they may cause loss through paying for a mixture of worthless trash, and inferior varieties may destroy the value of good plants for seed by cross-fertilizing them. It has been demonstrated that the life of any commercial variety is not long, owing to cross-fertilization in the field and the careless admixture of impure seeds.—G. H. Hecke, State Director of Agriculture.

Sow Treated Wheat Seed Early.

Seed wheat treated for smut may have its germination reduced. If it is planted in cold, wet soggy ground, it may not make a good stand. The better way is to be careful to follow directions in the treatment and plan to sow early while the ground is not too cold or wet.

"Chino—Where Everything Grows."

You believe the above slogan after you have seen it posted all around the Chino district in San Bernardino county and have observed the splendid field, crops and orchards which justify it. Nowhere in the State have we seen better crops of the grain sorghums particularly. Some of the Indian corn crops are as heavy as any in the State and alfalfa thrives abundantly. Only sugarbeets seem to have started to the discard. There is plenty of well water and the climate to make it useful.

Barley Shipped from San Francisco.

Barley shipped from San Francisco by water in 1919 is as follows, according to reports of the San Francisco Chamber of Commerce: January, 319,019 cents; February, 524,462; March, 229,586; April, 224,164; May, 702,480; June, 408,204; July, 417,840; August, 354,261; totaling 3,184,016 cents. Rail shipments from San Francisco during June were 1,051,320 cents, and during July were 1,366,120 cents. How much of this was old barley and how much was new cannot be told.

Manure Washed onto Alfalfa.

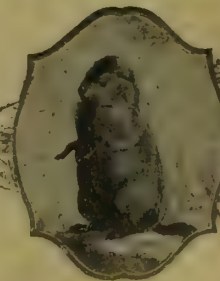
Cow stables nowadays must be kept clean or the dairy inspector talks business. A common way of finishing the cleaning is to use water from a tank. Frampton Bros. of Los Angeles county wash out all of the manure. It runs by gravity through an eight-inch pipe which enlarges to twelve inches and opens onto an alfalfa field a few hundred feet away. "The alfalfa is always about six inches taller where the manure runs onto it," says Mr. Frampton.

Milo and Barley on Los Ang. Market.

Fifteen hundred tons of milo for October and December delivery changed hands among Los Angeles dealers October 7 at \$2.77½ per cental. On the same day, 500 tons of barley were transferred at \$3.07½ for October delivery and \$3.12½ for December delivery.

Dropping boards should be cleaned two or three times weekly. Keep them covered with a thin layer of dirt, and sprinkle them frequently with slaked lime. Change litter when it becomes foul.

SAVAGE



Woodchuck Season and Your Savage

Side-hill—hazy afternoon sunshine—clover—bumblebees.

Hunch down lower. That woodchuck is working this way. See the grass shake? There—he's sitting up!

Now hold that little Savage front-sight into the grey of his neck—right where the ear ought to be. Hold that rifle tight! And don't yank that trigger. Squeeze it gradually—smoothly—and watch those sights while you squeeze!

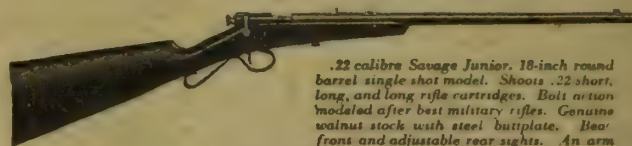
Bang! Spat! Hear it hit? Never knew what strick him! Pace it off. Eighty-eight steps? About fifteen rods. And right where you held. Some gun!

Aren't you glad you picked a Savage? The .22 Model 1904 Savage Junior is made and inspected and tested by the same men who make the .22 Savage N. R. A. rifle—the miniature military match rifle that the greatest experts use—and the .250-3000 Savage that kills lion and rhino and hippo and elephants. It has 18-inch round barrel, military bolt action, automatic ejection, and is a take-down. Shoots the world-beating .22 long rifle cartridge (shorts and longs, too) and costs only \$8.00.

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U. S. WHEAT DIRECTOR IN CALIFORNIA.

(Written for Pacific Rural Press.)

United States Wheat Director Julius H. Barnes addressed the San Francisco Chamber of Commerce October 7. Of his many pertinent remarks, we reproduce the following:

The census of 1910 gave the value of farm property in the United States at 41 billion dollars, which was 51 per cent of the value of productive property of all kinds in the United States. The farm income in 1910 of six billion dollars increased to ten billion in 1914 and to 21 billion in 1918. The acreage of the ten principal crops increased from 297 million in 1914 to 326 million in 1918. We may claim that Food Administration policies have thus demonstrated to have been stimulative and constructive and not restrictive.

As to the spread of price between producer and consumer of wheat, we find that between 1913 and 1918 the farm price of wheat increased 166 per cent, flour 118 per cent, and bread only 75 per cent. Yet the healthy condition of these industries show again that Food Administration policies were not destructive.

Production Was Never More Necessary.

There was great pressure on the office of the Wheat Director to arbitrarily reduce the price of wheat on the theory that it would automatically influence the general living cost," said Mr. Barnes. "I was quite convinced of the necessity of the just protection of the consumer, and it was on my recommendation that Congress appropriated one billion dollars to make effective a reduced price of wheat, if the world price indicated that the consumer could have bought his wheat in an open market without the influence of the guaranteed price, at less money than the guarantee basis. Crop shrinkage, however, altered the whole phase of the world position and today it is very clear that the world price is fully equal to the guaranteed price. This being so, a reduction of wheat price would be pure subsidy to the table of every American from the National treasury. An artificial reduction of that sort automatically breaks the influence of wheat on other foods, as shown in the case of Britain, France, and Italy, where other foods are ruling at 350 per cent of the pre-war price with bread artificially held down at enormous national expense. More than that, the threat constantly before the grower of readjustment to an artificially depressed price for the product of his wheat would inevitably tend to stifle production, which was never more necessary than today, in all foods and all commodities. So it becomes a matter of principle not to do the cheap and spectacular thing of attempting to depress the price of one standard food."

No Great Exodus of Workers.

Regarding the exodus of foreign workers from the United States, Mr. Barnes pointed out that in the past six months 94,000 people had emigrated from the United States and 84,000 had come in to replace them.

European Lands Quickly Planted.

A five-thousand mile auto trip through central Europe indicated that 90 per cent of the crop area had been sown within four months after the armistice.

More Bread Would Reduce Food Cost.

A material corrective for high household expenses was pointed out emphatically by the Wheat Director, viz.: enlarged consumption of wheat flour to replace more expensive foods. Strangely, but perhaps from force of habit, flour consumption had sunk far below the pre-war normal. A return to pre-war flour consumption would save at least a billion dollars per year in the national food bill. For two months, Mr. Barnes and others have been pointing this out and statistical reports rendered to his office show that already there is a material increase in flour consumption and a continual fall in the consumption and price of meats, lards, and other competitive foods.

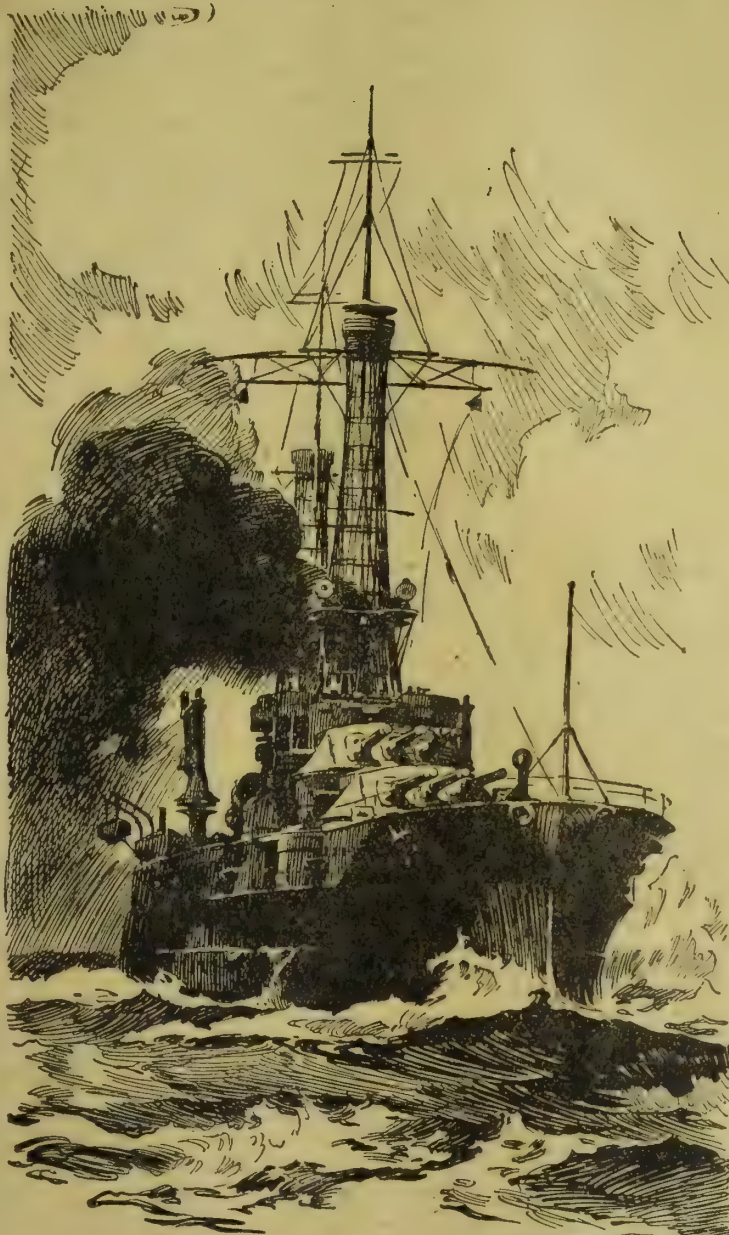
It is reported that the Welch Grape Juice Co., the largest manufacturers

of grape juice in the world, are to establish a big plant in California.

Prunes can be watered with judgment up to the middle of July. Later

they may split under previous dry conditions.

If you had been on the Arizona



HERE she comes, homeward bound, with "a bone in her teeth," and a record for looking into many strange ports in six short months.

If you had been one of her proud sailors you would have left New York City in January, been at Guantanamo, Cuba, in February, gone ashore at Port of Spain, Trinidad, in March and stopped at Brest, France, in April to bring the President home. In May the Arizona swung at her anchor in the harbor of Smyrna, Turkey. In June she rested under the shadow of Gibraltar and in July she was back in New York harbor.

Her crew boasts that no millionaire tourist ever globe-trotted like this. There was one period of four weeks in which the crew saw the coasts of North America, South America, Europe, Asia and Africa.

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Estimate of California Fruit Production

In the October report by E. E. Kaufman, Field Agent, Bureau of Crop Estimates, there is practically no change indicated in the production of the principal fruit crops for the State as compared with that of one month ago. The total production of the principal deciduous fruits this year compared with last year is estimated as follows: Apples, 136 per cent; peaches, 152 per cent; pears, 115 per cent; prunes, 278 per cent; almonds, 125 per cent; walnuts, 120 per cent; raisins, 105 per cent.

Peaches.—The report is for a total production in comparison with a normal production, and the tabulation of the reports from various parts of the State indicate the largest crop of peaches ever grown in the State. While the peach harvest is practically completed, there are still a few late clings going to the canneries. The tonnage of dried peaches will not be quite up to early estimates, but the tonnage canned will be larger and fully confirms earlier forecasts of 435,000 tons on a green basis.

Prunes.—While early drying seemed to indicate greater shrinkage than expected, it is now believed that the total production will be about 125,000 tons. Roughly estimating the production by districts, Santa Clara will have about 66,000 tons; Sonoma, 19,000; Sacramento Valley, which includes Napa and Solano Counties, 28,000; San Joaquin Valley, 11,000; scattering, 1,000. Final figures may change these totals for the various districts to some extent, but not very materially.

Pears.—Estimates indicate that from 25,000 to 27,000 tons of pears will be used for drying, 28,000 to 30,000 tons canned, and about 50,000 tons shipped as fresh fruit, showing that the commercial crop will amount to about 105,000 tons or 4,300,000 bushels, which is about 5 per cent greater than the crop of 1917, the largest in the history of the State. The commercial pear crop of the United States is estimated at 8,600,000 bushels, of which 4,300,000 bushels, or 50 per cent, is credited to California.

Apples.—The commercial or boxed apple crop for the State is now estimated at 3,900,000 boxes, or slightly less than 60 per cent of the total crop. The Yucaipa District shows an increased production, and a new boxed-apple district is opening up in Tuolumne County and, though small this year, will help to swell the total. The commercial apple crop of the United States is estimated at 23,200,000 barrels, compared to 24,724,000 barrels last year, and the total crop of apples is placed at 156,721,000 bushels, compared to 169,911,000 bushels in 1918.

Olives.—The condition for the State is now placed at 65 per cent of a nor-

mal, compared to a ten-year average of 77.

Almonds.—Late varieties of almonds are now being harvested, and, while the crop is more or less spotted, condition reports indicate a probable production of about 6,500 tons.

Walnuts.—A larger percentage of No. 2 nuts than was indicated earlier in the season will have a tendency to slightly decrease the total tonnage, which is now placed at about 24,000 tons, or 20 per cent greater than one year ago.

Figs.—Reports indicate that the condition of the crop is 105 per cent of a normal. This excellent condition and new bearing acreage will bring about an increased production of figs over that of former years.

Grapes.—Wine grapes are reported 100 per cent of a normal crop.

Table grapes show some slight decline in condition in two or three of the principal districts, owing largely to unfavorable weather conditions the last few days of September. A slight decline is noted in the condition of raisin grapes. The shortage of irrigation water and high temperatures were the cause of lighter yields than expected of muscat raisins. The total tonnage will probably be 5 to 10 per cent greater than last year when the total production amounted to 167,000 tons.

Oranges.—Navels are now reported at 59 and Valencia at 73, compared to 59 and 71 on September 1. A few reports from Tulare County show an increased percentage of split oranges. The small crop in some orchards together with the heavy rains in Southern California the last of September will have a tendency to increase the size of individual fruits, and thus increase the total number of boxes. Total production for the State will probably be in the neighborhood of 14,500,000 boxes, divided among the different counties as follows: Los Angeles, 5,000,000; Orange, 2,000,000; Riverside, 1,500,000; San Bernardino, 3,500,000; Central California, 2,000,000; Northern California, 150,000; San Diego and Ventura, 250,000. California citrus growers will be interested in the forecast of production of Florida oranges and grape fruit. Under date of September 15, the Florida Field Agent, Bureau of Crop Estimates, estimates the production this year at 6,300,000 boxes of oranges; 3,300,000 boxes of grape fruit; and 50,000 boxes of limes and other small citrus. Of last year's crop, about 5,700,000 boxes were oranges, 3,200,000 boxes grape fruit, and 50,000 boxes limes and other small citrus. All citrus crops were reported in excellent condition, the fruit filling out rapidly and promise of an early shipping season. No fruit from late bloom is expected this season.

pleted on Monday, the judges being A. C. Hoyt, Secretary of the State Department of Agriculture; Professor Tufts of the University of California, and John J. Fox of the Pacific Rural Press.

The Bean Spray Company evidently look upon Humboldt county as a future field, for they had a good display at the show.

Dean Thomas Forsythe Hunt addressed the farmers and a massed meeting of Farm Bureaus

SOUTHERN CALIFORNIA FAIR AT RIVERSIDE.

This is really more than a district fair and almost in the class of a State Fair, so far as a livestock exhibit is concerned. All the principal breeds of livestock from horses to goats were fully represented.

In the dairy cattle the Jerseys were shown by seven exhibitors, all winning more or less. Grant Brown of El Monte won grand champion cow with Shy Lady Viola, and junior champion bull with Shylock Monte. Geo. W. Thomas of Riverside won grand champion bull with Walnut Park Noble. J. E. Wherrell of Riverside won junior cow with Rowena. The Holstein-Friesians were shown by seven exhibitors and most of them carried away some ribbons. Framp-ton Bros. of Artesia won grand championship on their bull Segis Pontiac De Kol Burke Clyde, and Burr Farm, Los Angeles, the grand champion cow with Durmelia 2nd. California George Jr. Republic won junior champion bull with Republic Tuebie Korndyke and Stalder Bros. of Wineville, junior champion cow with Rosamaines Johanna Mercedes. Guernseys were not blessed with such strong competition, and Hollow Hill Farm of Colton won all the championships.

Shorthorns were represented by two exhibitors, F. L. Hall of Perris and Frank E. Collier of Wildomar. F. L. Hall won all grand championships and herd prizes. Frank E. Collier won first on junior yearling bull, senior yearling heifer and senior heifer calf.

Herefords were shown by D. H. Ogden of Alpine, who won all firsts and championships.

Berkshire swine had to be contented with two major exhibitors and two minor ones. F. L. Hall of Perris won grand champion boar with Rose Crest Rival 8th.

The Poland-Chinas had six exhibitors, among whom the prizes were quite equally divided. H. Christiansen winning senior and grand champion boar with President's Model. Grand champion sow went to Burton C. Platt on Big Sis and the Poland-China Ranch of San Bernardino won junior champion sow on Candy Girl.

The Duroc-Jerseys topped the list with ten exhibitors and such a showing probably never was put on in any fair outside of a State fair. The ribbons were very equally divided. The grand championship on sows went to the Winsor Ranch on Model Defender Lady, grand champion boar to Mammoth Sensation 2nd, owned by the Diamond Bar Ranch, which also had the junior champion sow in Pathfinder's Very. Best. Falfadale Ranch won junior championship on boars with their new boar, Great Orion Sensation Jr.

Hampshires had five exhibitors showing, four of them dividing honors about equally. Grand champion boar went to Fairbanks Ranch,

Redlands, on Harvey's Choice; grand champion sow to C. J. Gilbert of Lancaster, who also had junior champion boar; junior champion sow went to Llano Vista Ranch of Ferris; first on aged herd to Fairbanks Ranch; and first on young herd to Llano Vista Ranch.



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Northern California Apple Show

(Written for Pacific Rural Press.)

The Northern California Apple Show, which opened at Eureka on October 13, had on display probably the finest show of fruit ever shown on the Coast as regards quality and color. It is the only apple show held in California this season. Oregon and Washington were unable to come through with the expected large exhibits because of the dearth of packers and handlers, but thousands of boxes of all the best keeping apples produced were on display.

The exhibits were all in place in the exposition marquee Monday morning, the massed banks of color shown in the opened boxes of apples being broken by the Farm Center exhibits.

Humboldt county has just begun to realize that dairying, lumber and live stock are not her only sources of wealth. She has potentialities in apple and pear growing that will be developed because of the superior quality of her mountain fruit, because of its freedom so far from pests, and because of the attractive coloring her climate imparts to the fruit.

The great drawback at present is the difficulty of transportation from

some of the best apple-growing sections and the high railroad rates. Only "California Fancy" can be shipped profitably at present.

The great apple show is not only an advertising medium for Humboldt apples; it is educational to the men who are embarking in a new industry.

The whole show was made up of commercial packs in carload lots, 100 box lots, 20 box, 5 box and single boxes, also plate exhibits. The necessity of complying with standardization laws was demonstrated and Professor Tufts, Assistant Pomologist of the University of California, demonstrated the methods of packing, by packing a perfect box, an indifferent pack, and a poor one.

Albert Etter of Etnersburg has a unique show of seedling and other apples of his own propagating which was really the feature of the show. Some of these varieties promise a future in the county. His strawberries and processed fruit were very interesting, for he has several strawberries that are perfect canners.

There was a large attendance at the show and the judging was com-

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Alfalfa is Making Perris Valley

(Written for Pacific Rural Press.)

As the alfalfa shipping season in Perris Valley of Riverside county was closing late in September, we asked one of the leading growers of that district for a survey of the situation. He is G. I. Lytle, one of the prime movers in organization of the Alfalfa Growers of California, Inc., of which most of the alfalfa growers of the valley are members.

Mr. Lytle estimates that there are about 3,500 acres of alfalfa in Perris Valley and that about 3,000 carloads have been shipped out during the past season. No. 1 dairy alfalfa hay late in the season was bringing \$27 per ton f. o. b. cars, with an active market. Livestock in Riverside county is increasing fast, so that the local market for alfalfa is all the time becoming stronger.

The Valley is fairly well supplied with pump water, the lift along a center line lengthwise of the slope being around 75 feet. The Marina district, which is mostly planted to fruit,

has gravity water; and there is prospect of a considerable addition to the gravity supply from the Warner ranch district about forty miles southeast of Perris. Mr. Lytle has a pit 86 feet deep, in the lower 26 feet of which there is considerable seepage, even at this end of two long dry seasons.

Peruvian Alfalfa Proves Good.

While the ordinary alfalfa always slows up its growth after the first of September in Perris Valley and ceases growth in November, there is quite an acreage of Hairy Peruvian and smooth Peruvian. Mr. Lytle has some of the latter, which produces more winter pasture and greater tonnage per year than the ordinary kind. Several of the growers in the Valley have Hairy Peruvians. Some of them do not notice much difference, while others are enthusiastic. Mr. Lytle points out that it is inclined to make coarser hay, but is good feed if cut right, and careful growers get pleasing results.

BEAN PRODUCTION IN CALIFORNIA MUCH LESSENED.

Bean threshing was interfered with in the southern part of the State by rain the last week in September. Clear weather has since prevailed, and the damage will doubtless be slight. Reports from the lima bean growing counties as of July 1 indicated plantings of 125,000 acres of lima beans this year. Reports on October 1 indicate that 96 per cent of the planted acreage has been harvested, and that average yield for the State is about 450 pounds, making the total production of lima beans 540,000 sacks, compared to 1,545,000 sacks in 1918. Ventura County, as usual, will produce about 60 per cent of the total crop on practically one-half of the total acreage.

Show only 60 per cent of a normal crop in the Santa Maria and Lompoc

district. As this district is the largest producer of Small Whites, it means a material decrease in the production of this variety. In the Salinas Valley conditions are better. A heat wave September 18 to 20 in the Sacramento Valley put still another crimp in the beans of that district, and conditions are only about 60 per cent of normal, which on reduced acreage means a greatly lessened production. San Joaquin Valley fares but little better, and the estimated yield per acre for the State is about as low as ever recorded. The production forecast is for about 3,487,000 bushels. This gives a total for all beans of \$4,387,000 bushels compared to 8,594,000 bushels last year and 8,091,000 bushels in 1917. Growers are still up in the air about markets.

Bean production in the United States is estimated at 12,690,000 bushels compared to 17,437,000 bushels in 1918.

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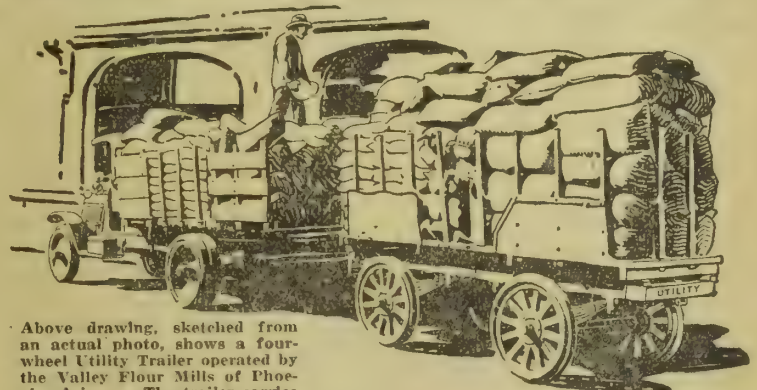
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Above drawing, sketched from an actual photo, shows a four-wheel Utility Trailer operated by the Valley Flour Mills of Phoenix, Arizona. The trailer carries a load equal to that of a truck.

MR. RANCHER:

Have You Investigated

TRAILERIZED TRANSPORTATION

The use of dependable trailers means savings to you in more ways than one. Light trucks can do heavy-truck duty. Passenger cars can do light truck duty. The services of an extra driver are dispensed with. Time of hauling is but one-half. Summed up in its final analysis you save 50 per cent hauling cost.

UTILITY 2 and 4 wheel TRAILERS

are standard equipment of the largest ranches in California.

Write for Catalog of FACTS and name of authorized distributor nearest you.

LOS ANGELES TRAILER CO.

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(Largest Exclusive Trailer Mfgs. on Coast.)



UTILITY TRAILERS



Two Loads for One Cost

OVER 90 PER CENT OF MONTEREY RANCHERS HAVE BANK ACCOUNTS

It was the writer's privilege last winter to visit Pacific Rural Press subscribers in many districts of Monterey county to ask them to renew their subscriptions. The amazing uniformity with which they pulled out their own check books or signed the blank checks which the writer carried for the purpose, was an eye-opener, indicating unusual prosperity of Monterey county ranchers. We recently had the pleasure of visiting bankers from one end of the county to the other. We put the same question to all of them.

"What proportion of the ranchers in your district carry bank accounts?" We had expected a high figure, but not so high as these bankers gave. Unanimously they said that over 90 per cent of the ranchers carried bank accounts. They pay their help by check, and in many cases these men simply deposit part of their checks, thus making several bank accounts from each of a great many ranches. An exception to this is noted in the southern end, where it is claimed that prohibition is poorly enforced and ranch hands still cash their checks in the booze joints. An end to this is in sight, however. Meanwhile, it is noted in the northern end that ranch hands coming to town have no place to spend their money. They put up at the best hotels, buy a surplus of silk shirts, and slap a pocketful of silver when some rancher wants them to go to work. This transitory condition is likely to add greatly to the number of small bank accounts so soon as the idea and desire to save money are absorbed by the men. Bank accounts are the forerunners of investments and investments are sure causes of steadfastness in a homebuilding, prosperous population, which will give Monterey county an accelerated development as the years roll on.

Growers Do Not Get Their Share

To the Editor: I have been thinking of writing but have never taken time. I have just read "Is the Grower a Real Profiteer?" by H. J. B. Napa. I knew that the vegetable growers were not making a living this year, but I supposed the fruit growers were "getting rich" as I have just paid \$2.25 and \$2.75 for 40-lb. lug-boxes of peaches. What is the matter with us farmers? Why don't we all demand a fair price for our produce pay freight and express? If we buy anything from San Francisco we pay freight. Why should we pay freight when we sell? Here are the returns for August 14:

1 sack beans—581 lbs. at 3½c.	\$2.03
2 boxes squash at 40c	.80
3 boxes squash, dumped	
1 box cucumbers	.50
1 box cucumbers, dumped	
1 sack beans, 67 lbs. at 4½c	3.01
4 boxes squash at 25c	1.00
Total	\$7.34

Out of this we had to pay:

Freight	\$2.27
Commission	1.10
Box and yard labor	.11
Box rent	.55

Total cost	\$4.03
Net to us	\$3.31

Take sweet corn, which sold at \$1.00

a sack this month, freight 27c; commission and our cost were 15c; sack, 5c.; total, 47c. We get 53c. Each sack contains 8 or 9 dozen ears and San Francisco people paid 5 cents for each ear. The same week squash was selling at 10 cents and 12½¢ a pound. The boxes are 40 pound boxes and are the best squash that can be grown and are well packed. We only live 32 miles from San Francisco and have to pay 16 cents freight and the people from San Jose only pay 15.

My city friends say the farmers are fools—yet they can't live without us farmers. Are we going to work like slaves? Yes, from daylight to sundown, 12 to 14 hours a day, and get nothing for our labor? What is the matter with the farmers striking, and not allowing any produce to go to market till we get a fair price? We should not ship anything, but make them come out to us and pay our price and let them pay all shipping expenses. I think we have all endured enough of this commission business. I dearly love the country and the work, but we should get enough from our labor so that we can afford to educate our children so they will not be called fools. We would be lost without the Pacific Rural Press around. It is the biggest and best dollar bargain, and no farmer can be without it.—M. C., Palo Alto.

NEWS NOTES FROM NEVADA.

(Written for Pacific Rural Press.)

Mr. C. C. Tidd of Smiths Valley has just purchased four purebred Holstein heifers from the Henderson and the Bonita herds.

County Agent Leader Creel and State Leader in Dairying Scott are making a trip by auto through the agricultural sections of the State. They hope to visit Churchill, Pershing, Humboldt, Elko, White Pine, Clark, and Lincoln counties. It will require about six weeks to cover the territory and they will have covered over two thousand miles before they return.

Senator H. F. Dangberg of Minden has lately added a purebred herd of Hereford cattle to his beautiful Carson Valley ranch. Mr. Dangberg hopes to add a few Shire horses, and Hampshire sheep and Hampshire swine and in time build up a large purebred breeding establishment in connection with his large range and ranch holdings in Douglas county.

The Nevada Hereford Ranch, Wells, Nevada, has lately sold three heifers, sired by Harris Standard, to Wm. Briggs of Dixon, Cal. Two were open heifers. A two-year-old was bred to Beau Blanchard 76, the \$10,000 herd bull purchased last winter. This firm will show a herd at the San Francisco Show and will also consign a few head to the sale held in connection with the show.

Nevada has 500,000 acres of excel-

lent agricultural lands at present idle that can be made to produce bumper crops by irrigation, declared Clay Tallman, Commissioner of the Federal Land Department while visiting in Reno recently. The Walker River, Humboldt, Pershing, Churchill and Washoe counties will contribute very materially to the production of agricultural crops when proposed projects in their sections are complete.

The Department of Animal Husbandry of the University of Nevada has just sold Senator Dangberg a good son of Beau Perfection 34 and out of Ramona, Senior Reserve Champion at the 1918 California State Fair, to head his Hereford herd. The Department has also lately sold Rambouillet, Corriedale, Dorset, Hampshire, and Shropshire rams to head good flocks of sheep in Nevada and California.

The State Fish and Game Commission has established a new fish hatchery near Carson City at Lake View to take care of the eastern brook trout. In years past spawn was taken from Marlett Lake and transported to the hatchery at Verdi. Poor results during the past few seasons have been experienced. With the new hatchery the spawn can be transplanted within a short time. No doubt a good hatch will be brought out from this time on. The Verdi hatchery is to be used for the hatching of other varieties of trout, which will give more space by the relief from the new station at Lake View.



For Tough Jobs

Leave This Weight In

Remove it and the "Ground Hog" is ready for work in light soils.

PLOW NOW DON'T WAIT FOR RAIN WE MAY HAVE A LONG DRY SPELL

PLEASE NOTE: That we also manufacture Power Lift Plows, Hop and Vineyard Plows, and many other Tractor Implements, among them "Cunningham" Pulverizers, Disc Harrows, Cultivators, etc.

ALL SIZES GET OUR PRICES.

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The Rumely OilPull Tractor Is Oil Cooled

No evaporation in hottest weather.
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No rust—oil preserves metal.
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Eliminates need of cooling fan.
Preserves an even motor temperature.

Ask for OilPull catalog.

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IRRIGATING PUMPS



Single Stage Motor Driven Pump

KROGH PUMPS absolutely hydraulically and automatically water balanced. No end thrust whatever. Also DEEP WELL TURBINE PUMPS for bored wells 10-inch diameter and up. Write for Bulletin.

KROGH PUMP & MACHINERY CO. 149 Beale St., San Francisco, Cal. Branch Sales Office at Los Angeles.

PUT THIS DOWN IN YOUR NOTE BOOK:
"Pacific new and re-newed pipe saves me money."
Renewed screw casing costs from one-half to two-thirds less than standard pipe. Large savings on standard pipe, fittings and valves; special fittings made to order. Pacific Pipe is thoroughly tested and guaranteed for 150 pounds working pressure; asphaltum dipped; serves every purpose. Let us save you money. Write!
PACIFIC PIPE CO. 229 Howard St. SAN FRANCISCO

GENERAL CONDITION OF CALIFORNIA FIELD CROPS.

J. E. Rickards, Field Agent, says of the general field crops:

Corn.—There is no change in the condition figure in California—it remains the same as of September 1—83 per cent. The forecast, based on this figure, indicates a production of 2,388,000 bushels. The condition for the United States shows an improvement during the month, the forecast now being for a production of 2,991,000,000 bushels.

Oats.—This crop has not turned out as well in California as last year, the yield per acre being two bushels less. The total production is a little above five million bushels.

Barley.—Has turned out much better in our State than was expected two months ago, the yield per acre being five bushels better than the 1918 crop. The total production is over thirty-five and a half million bushels, the farm value of which is very nearly forty-nine million dollars. The total production in the United States is 3,000,000 bushels better than the Bureau's estimate made September 1—198,000,000 bushels. It is interesting to note that California produces nearly one-fifth of the nation's barley crop.

Potatoes, Irish.—The cold nights in the early part of the growing season retarded their growth and the effect is now manifest when they are about ready for harvesting, the yield not meeting earlier expectations. Based on the condition figure of 81 per cent, the forecast for this year's crop is 11,761,200 bushels. The estimate for total production in the United States is for 350,000,000 bushels.

Potatoes, Sweet.—California's crop should be 924,000 bushels. There is a slight falling off in production of the nation's crop, the forecast now being 99,400,000 bushels.

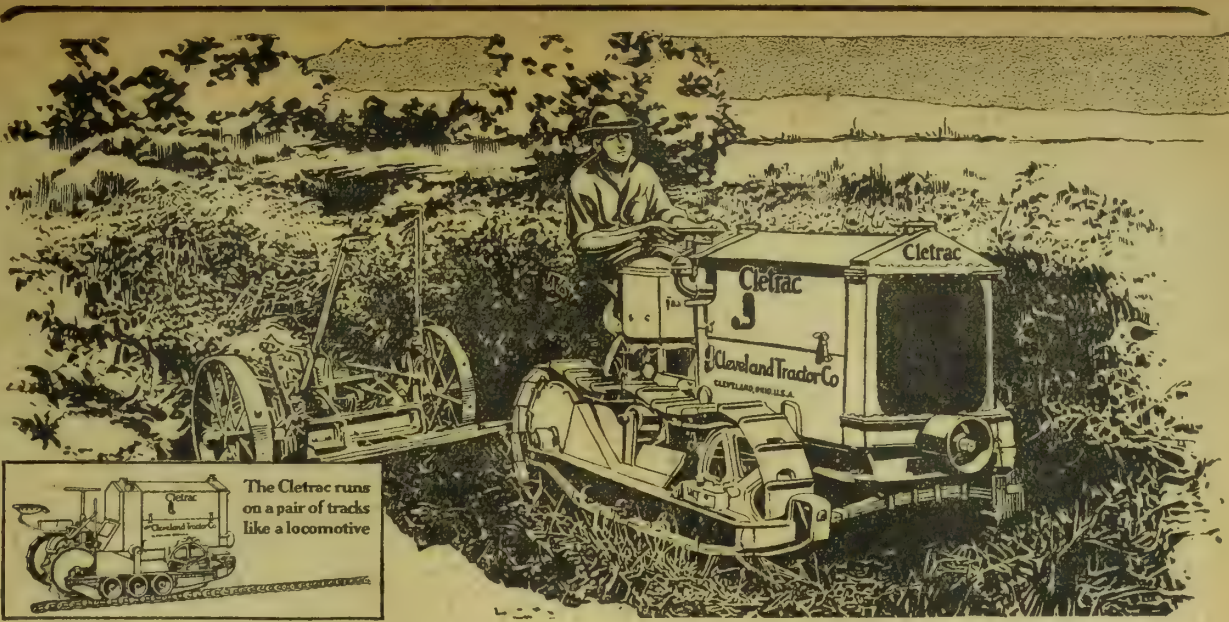
Rice.—The rains during September caused a little uneasiness for a few days respecting this crop. Fortunately no damage was done, and the warm weather which followed rapidly ripened the grain and harvest was on in earnest. All reports indicate a yield slightly above that of last year. From the information we have gathered we now forecast California's crop to reach 8,659,000 bushels. The Bureau's estimate of total production in all rice growing States is 44,300,000 bushels.

Sugar Beets.—The condition of sugar beets October 1 was 68 per cent of normal, compared to 90 one year ago and a 10-year average of 90. The average yield per acre for the past ten years is 9.68 tons, making the prospective yield this year about 7.30 tons per acre. For the United States the crop is estimated at 7,303,000 tons compared to 5,890,000 tons produced in 1918.

Cotton.—The condition of cotton in California on September 25 was 95 per cent of a normal, and the indicated production of 116,000 bales compared to about 95,000 bales last year. The acreage to be picked is estimated at 167,000 acres compared to 173,000 acres, the final estimate of acreage picked last year. All cotton grown in Imperial Valley is included in above figures. The Census Bureau reports that prior to September 25 California had ginned 4,563 bales of cotton, compared to 4,571 last year and 1,525 in 1917.

ORANGE COUNTY SUGAR BEETS.

Sugar beets are waning in importance in Orange County. Sugar factories dot the landscape in most any direction, but beet acreage is light and the beets generally look discouraged and too lonesome. Poor stands are the rule. Nematodes, alkali, and other troubles have caused uneven growth. Many fields are ready in July, and it is believed that the beets lose sugar by remaining in the ground from July until the factories start operations. Some growers have said they do not intend to plant next year unless the factories will start in July. Considerable dissatisfaction has been expressed with the returns to growers. As the factory operators are generally uneasy about future sugar markets, the whole situation seems to spell reduced acreage next year.



The Tracks Save Power

THE Cletrac Tank-Type Tractor runs on metal tracks like a locomotive. Six wheels, three on each side, carry the entire weight of the machine and run on the endless tracks which are laid down and picked up as the Cletrac goes along.

This distinctive and efficient type of construction enables the Cletrac to go practically anywhere. No matter what the soil conditions, it runs on its tracks—nothing stops it.

It doesn't have to expend extra energy to push itself along. This saves power, saves fuel, saves time.

The power isn't wasted propelling the tractor. It goes into the "pull" on the implement.

And the tracks being broad, distribute the weight of the Cletrac as snow shoes distribute a man's weight. Think what that means in the preparation of your seed bed. Think what a tremendous advantage it gives you on hilly ground. Think of the extra power and the lower upkeep under hard conditions. Think of the greater speed and the easier handling.

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Largest manufacturers of tank-type tractors in the world

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TANK-TYPE TRACTOR
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Send me samples of Belting that you will guarantee to give satisfactory service on my work, and quote prices delivered at

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Horse Power	Diameter in Inches
Elec. Motor	Driven Pulley
Steam Engine	Driving Pulley
Gas Engine	Kind of Drive
Cross	Straight
Width of Belt	Perpendicular
Distance between centers of Pulleys	Ply
Rev. per minute of Driving Pulley	
Kind of Machinery Driven	
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—over 6000 in use—
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Announcing

The LAUSON 15-30
DUST PROOF—ALL GEARS ENCLOSED

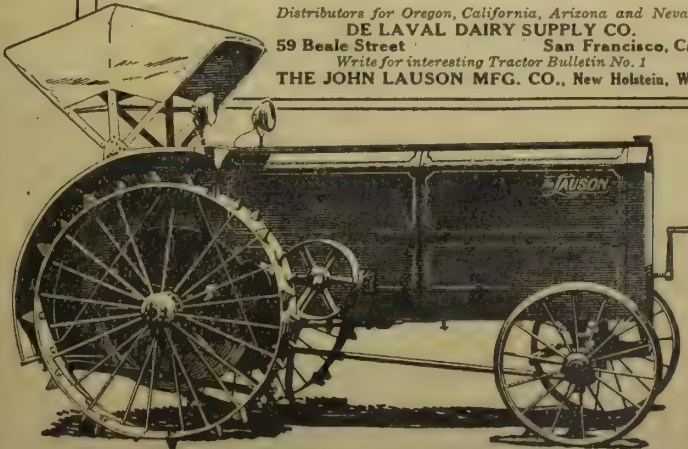
We take pleasure in announcing to the trade the LAUSON 15-30. This is the "pattern tractor" with some added refinements which make the LAUSON more than ever the tractor masterpiece. There is no change in design; it is still made in only the one powerful 3.4 plow size. The refinements consist of

- a larger engine which allows of increased rating on the belt pulley—Gear Driven Fan
- Lauson Air Washer—Sylphon Thermostat.

We have new literature which explains these improved features and will be glad to send it to you on request.

"The Pattern Tractor"

Distributors for Oregon, California, Arizona and Nevada
DE LAVAL DAIRY SUPPLY CO.
59 Beale Street San Francisco, Cal.
Write for interesting Tractor Bulletin No. 1
THE JOHN LAUSON MFG. CO., New Holstein, Wis.



Mechanical Power on the Farm

SOME DETAILS ABOUT BORED WELLS.

(Written for Pacific Rural Press by David Bahrs, Wheatland.)

The article in your issue of September 20, "Practical Pointers on Farm Irrigation," is worth its weight in gold to any farmer. D. J. Whitney knows whereof he speaks. Let me say a few words in defense of the well borer.

The article says: There are three ways to get a well: either bored by hand, bored by horse or gas power, or drilled with heavy drilling tools. The first way is the cheapest, where a shallow well is wanted.

That is a fact providing there are no cobbles or quicksand. Whenever a fellow hits large cobbles with a boring outfit he will have to stop, and try another hole.

The men running drilling outfits claim that a bored well is crooked as a hind leg of a dog. I beg to differ. I have bored holes up to 250 feet and have gone past large cobbles a-plenty and the well was straight as a dart flies. Some places where it is 100 feet to surface water you can take a looking glass, shine the sun into the well and see the water 100 feet down. Surely, if the hole (a 10-inch one) is crooked you would not see down far.

If a fellow has a long auger and gets the well started straight, the chances are it will be straight all the way down.

The only advantage I can see in a drilling outfit is for work deeper than 250 feet. Most all the good wells in the Sacramento valley are from 60 to 250 feet in depth. There are quite a few wells from 400 to 900 feet that I know of which are worthless. There are localities where it is 500 feet down to water and that is where a drilling machine shines.

Another thing is that drilling machines mostly make a 6 to 8 inch hole only, while a boring machine will make any size, from 6 to 24 inches. The reason the well borer stops is not because he dislikes to go down too deep, but the chances are he is in a bed of loose gravel, which keeps caving. He can work all day taking out sand and gravel and get the well no deeper, unless he uses plenty of casing. Some wells may be 150 feet deep and only need 30 feet of casing. If there is a large bed of sand at 150 feet and plenty of water, why put 150 or more feet of casing down to case the water off?

You are sure of nothing below. The extra casing would amount to between \$100 and \$150. The deep boring would cost a lot more and there might be no more water farther down.

I have been doing nothing else but well-boring these last six years and know as much about it as most of them. I own a hand-boring outfit, a power-boring outfit, and also a drilling machine. They all have their virtues and vices.

When you get to a big bed of water, and wish to case it off and go deeper after that, pay the well-borer by the day instead of by the foot, and see how quick he will take you up.

MORE POWERFUL GASOLINE.

Automobile manufacturers are looking toward the adjustment of their engines to the less volatile but more powerful gasoline now being supplied by petroleum refiners. Refiners, in order to meet the increasing demands upon petroleum stocks, have cut deeper into the crude oil and are producing a fuel considerably more powerful than that of former years. The problem of engine adaptation to the supply of petroleum and its refined parts is one expected to come before the statistical research bureau which the American Petroleum Institute, with headquarters in New York, intends to establish. In this institute producers, refiners and consumers of oil may join in co-ordinating their efforts for the improvement of the industry.

Dr. Van H. Manning, director of the United States bureau of mines, is also chairman of the Improvement

Committee of the Institute. He has recommended to the Institute directorate that the new bureau be established with an appropriation of \$1,000,000 a year to be raised on a production basis from refiners and producers. A special committee to consider this recommendation has been appointed by President Thomas A. O'Donnell. A favorable report on the Manning proposal is expected by individual members of the Institute.

The problem of using a less volatile, but more powerful gasoline for automobiles is not a new one. According to Henry L. Doherty, chairman of a committee of petroleum producers and refiners which is now negotiating with the manufacturers of motors, Doherty's committee and another headed by John N. Willys, of the automobile manufacturers, have had the problem under consideration for some time. Although petroleum producers are bending every possible effort toward increased production they have thus far been unable to adequately cope with the enormous increase in the demand for petroleum products, especially gasoline. Refiners, however, have advanced the only practical solution to the threatened shortage by cutting deeper into the crude oil and extracting a greater volume of gasoline which is less volatile but more powerful. In this way it is hoped the supply of this fuel can in some measure keep pace with the demand.

It is significant to note the spirit of co-operation between petroleum producers, refiners, and automobile engineers. A satisfactory solution of the future of the gasoline problem is expected and one which will not cause automobile owners to suffer serious loss in the adaptation of their engines to the more powerful fuel.

NEW FOUR-WHEEL-DRIVE TRACTOR.

A new four-wheel-drive tractor of 15-20 horsepower is to be built by the Sumner Iron Works. Its final drive to all four wheels is an internal gear enclosed and running in grease. It uses a Waukesha motor, Timken, Hyatt, and New Departure bearings throughout, magneto and impulse starter, speeds 1 1/2 to 4 1/2 miles per hour, turning radius eleven feet, wheel base 100 inches, tread 64 inches.

An unusual job recently accomplished was the removal of a 30-foot silo out of a farm yard and a considerable distance down the road. Sled runner timbers had been placed under it and a 45-horsepower tractor was pulling it steadily without stopping.

The finest, deepest dust mulch we found was among the stakes cultivated by the Little Bear tractor, which operated with cutaway disks and Forkner tillers. A Little Bear on exhibit was sold to a buyer from San Salvador, Central America.



POWER

A weak heart in the wonderful engine called our body, makes a weak body, and so a spark from a Magneto can make or mar the efficiency of any tractor deriving its power from an internal combustion engine.

The spark from K-W Magneto, is so hot, that when it occurs within a cylinder filled with carbureted gas, the combustion is instant and complete, and full power is assured from every drop of fuel used. This is why a tractor K-W equipped, will show far greater efficiency; power and economy, over the same tractor using other ignition.

The K-W Magneto was built for tractors, and has proven its worth in tractor service covering a period of nine years—when two manufacturers adopted it—until today, when on over 70 per cent of all tractors made, the K-W is standard equipment.

Make sure the tractor you buy is

K-W equipped. It is your insurance against expensive and annoying delays, and a guarantee of service and satisfaction. Write for a list of K-W equipped tractors.

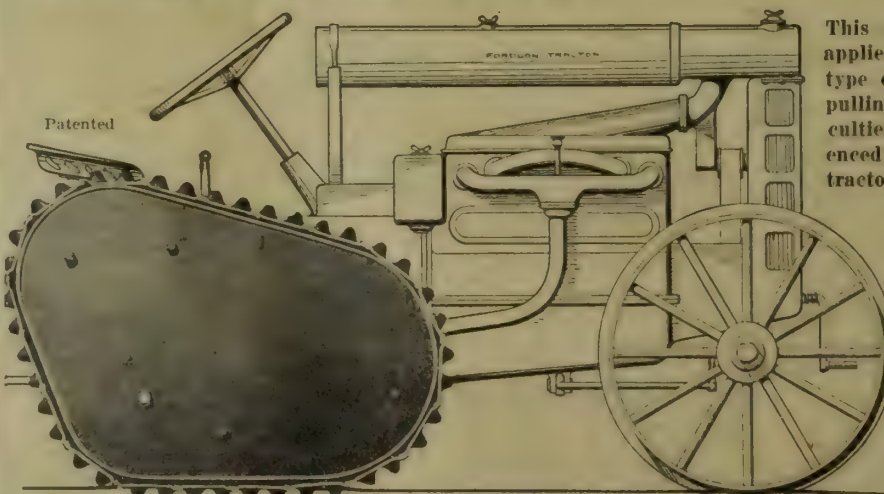
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High Tension MAGNETOS

Fire Any Kind of Fuel and Get Maximum Power Out of Every Drop Used

Simplex Creeper Attachment



This standard creeper attachment applied to your Fordson or wheel type of tractor will increase your pulling power and solve the difficulties which have been experienced with the round wheel type of tractor.

**NO SLIPPING OF WHEELS
NO PACKING OF SOIL**

Will fit your Fordson tractor without any alterations. Standard units built for Twin City and Vallis Cub tractors.

More Power—Built Right

The low height of the track enables you to get up close to your trees, which is impossible to do with the round wheel. All working parts of creeper inclosed from loose dirt and rocks.

SPECIFICATIONS

Width of track, 10 inches. Groover shoes cast solid to links. Track consists of Sullivan sure-grip pinless track links; no loose spools or pins. Length of track in contact with ground, two feet. All gears and wheels inclosed with sheet-iron housing on both sides of track. Rollers and sprockets Hyatt mounted.

Creeper Attachment for Your Fordson Tractor

ORDER NOW—DEMONSTRATIONS GIVEN

TRACTOR PARTS COMPANY

328 Laughlin Building,

Los Angeles, Calif.

ORCHARD TRACTOR WHERE HORSES GAVE UP.

(Written for Pacific Rural Press.)

Late last spring H. E. Church's apple orchard in Yucaipa Valley of San Bernardino county had not yet been plowed and the soil was as hard as a road. He hired a man and team to plow it. The plow made a series of dives and jumps. The man followed it three or four rounds and went home.

A tractor came to the rescue. Geo. Knutsen had bought a handy little one of 9-16 horsepower in March. Mr. Knutsen has an orchard of his own, but very soon he found the demand for tractor work among his neighbors so insistent that through this summer he has done the cultivation for about 100 acres of their orchards, sometimes rather neglecting his own. He charges a price per hour which covers the expenses and gives him good pay for his time. Working by the hour is much more satisfactory than by the contract, as it avoids friction.

When Mr. Church asked him early in April to work the hard orchard where horses had given it up, a survey of the place showed that it had been repeatedly plowed toward the trees so that a ridge had been built sloping upward to each row. Plowing was omitted, but the tractor double-disked the place both ways and pulls the dirt away from the trees. The disk worked a strip about six feet wide each trip and was always followed by a heavy piece of gaspipe about six feet long and 3½ inches in diameter to pack and smooth the surface. This was all the work on the orchard until the middle of May, when two and sometimes three furrows were opened at once. The furrower was made by putting shovels on a Jensen gooseneck cultivator. After each irrigation, the ground was cultivated and smoothed off by means of the six-foot gooseneck cultivator, followed by the gaspipe. The furrows were the right distance apart, so the tractor wheels ran in them. They did not pack the wet soil, because they run on a series of long steel points projecting from the rim of the wheel. The cultivator did not fill the furrows quite level, so next year its teeth will be twisted to throw more dirt into them.

Gasoline is used altogether by Mr. Knutsen as he figures that what he would save by using distillate would be more than lost by loss of time starting and cleaning the engine. Ten gallons were enough for a 7½ hour run at most orchard work.

SHIPPING TOMATOES FROM ORANGE COUNTY.

(Written for Pacific Rural Press.)

Tomato shipment from Orange county began in earnest the last week of September, due to frosts all over Colorado and in many places throughout the East. Very good prices of \$1 per 30-pound box f. o. b. cars, were being received.

About 1,200 acres of tomatoes for shipping were grown in Orange county this year, according to W. E. Whitacre, who is the agent of the California Vegetable Union for that county. Total acreage is about 2,000, quite a few of which were grown for seed, which are extracted at the plant erected near Santa Ana last year for this purpose. The rest are for canning. The chief tomato districts are Fullerton, Yorba, Anaheim, Santa Ana, Buena Park, Garden Grove, and Stanton.

Crop conditions were very good until the rain about September 30, and that did no great damage. No blight is reported, and but little loss occurred from wilt and nematodes. That loss was on light soils, which are rather scarce in this county.

MONTEREY COUNTY FAIR.

Monterey county is a big bunch of communities, many of which are far apart; but they got together in a splendid county fair at Salinas, October 11 and 12. The schools of at least 31 districts were represented fittingly, and were possibly the most active in preparation. The ranchers brought their best products and animals for

keen but good-natured rivalry, and quite a number went home resolved to do better next time. Local business industries were well represented, and about fourteen tractors of seven different makes performed for visitors.

This is the first county fair in many years, but judging by the support given by county supervisors, public schools, farmers, and local business men, it will be repeated on a larger scale each year henceforth.

B. Hayman Co. Inc.
Since 1876

AGRICULTURAL IMPLEMENTS AND WAGONS

118-120 N. LOS ANGELES ST.

LOS ANGELES, CAL.

Oliver Plows

Roderick Lean Disc Harrows

Forkner Tillers

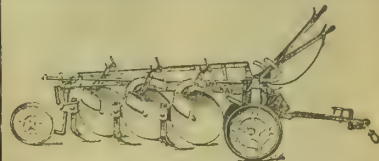
Planet Jr. Cultivators

Studebaker Wagons

PERFECT FARM MACHINERY

The McKay Disc Plow and Subsoiler

The Sensation of the 1919 Tractor Show.

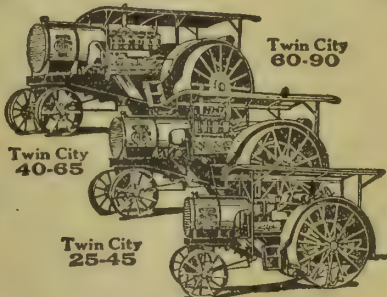
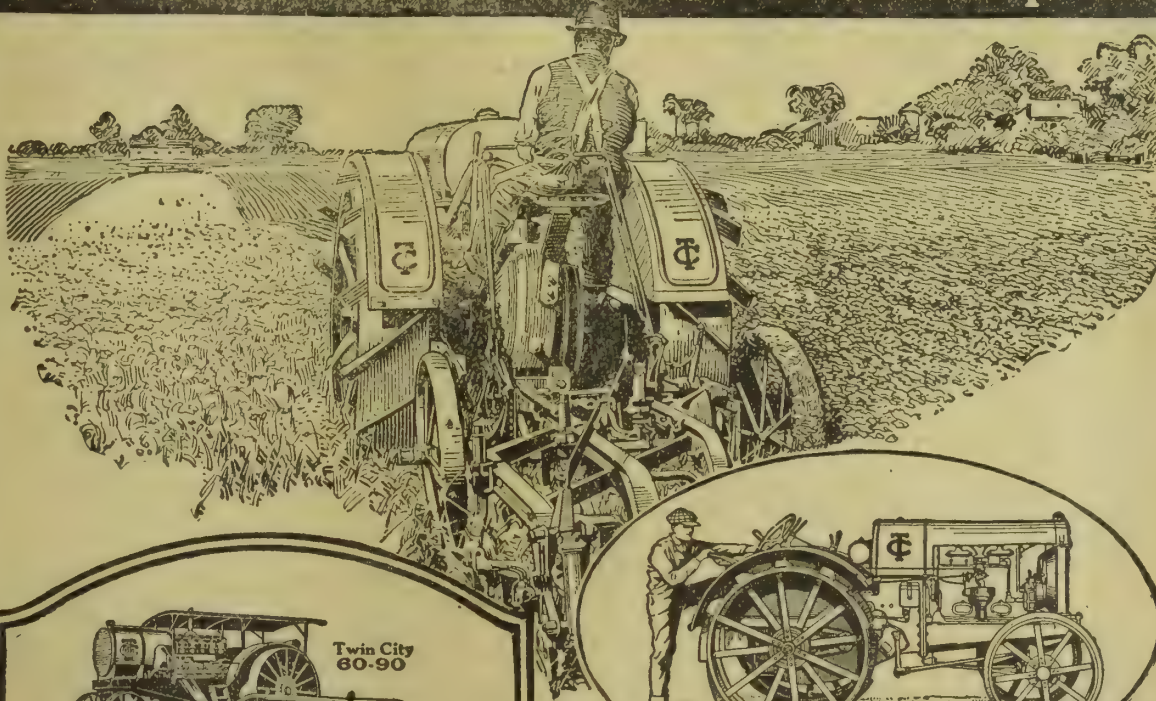


Especially adapted to hard ground and difficult plowing. No shares to sharpen—no spring beams. If you want a real plow, see our agents or write for full information. Plows ready for immediate delivery.

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Built to meet the work—not to meet a price

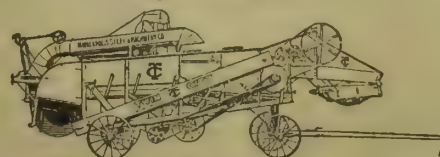


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Twin City 16-30

The 16-30 has every characteristic that has made our large tractors famous.



The New All-Steel TWIN CITY Thresher has behind its 22-inch cylinder 84 square feet of separating surface. Write us for complete details.

T-C 12-20 Tractor

TWIN CITY 12-20 Tractor

—the real attraction at this year's demonstrations
—the powerful and dependable performer on all belt and drawbar work.

THE sixteen-valve, four-cylinder engine with its counterbalanced crankshaft, removable cylinder heads and cylinder sleeves, is the most successful kerosene burning engine made. Designed, not adapted, for kerosene—and developed in our own great plant by our own engineers. Transmission drives direct on both forward speeds. Gears drop forged, steel cut and case hardened, run in oil bath in one-piece, dust-proof case. Hyatt roller bearings. The simplest, most accessible and dependable tractor for your farm.

We have a widespread organization of branches, distributors and dealers. Write and we will direct you to nearest Twin City dealer.

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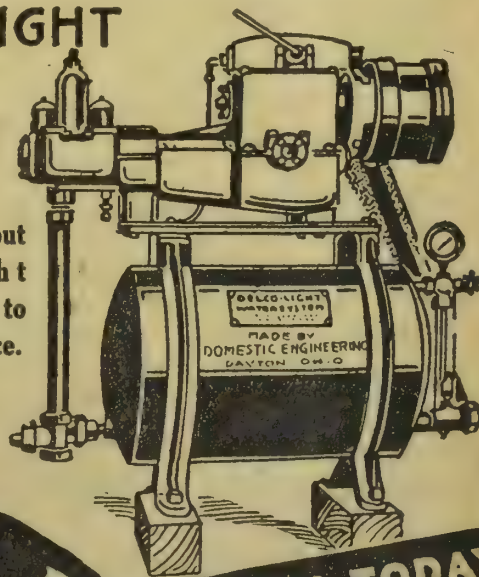
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P.R.P.

California Wins in National Dairy Show

(Written for Pacific Rural Press.)

According to a telegram received from Dean Van Norman, who is attending the National Dairy Show at Chicago, California has again stepped into the limelight and this time along dairy lines. The telegram reads as follows:

"Hurrah for California! First on certified milk goes to University of California. First on market milk and market cream to Elliott-Brant, whose cream scored 100—first time this high score ever was given at National Dairy Show. On City House Department Exhibit, Los Angeles gets first. The Pacific Coast gets six out of nine firsts in milk and cream classes. Dupee of Santee won Grand Champion on Guernsey bull."

The certified milk mentioned securing the highest award was from the University of California Certified Dairy conducted on the campus at Berkeley.

It was another feather in the cap of

the California livestock breeders when Edgemoor Farms at Santee, W. H. Dupee, owner, wins the grand championship in the Guernsey bull class with Itchen May King. It is not to be wondered at though when the bull is taken into consideration.

The dairymen of California sent a large delegation to the National Dairy Show. Two special pullmans, one from northern California and the other from the south, met at Ogden, continuing their journey together, and no one being able to say which car contained the cream of the trip.

Dean Van Norman of the University Farm School, Davis; Dr. J. P. Iverson, Chief of the Division of Animal Industry, Sacramento; S. H. Greene, secretary of the California Dairy Council, San Francisco, and D. O. Brant of the Elliott-Brant Rancho, Owensmouth, are among those composing the delegation.

CALIFORNIA INTERNATIONAL LIVE STOCK SHOW.

Effort is being made in all departments to make this the greatest show of its kind ever pulled off in California or elsewhere on the Pacific Coast.

In the horse department Roy M. Pike, chairman of the horse show committee, announced yesterday the entry of two famous horses, Uhlan, the great trotter, owned by C. K. G. Billings of Santa Barbara, and Friar Rock, the famous Thoroughbred from the stables of J. H. Rossiter. These horses will participate in the horse show that will be held in connection with the stock show November 1-8.

Stalls and pens for 1,000 head of livestock are being constructed with all speed inside the building and already it is known that all these will be full. Carload lots of fat stock will be shown outside in specially constructed pens.

Much interest is being shown in the breeding of thoroughbred horses in Nevada, due to the annual race meets held in Reno. The Nevada Stock Farm owned by Geo. Wingfield has experienced a successful season on the track and at the Farm. Several good prospects have been sold at a good figure to enter the racing strings of several eastern racing men, while a few have been sold to local and California breeders. This firm sold a consignment of thoroughbreds to Hawaiian breeders about a year ago which met with the approval of many in the islands.

Reynolds and Lonquist's fine herd of registered Red Polled cattle are attracting much favorable comment in the Hat Creek Valley, Shasta County.

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW

CALIFORNIA BUILDING,
PANAMA-PACIFIC EXPOSITION GROUNDS

San Francisco, Cal., November 1st to 8th

Presents the most complete showing of Cattle, both dairy and beef, Horses, Swine, Sheep, Goats, Poultry and Rabbits ever offered on the Pacific Coast.

The Dairy Division, with its competitive display of Dairy Products, and an extensive exhibit of modern dairy and barn appliances, makes this the "National Dairy Show of the West."

The Night Horse Show will feature some of the most celebrated track and road horses of the country, comprising the fullest program of horse events ever offered in the West, including spectacular and novelty performances by U. S. Cavalry Troops.

San Francisco, with the co-operation of the entire West, has provided a really big live stock attraction that is both educational and entertaining and an exposition that you cannot afford to miss.

Show opens Saturday, November 1st.

Closes, Saturday, November 8th.

California International Livestock Show Corporation

W. T. SESNON, President.

GORDON H. TRUE, Manager

THE OTIS HERD

WILLOUGHBY, OHIO.

Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledge the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison.

Santa Rosa Stock Farm, Santa Rosa, Cal.
California Representative.

FOR SALE

100 HEAD FINE HEREFORD HEIFERS

Bred up for 20 years and now with calf by the best Registered Bulls I could find. For the man who wants to start in the cattle business right.

You can't beat them on the Pacific Coast.

CHAS. A. TROWBRIDGE
BISHOP, CALIF.

ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, Grand Champion of Ormondale Maid, 2nd prize junior yearling at State Fair.

Every animal positively guaranteed. Prices on application.

SHORTHORN CATTLE
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STOCKMEN--TAKE NOTICE

DO NOT FAIL TO SEE THE

Exhibition of Forage Crops

AT THE

LOS ANGELES LIVE STOCK SHOW

BY THE

Aggeler & Musser Seed Co.

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ASK FOR THE BULLETIN ON GRASSES

BRIGHTON FARM SHORTHORNS

One three-year-old bull bred by H. E. Clay.

Two outstanding yearling bulls sired by Sir Type, a son of Cumberland Type.

A few yearling heifers of same breeding.

Also registered Berkshires of both sexes of best breeding.

H. L. & E. H. MURPHY,

Perkins, Sacramento Co., Cal.



THIRD SALE OF SHORTHORNS

under the auspices of CALIFORNIA SHORTHORN BREEDERS' ASSOCIATION,

will be held on **THURSDAY, NOV. 6, 1919**
at 1:30 P. M. sharp

At CALIFORNIA BUILDING, EXPOSITION GROUNDS,

In conjunction with the SAN FRANCISCO LIVESTOCK SHOW, NOVEMBER 1-8, 1919.

30 Head Registered Cows and Heifers, 10 Head Registered Bulls

UNQUESTIONABLY THE GREATEST LOT OF SHORTHORNS EVER OFFERED AT PUBLIC SALE IN CALIFORNIA

For Catalog, Address

CALIFORNIA SHORTHORN BREEDERS ASSOCIATION

222 Sharon Bldg., San Francisco.

AUCTIONEER, EARL GARTIN,

GREENSBURG, IND.

San Joaquin County's Big Fair

The revival of the county fair, after a lapse of years and much grief in the reviving, was an unqualified success. Community exhibits, each of them, were better and more varied than could have been made by the county as a whole at the time of holding the last fair. Machinery helped, as Stockton is a machinery center, and the factories and other concerns all assisted to the best of their ability.

The livestock exhibit was a wonder. Swine were represented by Berkshires, Duroc-Jerseys and Poland-Chinas. Dairy cattle by Guernseys, Holstein-Friesians and, last but not least, Jerseys; sheep by Shropshires and beef cattle by Shorthorns. In the special prizes, A. B. Humphrey of Escalon

won the Stockton Record Cup for the "Best Exhibit of Live Stock" with his Berkshire swine and Guernsey cattle. J. E. Thorpe of Lockeford won the special Fair Association prize for the "Best Group of Live Stock" with his Jersey cattle and Duroc-Jersey swine.

H. E. Cornwell and R. L. Holmes of Modesto made out to win most of the ribbons in the Holstein-Friesian classes, winning both grand championships.

The Poland-China exhibit was fine, with Geo. V. Beckman & Sons, J. F. Lehman of Lodi and N. K. Horan of Lockeford, showing their good ones. Grand championships both went to Geo. V. Beckman & Sons on Matchless Big Bob and Belle's Beauty.

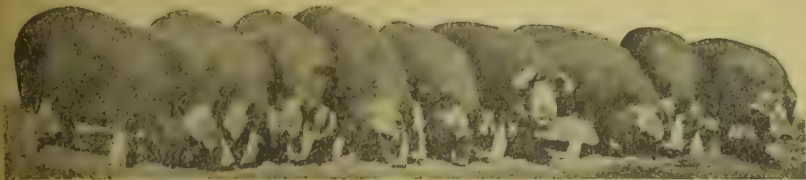
Kings County Poland-China Sale

(Written for the Pacific Rural Press by Ted Cameron.)

At the recent Kings County Poland-China Breeders' Association sale, held October 11 at Hanford, a new world record was established in the sale of the open gilt, Big Kate 4th, consigned by Fred Ross of Hanford, and keenly bid on by the three well-known breeders, J. A. Crawshaw to \$3,100, Les McCracken to \$3,125 and the winners of the grand young animal, M. & A. L. Bassett, to \$3,150. The new price exceeds the recent sale price of the March gilt, Buster's Kind, sired by Giant Buster and out of Morgan's Kind, sold to Paul Wagner for \$3,1000 in the corn

belt within the past few weeks; both animals were of the Big Bob breeding.

With anxious bidders present and a good audience, Col. Ben. A. Rhoades presiding, and Cols. Leachman and Bell assisting in the ring, the 64 animals were placed in new homes at desirable prices in quick time. The other feature of the sale was the choice of one gilt out of the litter from Edith Rose, sired by the great boar, Supreme Prospect. After being strongly bid on to \$1,250 by H. T. Ashford of Lemoore, Les McCracken of Ripon, the noted breeder, took the pig home when he raised the price to \$1,275.



TULARE COUNTY POLAND-CHINA SALE.

The Tulare County Poland-China Breeders' Consignment sale will bring out some of the best offerings of the

year. This is their initial sale, but all are old breeders, and judging from the above picture, it will be very hard to find better animals offered anywhere. Breeders who are contemplating sending East for stock should go slow and

OPENS TODAY!

The Los Angeles LIVESTOCK SHOW

The West's Greatest Livestock Exposition

Exposition Park, October 18-26

FIVE BIG SHOWS
IN ONE

Kennel Exhibit.
Race Meeting.
Poultry Display.
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\$55,000 in Cash
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Bone Spavin

No matter how old the case, how lame the horse, or what other treatment failed, try Fleming's Spavin and Ringbone Paste, \$2.08 a Bottle.

Write for FLEMING'S VET-POCKET VETERINARY ADVISER. It's FREE.

FLEMING BROS., 327 Union Stock Yards, Chicago, ILL.

Lump Jaw

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attend their home State sales first, as here they can see what they are buying. Also, hogs raised in this country do not have to endure change of climate, change of feeds and a long trip

by rail. If we only get in the habit of patronizing home industry in this line, we will then be in a position to give all the credit of our super-excellent swine to California.



BERKSHIRE Bred Sow and Gilt Sale

Los Angeles Livestock Show

WEDNESDAY, OCT. 22, 1:30 p.m.

THIRTY BRED SOWS AND GILTS, and a few carefully selected young boars will be offered at public auction in the judging ring, consignments being made by the leading breeders of the Pacific Coast.

This sale offers beginners a splendid opportunity to get established with some of the best animals of the breed, and safely settled to boars that head the best herds in the country.

Established breeders will find bred sows of breeding that will make strong additions to their herds, carrying the blood lines that have won National and International honors in the show ring.

Remember that this is strictly a guaranty sale, and that every sow must prove to be with pig or purchaser has the privilege of accepting an animal equally as good or have his money back.

No time is better than the present to get started in the purebred business, and no breed of hogs is better established in the West than the Berkshire. Send your grade or scrub to the butcher and buy a good registered bred sow.

Remember, these sows are guaranteed breeders and will be sold at your own prices.

WESTERN BERKSHIRE CONGRESS

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COL. ORD L. LEACHMAN, Auctioneer.

A postcard to the Secretary will bring a catalog.

FOR SALE

One of the best bred foundation herds of Aberdeen-Angus cattle to be found in the United States, consisting of herd bull; three young cows with two heifer calves at foot. While these cattle are high-priced for the reason that they are highly bred, I offer them at a reduction, owing to the fact that I have decided to sell my ranch property. The cattle are on my ranch, which is located 8 miles east of Oakdale, Stanislaus Co., Cal.

Address Owner,

DR. VERDO B. GREGORY,

323 East Weber Avenue,

Stockton, California

Overproduction of Purebred Livestock

(Written for Pacific Rural Press.)

To begin with we have to establish just what we mean by the term "purebred" as applied to live stock of all kinds. There has been in the past much confusion as to just what is meant when we say an animal is "purebred," and there is some difference of opinion among authorities today as to just what is understood when the term is used. Some people have the idea that if purebred or registered sires are used long enough in a flock or herd of farm animals that the progeny will eventually become eligible for registration in the particular herd book of that breed of animals, but such, so far, is not the case under the present rules and regulations established by the various livestock organizations. Therefore, if we say the term means the same as registered we will have its general meaning when used as a qualifying term when applied to domestic animals.

"Thoroughbred" and "Purebred."

A word at this point may not be out of place relative to the use of the terms "thoroughbred" and "pure blood" in the place of the term "purebred." We should all confine ourselves to the use of the terms "purebred" or "registered" when we speak of animals that are enrolled upon the herd books of the various livestock organizations. The term "thoroughbred" is rightfully applied only to the English breed of running or race horses and it is safe to say that all healthy animals are "pure bloods" whether they are registered or not.

Now, as to the question as to whether there is danger of overproduction of purebred livestock. The answer is yes, if by overproduction is meant an over-supply of animals that are eligible to registration regardless of whether they even approach those breed qualifications laid down by the livestock registration associations. The danger lies not in an over-supply of Tilly Alcartras or Vive la France, but in an over-registration of mediocre or even inferior animals by persons of whom some are actually dishonest and some who do not realize that because an animal's sire and dam are purebred that it can be inferior. We are sorry to say that it is often the case that inferior animals are the result from mating purebred animals, but it is less often the case from those animals that approach perfection than those of ordinary merit. Therefore, if breeders generally would carefully cull their young animals and send to the butcher all calves or steers, pigs and lambs that do not come very close to

their particular standard of perfection the danger of over-production will be eliminated for generations to come.

Economic Rather than Color Qualification.

Forty years ago it was almost impossible to find a Jersey bull or cow that was not of a "solid color with a black tongue and switch," and so much stress was laid on this color qualification that other more practical qualifications were lost sight of in many cases, and injury done the breed that it has taken years to overcome. It is necessary then that animals, to be good and worthy of registration and putting on the market as sires and dams must, with certainty, or nearly so, reproduce the economic and aesthetic qualifications so much desired. Particular stress must be laid on the economic rather than color qualification and faddish notions.

Some may say that if we cull our animals too closely that we might just as well send them all to the butcher and not bother with the purebred side of the business at all. True, if they consider it a "bother" to breed the best, for that is what makes the great breeder, the man who is willing to take the "bother" and has the patience to select and cull and when he finds an animal that reproduces with certainty the characteristics sought he will "hang on" to that bull or cow or boar or ram, as the case may be, under great temptation of price, and with such animals build up a great herd or flock and therefore receive the high prices so coveted.

Everything is not lost either in turning a large percentage off as culls to the slaughter pen, but a higher price is almost certain to be received for the purebred culls when fed and marketed in competition with grades and crossbreds. They will feed easier and give a greater gain for the feed consumed and will be more uniform in appearance. Remember that by appearance it is not entirely color that is meant but uniform conformation and size.

True Purebred Market Never Glutted.

Therefore, if breeders of registered livestock will study the characteristics of their animals and what is needed to make those animals perfect, and reserve for breeding purposes only those that approach perfection, then there will be no danger of over-production and a ready market found for all registered animals. The true breeder's market for purebred animals never has been and never will be glutted, neither will his prices be unremunerative.

Co-operation Among Livestock Shippers

The very latest in co-operative associations seems to be a movement toward a national organization of the co-operative livestock shippers. They have gone so far as to hold a series of so-called regional conferences at Memphis, St. Louis, Kansas City, Omaha and Sioux City.

Temporary Organization.

The temporary organization has central headquarters at Chicago in Room 906 Royal Insurance Building, Earl J. Trosper, Organizing Secretary. It is the intention to have the permanent headquarters located in Chicago, as that is the most central point of the livestock industry.

The chief business so far accomplished has been the get-together movement mentioned above with the consequent discussion and passing of a set of resolutions very similar at all regional meetings stating the needs and reasons for such an organization. These needs, etc., are set forth fully, but are too long to publish here, but one situation at least will be given

that really tells what the association hopes to accomplish, and is as follows:

Outstanding Needs.

"Resolved, That this conference expresses itself in favor of a National Organization that will look after claims for losses in transit, poor train facilities, irregularities in yardage and feed charges, clean pens, adequate yardage, lower insurance rates, needed legislation (state and national) in securing a uniform and equitable freight rate on livestock, working towards stabilizing the market, and carrying on educational work to the end that a uniform and efficient marketing system be adopted by the individual shipping associations, and in general co-ordinating the various shipping associations by securing standard methods of operation, standard accounting systems, improved exchange relations, a general greater efficiency and any other particular lines of improvement which it may see fit to take up."

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER **GARDINER'S KING'S COL.** Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH

ROUTE 4, BOX 735,

SACRAMENTO, CAL.

While California is not situated closely to the regions where this effort has taken place there are nevertheless many co-operative livestock centers doing business in the State.

If there is to be great benefit from such an association, it seems as though they might at least hold a regional conference and get in connection with the central organization.

52 BIG TYPE 52 POLAND-CHINAS 52

FIRST PUBLIC SALE OF THE

Tulare County Poland-China Association

At Tulare Sales Pavilion

TULARE, CALIF. OCT. 21, 12:30 P. M.

CONSIGNORS:

R. F. Guerin

Mrs. Z. Losleben

A. J. Elliott

W. E. Martin

Thos. Jacobs & Bro.

J. K. Macomber

G. B. Martin

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Animals in the sale are sired by the following noted boars: **King's Big Bone Leader**, **King's Timm**, **President**, **King of Golden Gate**, **King's Geradale Jones** and others.

Sows and gilts are bred to "The Californian," **Big Bone Leader of Sunny Side**, **King of Golden Gate**, **Wondergerst**, **Calif. Big Bone Leader**, **President's Bob** and others of equal note.

This offering has been carefully chosen by our selection committee from some of the best herds in California and only the best individuals are placed in this sale. They are the big easy-feeding utility kind that cannot be surpassed as producers of pork or breeding hogs.

Lunch served on the grounds at 12 M.

Write for catalog to **HUGH C. SHINN**, Secretary, Tulare, Calif.

COL. GEO. W. BELL, Auctioneer

PURE HAWAIIAN CANE MOLASSES

PORK PRODUCTION

By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

MILK PRODUCTION

One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars for shipment anywhere.

Attend the California International Livestock Show, San Francisco, November 1 to 8.

W. H. YOUNG COMPANY,

Holbrook Bldg.,

San Francisco

WINSOR RANCH DUROCS

HOME OF WINSOR'S GIANT ORION

The largest Duroc Boar on the Pacific Coast.

82 inches from between eyes to root of tail, 40 inches high, weight 965 lbs. weight 965 lbs.

Great Sensation III

12 months old, 65 inches long, 36 inches high—a giant.

By Great Sensation and Uneeda Lady, the highest-priced sow ever sold at public auction—a 900-pound sow.

40 BIG-TYPE FALL GILTS BY THE WORLD'S GREATEST SIREs will be offered for private sale, bred to these two wonderful sires.

"Look up our State Fair Winnings this year."

Address **R. K. WALKER,**

Bonita, San Diego Co.

PUREBRED LIVESTOCK IN SAN LUIS OBISPO COUNTY.

(Written for Pacific Rural Press.)

The Pecho Ranch and Stock Co., San Luis Obispo, A. B. Spooner & Sons, owners, have gone into the purebred Holstein-Friesian business quite extensively. They have other stock interests, but the Holsteins seem to be their leader and they are keeping right up to the times by buying a fine young Holstein bull calf from Gotshall & Magruder of Ripon. This calf is Karlay Pontiac Tola, sired by King Korndyke Pontiac 20th and out of King Pontiac Tola Joe, the state champion senior two-year-old, a daughter of the King of the Pontiacs.

The Pecho Ranch and Stock Co. was one of the chief moving forces and exhibitors at the San Luis Obispo Live Stock Show held at that place last June. Other stockmen there were like Prof. R. W. Ryder of the Polytechnic School; Warren C. Day, secretary; S. J. Lowe, Shorthorns; H. M. Warden, Holsteins, and many others that helped by personal effort and exhibition of their stock to make the show a success.

Shows Inspire Ambition.

While pride in having their show a success had much to do with spurring them on in their endeavors, the results are more far reaching than they have thought perhaps. Such shows stimulate interest in better methods of farming and in better stock as well. Some will bring grade stock, thinking it is as good and looks as well as any of the purebred stuff, but upon close comparison they soon see the lack in their stock and promise themselves some of the purebreds. Those having purebreds will see the need of better purebreds, and so it goes, each trying to get up a little higher in the plane of livestock raising, the result being that the next year the stock shown will be far better than the year before.

The country tributary to San Luis Obispo is primarily a stock country and will always be such. With a wonderfully good range, well watered and supplemented by valleys growing all kinds of grains and forage crops, the livestock industry is but in its infancy in this region. Many ranches are carrying a large amount of stock now, but it is the kind that will bear improvement in some cases.

An Ideal Range.

S. J. Lowe has a herd of Shorthorns that are a good example for range men, as he has a large proportion of purebred cattle running on a range at the foot of the grade just above "San Luis" that really is an ideal place to raise cattle, as the pasture is good and water plentiful. The climate in all this country is ideal, the extremes being tempered by the proximity of the ocean.

One 8,000-acre ranch, farming some 1,500 acres, cuts tons and tons of volunteer hay each year, but is getting into the more intensive side of the game by erecting silos and growing more cultivated crops for stock feed.

As has been said, this is a stock country, but conditions will be improved by more intensive methods as mentioned above, until about 3 cows are kept where one is kept now, and 10 hogs where one is kept now. When these conditions obtain then "San Luis" will be a city of double its present size and wealth.

Bullard Bros. of Woodland, breeders of Rambouillet sheep, report recent sales as follows: Three hundred and sixty yearling rams, some of which were high grade, the others registered, to Sponcer & Marsh of Mountaineer, New Mexico; 6 yearling rams sent to Fort Bragg, 20 yearling rams to Lohn & Ward of Red Bluff and a standing order of 100 registered ewes to Rice of the Hawaiian Islands, to be delivered as soon as possible. Their \$3,000 ram has been of great interest to sheep admirers during the recent fairs, where they have made an excellent display. At Sacramento they refused \$5,000 for the ram Combination, of their own breeding.

Teach calves to eat before weaning.



Producing Animals Need Help.

Your stock have been through a strenuous season and face the unnatural conditions of winter stabling, crowding and winter forage to which domesticity subjects stock. These conditions bring on lagging appetites, susceptibility to colds, blood disorders, worms, bowel and kidney troubles.

Nature demands laxative elements in feed, tonics and blood purifiers to keep stock in tip-top shape to ward off disease. Supply these elements in their winter feed—give them

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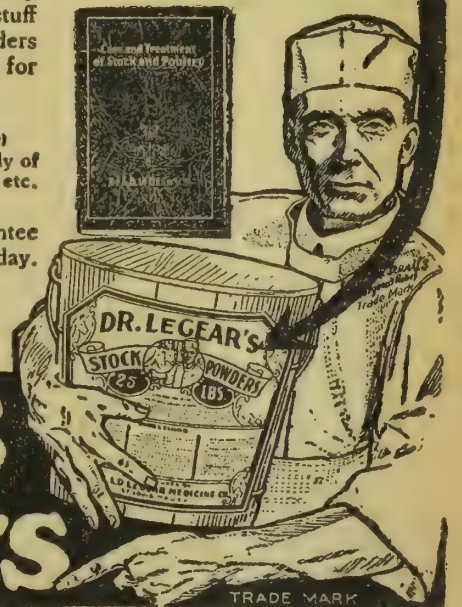
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Livestock and Dairy Notes

Dairy.

H. Marioni, Etna Mills, Siskiyou county, is developing a fine dairy. He is now milking 40 cows and expects to increase the number to 100 in the spring.

Grade dairy cattle continue to bring top prices in the Modesto section. Last week on the Will Keeley ranch east of town 41 cows brought an average of \$142.50. It is not so many years ago when the average with the hundreds figure left off would have been considered a good one.

Interest in purebred dairy stock is on the increase in San Luis Obispo county. The Pecho Ranch & Stock Company recently purchased from Gottshall—Magruder of Ripon, a fine Holstein bull calf, Karlay Pontiac Tola, sired by King Korndyke Pon-



Karlay Pontiac Tola, Pecho Ranch and Stock Co., San Luis Obispo.

tac 20th. This is a very promising individual, as can be seen from the accompanying picture. A community cannot have too much of this kind of stock.

Vive La France and Tilly Alcartra, the two champion cows of the world of the Jersey and Holstein-Friesian breeds, respectively, are to be the honor guests of the California International Live Stock Show at San Francisco during the show. California Gretel, the world's champion milch goat, will be brought from the University Farm at Davis, making a trio of the highest milk-producing animals in the country.

The valleys in Siskiyou county's mountains are great dairying localities. Greenview Creamery at Greenview, at an altitude of 2,800 feet above sea level, is doing an exceptionally fine business. Located in the interior, some distance from a railroad, they believe in manufacturing a finished product and shipping out the butter instead of sending out the whole milk, which would be much more bulky and of not much more value.

Beef.

The cow, Laurel Frantic 33rd, sold recently at Medford, Oregon, for \$4,500, and was bred by the veteran Shorthorn breeder, Wm. Bond of New-ark, Cal.

The Ormondale Company of Redwood City has just sold a 7-months-old heifer calf, Ormondale's Viola, to Rafael Larco of Peru, South America. This is one of the good ones like those the South Americans have gotten before.

The Monterey Cattlemen's Association held a regular meeting at Salinas October 11 and elected officers as follows: C. Z. Hebert, Salinas, president; J. A. Trescony, San Lucas, vice-president; H. E. Abbott and W. J. Martin, directors. The next meeting will be held at King City, January 10, 1920.

The coming Hereford consignment sale to be held during the California International Live Stock Show will offer the best lot of Herefords ever consigned on the Coast. There will be 30 females and 5 males of the very highest type of the breed, and intending buyers will make no mistake in deferring their purchasing until this sale is pulled off.

The Hereford Corporation of Wyoming, with headquarters at Cheyenne, have become members of the Pacific

Coast Hereford Cattle Breeders' Association. As this is perhaps the firm having the largest breeding herd of Herefords in the United States, the Coast breeders especially are glad to have them become members of this association.

E. C. Apperson of Sunol, an extensive rancher and cattleman of that locality, recently purchased a 13-months-old Hereford bull of J. A. Bunting, Mission San Jose, to place on his 5,000-acre ranch. Mr. Apperson and his son had travelled around somewhat and visited several herds, but concluded Mr. Bunting's stock was the best he had seen. He also offered Mr. Bunting \$700 for another one that was already consigned to the coming Hereford sale at the San Francisco Show.

Feed in the Mission San Jose district is fairly good. Most of it is stubble at this time of the year, and it seems to be holding out fairly well. Another indication of good feed is that feeders in the cattle line are rather hard to buy. Mr. Bunting, owner of the Mission Herd of Herefords, has erected a silo and a 72x80-foot barn, with 20-foot wings on two sides for feeding sheds. He has this silo partly full and over 200 tons of hay, and needs some steers to eat it, but finds them hard to buy.

Sales of registered dairy Short-horns recently reported by the John Lynch Ranch of Petaluma are as follows: Two senior yearling heifers, Marjorie Richardson 2nd and Lady Lee 8th, to the Kirtland Farm, Central Point, Oregon. A two-months-old calf, Corporal Peach, to G. M. Haycock, Upper Lake. A three-months-old bull calf, Wapsie Lad, to James Williams, Jr., Concord. The three-year-old cow, May Richardson 8th, and a two-months-old bull calf, Grand Wapsie 2nd, to Thos. Harrison, Santa Rosa Stock Farm, Santa Rosa.

Sheep.

Chas. Kimble of Hanford is always selling sheep either at home or abroad. Last week half a car of rams went to Red Bluff, and now he is ready to ship two cars to Holbrook, Ariz., where their forests are all petrified, although the sheepmen are "live wires"; also, one car to Texas. If Charlie's sheep hold out, Texas and Arizona will have to enlarge their borders to contain all he sends them, as it is only a short time ago that he sent a trainload to Texas.

Educational exhibits for sheep raisers showing models of equipment, such as barns, feed troughs, dipping plants, etc., are furnished by the Bureau of Animal Industry, U. S. Department of Agriculture, to co-operative sheep specialists at fairs and other gatherings in livestock communities throughout the country. Large illustrations of the different breeds and samples of wool, showing the different grades, are included in each exhibit. The objective of course is to get the best methods before as many people that are interested as possible.

Swine.

Harvey M. Berglund, Duroc-Jersey breeder of Dixon, recently sold A. Bloom of Petaluma 2 bred gilts and a boar; Dr. O. A. Hoffman of Dixon, 1 spring boar; Chas. E. Green of Woodland, 1 spring boar; J. H. Vetera of Walnut Grove, 1 bred gilt; W. C. Scott, Winters, 1 service boar. Harvey always has good ones to sell if he has any.

Recent prices on market hogs reported by the Western Meat Company are from \$14 per cental for the highest down to \$12 for the big heavies, weighing 300 to 400 pounds. This is not as high as they have been in the past, but Mark Bassett of Hanford does not care for that, as he paid \$3,150 for an open gilt, bred and consigned by F. D. Ross of Hanford at the eighth semi-annual Kings County Poland-China Breeders' sale Saturday last. This is said to be a world's record price for an open gilt. Another young sow in the sale brought her con-

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—of—

REGISTERED Holstein - Friesian CATTLE

100—YOUNG REGISTERED HOLSTEIN-FRIESIAN COWS—100

63 of them now on Year's Test. Many have made creditable Milk and Butter Records. A large number are bred to our great Herd Sire—Finderne Soldene Pontiac Valdessa, a son of a WORLD'S RECORD COW and whose sire's dam and Granddam were BOTH WORLD'S RECORD COWS.

They are sired by 52 different well-bred Eastern Sires, carrying the blood that has made the Holstein famous for Milk and Butter production.

These cows were carefully selected for our FOUNDATION HERD. Not one over 3 years old. They are increasing in value each year. Their Milk and Butter Production will still increase.

YOUR OPPORTUNITY to get started Right with Eastern Bred Registered Holstein-Friesian Cattle, that are getting better.

COME before the sale and see this grand lot of Registered Cows—See their RECORDS—See their CALVES. We are keeping their calves.

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Holsteins

Duroc-Jerseys

A select herd that is being developed for yearly production. Our present herd sire is DICHTER SPOFFORD KORNDYKE LAD, whose four nearest dams averaged over 30 pounds in seven days, and who was grand champion at the 1917 Riverside Fair.

Our herd of Duroc-Jerseys is composed of strictly big-type breeding. Herd headed by REPUBLIC'S ORION KING, a son of WALT'S ORION CHERRY KING. We offer for sale now a choice lot of boars and gilts of March farrow. The prices are attractive.

We will exhibit at the Los Angeles Live Stock Show—October 18 to 26th

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FOR SALE—HOGS—COWS—PIGS
120 Spring Shoats, 100 Weanling Pigs, 30 Brood Sows, some registered Duroc-Jerseys, some cross breeds, 3 Boars—two of them State Fair prize winners; 8 cows—heavy milkers and rich in cream. Ranch for rent, 55 acres alfalfa, 45 acres pasture. Abundance of water. Machinery.
J. A. BARKER, Box 82, Dixon, Cal.

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WATERFORD RD., MODESTO, CALIF.

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Prince Abbeherk Aralla Walker, No. 204267—Three-quarters white. Write for pedigree and price. Inspection invited and satisfaction guaranteed.

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Animal Food Dept.

704 Townsend St.,

San Francisco

signor, John M. Bernstein, the owner of President, \$1,250. Who says Kings county doesn't raise good Poland-Chinas?

Geo. L. Horine of Winton, breeder of Duroc-Jersey swine, writes that he has a sow that has just farrowed her fifth litter and that her record is 11, 11, 13, 17 and 16 pigs farrowed. Her three litter sisters have also had some nice litters, all farrowing 11 or over. The sow first mentioned weighs 550 pounds and produces pigs that weigh 200 to 250 pounds at 6 to 7 months of age on alfalfa and grain. Mr. Horine thinks it pays to grow such hogs and that it is more profitable to have a few such sows, rather than twice as many half as good.

Miscellaneous.

Italy has a shortage of meat products and will need 20,000 tons of meat a month for the next years, according to a government report. Foot and mouth disease has contributed to the shortage. This troublesome disease has been quite prevalent in this country the past year and still exists in some localities.

The anthrax outbreak in the Live Oak and Pennington sections of Sutter county is reported as being under control by Dr. R. S. Christman, who has inoculated several hundred animals against the disease. The disease spread from the southern end of Butte county, where it had existed for some time. No further spread is apprehended.

More than seventy millions of animals were inspected last year under the Federal Meat Inspection system. This included cattle, calves, sheep, goats and swine. Tuberculosis in cattle and tuberculosis and cholera in swine were responsible for more condemnations than all other causes combined. All condemned meat and products are destroyed under government supervision by conversion into grease and fertilizer in government-sealed rendering tanks.

NEW RECORD OF VETERINARY EXAMINERS.

A new board of Veterinary Examiners for the State of California was recently appointed by Gov. Stephens. The members are as follows: Dr. John L. Tyler, Pomona; Dr. Maynard Rosenberger, Los Angeles; Dr. J. F. McKenna, Fresno; Dr. W. W. Thomas, Merced, and Dr. E. J. Creeley, San Francisco. The appointment of a board of this character places the profession on fully as high a plane as it has ever occupied and much benefit must accrue thereby.

The new board met in San Francisco last week for the purpose of election of officers and examination of candidates for license to practice Veterinary Medicine.

The officers of the new board are: Dr. E. J. Creeley, San Francisco, president; Dr. W. W. Thomas, Merced, vice-president; Dr. John P. Tyler, Pomona, secretary; and Dr. Maynard Rosenberger, Los Angeles, treasurer.

The following veterinarians passed the examinations and were given licenses to practice Veterinary Medicine: Dr. S. O'Toole, Long Beach; Dr. F. G. Ward, San Diego; Dr. C. J. Dibern, Glendale; Dr. R. W. Smith, San Francisco; Dr. D. B. McCarthy, San Pedro; Dr. M. Wakelin, Hollywood.

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LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write me. Geo. A. Stingle, El Monte, Cal.

BERKSHIRES—Sired by Star Leader, the 1500 boar. Koumas Registered Stock Farm, Modesto, Calif.

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MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs. Anchorage Farm, Orland, Calif.

BOAR

Sired by Baron Duke 201st Weight 780 pounds Grand National Champion Dammed by Rookwood Lady 100th Weight 712 pounds Grand National Champion One and one-half years old. Big-boned, vigorous boar. Half-brother to 1919 Grand Champion that sold for \$1,000. I do not need this great breeder and he is being offered at a very low price. Sandercock Land Co., 23 Montgomery St., San Francisco. In charge of Natomas Land Sales.

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BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. R. J. Merrill, Morgan Hill, California.

WRITE FOR MY BERKSHIRE CATALOG, giving names, ages, breeding of service boars, bred gilts, specially selected trios. Frank B. Anderson, Sacramento, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

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ELDERLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our 1/2-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

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LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion Kinv's Big Bone Leader and other noted sires. Satisfaction guaranteed.

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EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route 6, Fresno, Cal.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D., Box 180.

MARCH BOARS for sale—Sired by Kings Big Bone leader, grand champion at State Fair, 1918. Will stand inspection. Prices right. J. S. Rogers, Chowchilla, Calif.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Rt. 1, Box 39, Watsonville, Cal.

WAKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Lee McCracken, Prop., Ripon, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

ONBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

POLAND-CHINAS—If you want perfect type in a March boar or gilt I have it at the right price. J. E. Thomas, Gilroy, Cal.

BIG-TYPE POLAND-CHINA, sired by a real boar. Pigs of both sex from 3 to 10 months old. W. S. Adams, Gridley, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

POLAND-CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

POLAND-CHINAS—Just the type you need. Mrs. C. A. Andrews, Modesto, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

Chester Whites.

CHESTER WHITES—BILIKEN TYPE—The big winners at the State Fair. 15 extra choice spring boars, sired by the Grand Champion boar and out of Biliken sired sows. A few spring sow pigs; three bred Biliken sows and two gilts; all to farrow in October. Priced to sell; a chance to get the best type in the West at farmers' prices. Write for special catalogue and price list. C. B. Cunningham, Mills, Calif.

Duroc-Jerseys.

FOR SALE THOROUGHbred DUROC—JERSEY HOGS

Choice boars and gilts of April and May farrowing of Orion Cherry King and Grand Golden Model breeding. Come and pick these boars and gilts to head your herd if you want large litters of thrifty, quick-growing pigs. Prices reasonable.

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FOR SALE—Ten registered Duroc-Jersey broods sows, priced right for quick sale. Come and see them. These sows are all bred to Cherry Defender, No. 270741, a boar that weighed six hundred pounds at sixteen months, grand champion stock. Weanlings every month in the year, \$15. Book your orders ahead. Red Rock Ranch, Glen Ellen, Cal.

BIG-TYPE DUROCS—Herd headed by California Orion King. Am offering excellent young boars at right prices. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

BIG-TYPE DUROCS—Gilts and boars of Orion Giant breeding. Falfadale Farms, Peris, Calif.

HORINE'S DUROCS—Open and bred gilts all sold. A few fine young sows bred for second litters and several service boars are ready to ship. What do you need? Correspondence invited. Geo. L. Horine, Winton, Cal.

RANCHO RUBIO DUROCS—Two boar pigs, four months old and weaned pigs, both sexes. Stock of Orion Cherry King Pathfinder and Golden Model breeding. Sold on "Money Back" guarantee. Elmer Lamb, Ceres, Calif.

WE HAVE 100 YOUNG GILTS and boars, bred on the purple, which we are selling for about half their value. Money back if not satisfied. Derryfield Farm, Capital National Bank Bldg., Sacramento.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

REGISTERED DUROCS—Choice weanlings of either sex, breeding and satisfaction guaranteed. H. E. Boudier, Napa.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Ethanac, Calif.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Hampshires.

REGISTERED HAMPSHIREs—"Belted Beauties." Weaned pigs a specialty. Uneeda Hampshire Swine Farms, Gardena, Cal.

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LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

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AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco, California.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

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EDGEWOOD FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgewood Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal. R. 2.

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SERVICE JERSEY BULL, bull calves, Financial King blood, Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

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DUAL-PURPOSE SHORTHORNS—registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

Holsteins.

A PRICE ON EVERY ANIMAL.

Herd free from tuberculosis. All sales subject to sixty days' retest. Son of Firdern Soldene Valdesa, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

Toyon Farms Association.
679 Mills Building, San Francisco.

FOR SALE—35 head of fine dairy heifers, Holsteins, Jerseys, from 15 months to 2 years old, 20 to come fresh this fall. J. S. Smith, Box 515, San Jose, Cal.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

PAJO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

REGISTERED HOLSTEIN BULLS with world's record backing. Koumas Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEIN bull calves, sired by grandson of King of the Pontiacs Sunnybrook Ranch, Willits, Calif.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spire, Hilcrest Farms, Caruthers, California.

CREAMCUP HERD—Registrar Holsteins, Pontiac bull calves. M. Holdridge, Rt. A, Box 437, San Jose, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. B. Freeman, R. B., Modesto, Cal.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif.—Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

MISCELLANEOUS.

BUTTE CITY RANCH

SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale at the Ranch—all breeds—April 17, 1920. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn County, California.

Attend the California International Livestock Show, San Francisco, November 1-8.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara, or Lompoc, Calif. John Troup, Supt.

BEEF CATTLE—Going East again. Send your orders. R. M. Dunlap, Hotel Land, Sacramento.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch, Esparto, California.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

SHEEP AND GOATS.

GOATS FOR SALE—Toggenburg buck, 19 months; one doe, bred to registered Toggenburg buck. J. I. Coutts, Arroyo Grande, Cal.

FOR SALE—1500 Merino ewe lambs; 1500 yearling Merino ewes. C. G. Owens, Livermore, Cal.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillets and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, California.

CALIA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

Mail Order Livestock Business

(Written for Pacific Rural Press by Thos. F. McConnell.)

Sometimes we hear a breeder of purebred livestock say, "I have just about concluded to drop the mail order business as I do not find it satisfactory." Again, once in a while, another one will say, "I like the mail order business and find no trouble in disposing of all my good surplus stock."

Causes of Dissatisfaction.

Now why do we find dissatisfaction with this method? It would seem there must be several reasons, for if there was but one reason, that would have been discovered and eliminated long ago. If everyone that has bought an animal by means of a mail order in the past had received what he ordered this method would be very much more popular than it is today. From this viewpoint it would appear that the seller has been to blame and attempted to get rid of inferior stock by this "unsight unseen" method. No doubt this has been true in many cases, too many in fact, but it is not always the seller's fault. The buyer on the other hand claims the animal not as represented and endeavors to get a refund of part of the purchase price, or the animal replaced, by undertaking to prove the animal not as represented by the seller when there is really no ground for complaint. The latter case is not generally the fact, however.

There Is a Remedy

For these troubles that has been put into practice with success in the past, and it lies largely with the party selling to overcome them. For instance, never misrepresent an animal in any way, but try and send a little better one than would be expected from your description. After an order is received prepare the animal for shipment in the very best possible manner. If it is a hog or a sheep old enough to need it, see that the toes or hoofs have been properly trimmed so that it stands squarely without undue strain on the pasterns. Provide for its comfort in every way. Be sure that the crate is strong and secure without undue weight, and if one that has been used several times, see that it is clean and not dilapidated looking and with a neat and attractive address, whether on a printed card or put on with a stencil. Notify the customer when the animal is shipped so that he can receive it upon arrival. Much dissatisfaction has been caused heretofore by animals not arriving at the time they were expected. Also try and avoid Sundays and legal holidays, eliminating troubles caused by congestions of freight or express thereby.

Methods of Publicity.

Perhaps the reason for dissatisfaction on the part of the seller is not due to customers who are displeased, but to the fact that he does not have customers enough of any kind. This condition is caused only by a lack of publicity or of a lack of knowledge on the part of the buyers that any such flock or herd of animals is in existence. There are various methods of letting the prospective buyer know that you have such animals for sale, but there are two that are the most common. Newspaper advertising or "printers' ink" and exhibition at fairs, county, district and state. The first named is the method employed by the mail order dealer almost exclusively to inform the public what he has to sell. The last named tends to bring buyer and seller into personal contact and eliminates the mail order business.

Right here something should be said again about the condition of the animals offered through the medium of the newspaper and mail order method. When the breeder or seller takes his animals to the fair, he spends weeks, perhaps months, in preparation for the event or events, as the case may be, and the results are generally excellent. If this same breeder would take as much pains to select and fit his animals for his mail order customers as he does for the customers he meets on the fair circuit, he would

not have dissatisfied customers, neither would he be dissatisfied with lack of customers as soon as people found out what "blue ribbon" animals they obtained from him.

What "Show Condition" Means.

Something must be said here about this term "condition" or "show condition." In former years "show condition" meant one of excessive fatness in most cases, but some modification in ideas along this line have taken place lately, and all breeding animals are shown in a more normal, thrifty, but no less attractive condition.

Now we come to the point that must not be lost sight of by the one who wishes to succeed in the mail order line without attending the fairs. Fit your animals as was mentioned before and only send out those that are somewhere near good enough to take to the fair. Send to the butcher all those animals that would not certainly improve at least a grade herd. Neither should one expect to sell even good animals that are in inferior condition and give satisfaction to mail order customers. No one would buy for the top price an automobile that was not painted and finished. If any one gave a mail order for a first-class machine, he certainly would be disappointed if it came unpainted or scratched and muddy.

Some breeders that use the mail order method to dispose of their stock are sending prospective customers kodak prints or pictures of the animals they have for sale, which is an excellent thing to do. Be sure, though, to have the pictures good ones, taken in such a manner that no part of the animal is distorted or shown at the expense of another part. Take time in making the exposures. It takes time and patience to "take" good animal pictures, but no more time and patience than to do some other things about fitting the animals for sale. A catalog with cuts and pedigrees is another method of letting your old and new customers know what you have. It can be made very attractive, but never should it be made so at the expense of the truth.

Take Pains to Satisfy the Customer.

After all is said and done and the animal is shipped to the customer, be sure that everything is satisfactory; that the transfer of ownership is made on the association books and evidence thereof forwarded promptly to the buyer. If there is complaint be prompt in requesting that the animal be returned even though you know the complaint is unjust. If it is unjust a request on the seller's part for the prompt return of the animal is the quickest and surest way of silencing the complaint, and if it is just then the return of the animal is the only thing to be expected. The breeder that sells only first-class stock lets the public know that he has such stock for sale, is prompt in making transfers of ownerships through his association, and is willing at all times to rectify all mistakes, is sure to make a success of the pure-bred livestock mail order business.

LACK OF CARE COST \$100.

One hundred dollars vanished within a few minutes recently for a San Joaquin valley swine breeder as a result of not doing things right. A sow with ten thrifty young pigs was put into a yard where arrangements for shade had not been all completed. The owner had a sick spell that afternoon and could not look after her, and as it was a very hot day he had some water taken out to cool her off. Some was sprinkled on her and the rest thrown on the ground near her. She thought this was a pretty small wallow and rolled and squirmed to cover first one side, then another, until she had crushed four of the little pigs, which being high-class purebreds, were worth at least \$25 each. With a larger area of moist soil, or plenty of shade, she would not have squirmed around so much and all of her litter would have been saved.



Model 265
Calco Sheep Feeding Rack

for sheep

These two Calco Stock Specialties are especially for sheep. They are made of durable, rust-resisting galvanized Armco Iron and will last a life time.

Sheep Feeding Rack

A real money saver because when sheep draw the hay through the rack the fine chaff drops in the feed pan and is saved. The rack is 10 ft. long, 32 in. wide and 37 in. high. The legs can be bolted down.

Sheep Watering Trough

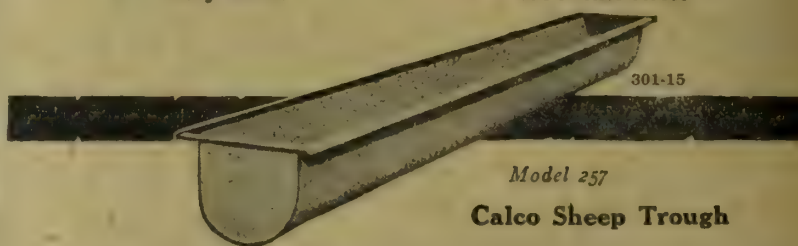
The edges are smooth and cannot injure the sheep. The trough is sanitary and easily cleaned. Built narrow and deep but wide enough to permit drinking from both sides. Sheep cannot jump or be shoved into it.

Send for complete descriptions and price list.

California Corrugated Culvert Co.

LOS ANGELES
417 Leroy Street

BERKELEY
406 Parker Street



Model 257
Calco Sheep Trough

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Largest Herd On The Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

RANCHO DEL SUR DUROCS
ORION'S KING GANO, a wonderful grandson of Orion Cherry King and Col. Gano, and the greatest Duroc boar in the State, heads this select herd of sows.
Young stock for sale.
DONALD H. GRAHAM
P. O. Box 177, Lancaster, Cal.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes.
Sure to please.
SWINELAND FARM
W. O. Pearson, Prop., Woodland, Cal.

Livestock Terms Defined

(Written for Pacific Rural Press.)

Much confusion has heretofore arisen at times relative to the exact meaning of the terms "purebred," "thoroughbred," "standard bred," "scrub," "crossbred" and "grade," as applied to livestock. The U. S. Department of Agriculture in its campaign for "Better Sires—Better Stock" has adopted the following definitions for these terms, which it is to be will be adopted by every one and eliminate confusion in the future.

Purebred.—A purebred animal is one of pure breeding, representing a definite, recognized breed and both of whose parents were purebred animals of the same breed. To be considered purebred, livestock must be either registered, eligible to registration, or (in the absence of public registry for that class) have such lineage that its pure breeding can be definitely proved. To be of good type and quality, the animal must be healthy, vigorous, and a creditable specimen of its breed.

Thoroughbred: The term "thoroughbred" applies accurately only to the breed of running horses eligible to registration in the General Stud Book of England, the American Stud Book, or affiliated Stud Books for thoroughbred horses in other countries.

Standardbred: Applied to horses, this term refers to a distinct breed of American light horses, which, includes both trotters and pacers which

are eligible to registration in the American Trotting Register. Applied to poultry, the term includes all birds bred to conform to the standards of form, color, markings, weight, etc., for the various breeds under the standard of perfection of the American Poultry Association.

Scrub: A scrub is an animal of mixed or unknown breeding without definite type or markings. Such terms as native, mongrel, razorback, dung-hill, piney woods, cayuse, broncho, and mustang are somewhat synonymous with "scrub," although many of the animals described by these terms have a certain fixity of type, even though they present no evidence of systematic improved breeding.

Crossbred: This term applies to the progeny of purebred parents of different breeds, but of the same species.

Grade: A grade is the offspring resulting from mating a purebred with a scrub, or from mating animals not purebred, but having close purebred ancestors. The offspring of a purebred and a grade is also a grade, but through progressive improvement becomes a high grade.

As a rule, when a hog goes off feed he shows a high temperature; consequently, the more feed that he is induced to take the more his fever increases, and this is an injury to the animal.



MALTHOID and RU-BER-OID READY ROOFINGS

Ten years from now

You can judge the quality of ready roofing only after it has been tested in actual use. When you buy it, you must rely for your selection upon the experience of others and the reputation of the manufacturer.

The ideal of The Paraffine Companies is to make Malthoid and Ru-ber-oid the best ready roofings that can be made. The Company has succeeded, as has been proved thousands of times under widely varying conditions of climate and use.

If you roof your farm buildings or home or factory with Malthoid or Ru-ber-oid, in ten years from now you will *know* why it has become the recognized standard of ready roofing. Malthoid and Ru-ber-oid are made to last. They will not dry out or rot and they are particularly fire-resistant. If painted every few years, they will give good service indefinitely. Malthoid and Ru-ber-oid have met successfully every test of time and service to which they have been subjected.

The reputation of The Paraffine Companies stands back of Malthoid and Ru-ber-oid. They are the best ready roofings that we know how to make.

THE PARAFFINE COMPANIES, INC.
San Francisco



EACH THE STANDARD OF ITS KIND

PRINCE ALBERT

the national joy smoke



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by R. J. Reynolds
Tobacco Co.

NEVER was such two-fisted-smokejoy as you puff out of a jimmy pipe or home rolled cigarettes packed with Prince Albert! *That's because P. A. has the quality!*

Your taste apparatus certainly cannot be fooled! So, when you smoke Prince Albert and get a lot of delight you *know* you've got the big first prize on the end of your line!

Prince Albert's quality alone puts it in a class of its own, but when you figure that P. A. is made by our exclusive patented process that cuts out bite and parch—well—you realize why P. A. is so unlike other kinds.

No matter what your past luck has been on pipe smokes or makin's cigarettes, you put your confidence in Prince Albert for it certainly makes good every time the clock ticks.



Toppy red bags, tidy red tins, handsome pound and half pound tin humidors—and—that classy, practical pound crystal glass humidor with sponge moistener top that keeps the tobacco in such perfect condition.

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

Poultry and Rabbits for Profit

THE BACK YARD, THE BUNNY, AND THE CHILD.

(By Frederick W. D'Evelyn, President Pacific Coast Rabbit Breeders' Association.)

There are 167 millions fewer rabbits in the War Zone than there were five years ago. This means a big market is empty and a big food product is no more. Shippers and producers mutually admit it is a grave and compelling situation. To us "over here" it means that we must work overtime, increase our production to meet the demands, replenish the depleted markets, and assist the stockless fancier. Alike from the economic and grade view points, a novel and unique reversal of interests exists. The currents have taken on a new direction. American breeders will be exporters rather than importers, cheques, pedigrees and stock will be out-going products. Rabbits "made in California" will be found on foreign breeders' lists and as show entries;—truly, a new and stimulating order of things. We have the stock, the climate and the feed to make "the goods," and we are convinced that our Western breeders will arise to this privilege and opportunity.

Hence the desirability of every local stimulus to the industry—such as Breeders' Clubs, Fanciers' Associations, State and Community Exhibitions. But this is not our story just now. We have another issue that we deem of equal urgency, and that is the back yard, the bunny, and the child. We confess a great appreciation for this triad of co-agents and co-operators. It is of deep interest that in the recent school survey of one of our Bay sections a most exhaustive statistical census was made of the children in grammar grades who "raised, cared for, or kept" chickens, pigeons, or rabbits as backyard products. Some 6,000 homes were returned as having these triple assets. Their attempted classification presented a varied estimate, from the viewpoint of valuation, from eggs to broilers; from fur to jugged rabbit; from scrap-consumers to squabs. These "commonplaces" were tabulated and classified as valuable entities in the great complex problem of home life, education and character building. The problem of the after-school hours of the growing child, and how to utilize them, loomed up in this investigation with an arresting urgency. It was fully recognized that the child is alive, and more variedly alive than any other young animal, with an imperative urge born in him to chum in strange kinship with other things that live and move and are likewise alive. That instinct is congenital. This instinct exists as a latent

reality before we even proceed to educate and train the young human. It was found that in equal proportion as the child was conceded the personal care-taker or owner of the especial stock or pet, in like measure was the interest effectively centered and the reflex benefit secured. This surely is a phase of backyard utilization that is worth while.

A Word on Utility.

In this relationship the backyard bunny—standard stock preferred—can be raised economically, successfully and further afford a fascinating study in "real life." It beats the home garden as a food maker thirty to one; it will thrive where chickens would "pine away" and pigeons "go light" for want of aviation. Properly selected, it breeds readily, develops rapidly, and makes a pot-roast or an "Irish stew" with a meat that is rich in food value. The product is pleasant to the eye, good for the "tummy" and as brain food, is capable of producing a Socrates or a Supervisor. We heartily commend the rabbit as a specific asset to the housekeeper, a capable aid in the solution of the H. C. L., a most interesting problem for the student of evolution, an ever-shifting problem to the scientific breeders, an utility factor to the fancier, a consumer of table scraps, a keeper-at-home for Dad, a silent, wholesome, alluring and interesting pet, for aiding and stimulating the all-significant instinctive tendencies in that God-given mystery of a child's biological birth-right. Punnies, back yards, and babies are a Shamrock that make good in all that you entrust them to do.

QUACKLESS DUCKS.

To the Editor: Is there any profit in raising Muscovy quackless ducks? Can I get a Bulletin from Washington on the care of ducks?—O. B., Van Nuys.

A number of poultry keepers located in various parts of the State have reported satisfactory profit from the sale of Muscovy ducks and eggs, but only by a careful investigation of the local market demand for killing, and for breeding, also the cost of feed, can our correspondent determine whether or not it would be profitable for him. Send for Farmers' Bulletin No. 697, entitled "Duck Raising."

TANNING RABBIT SKINS.

To the Editor: Will you please send me a receipt for tanning rabbit hides. I rubbed them in ashes and salt. Now what preparation can I put on to soften them.—A. B. C., Cedarville.

Clean thoroughly the skin surface with soap and water—scraping off all

traces of flesh or fat. When nearly dry rub for several minutes with finely ground alum, and fold, skin sides against each other, and allow it to lie two or three days in a dry place. Then it ought to have a soft, leathery surface.

FEED VALUE OF SKIM MILK.

To the Editor: What amount of good meat scrap, costing 5¼ cents per pound, is equal to 100 pounds of sour skim milk for feeding to chickens? How much mill feed is equal to 100 pounds of sour skim milk for hog feed? What difference is there in fresh and sour skim milk for feeding purposes?—S. M., Fallon, Nev.

One pound of good meat scrap has a feed value of about fourteen pounds of skim milk, either sweet or sour. With the price of 5¼ cents for meat scrap the milk is worth about 38 cents per 100 pounds. Nearly all poultry feeders think it is better to feed the milk sour.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

YOU'VE OFTEN THOUGHT—How can I get hens to clear \$5 yearly? Easy. Twenty generations selecting, training, breeding best, has developed 200-300-egg hens that reproduce their kind. Let our circular reveal the secret of \$2 hens clearing \$3.00; \$3.50 hens clearing \$5. Leghorns, Anconas, Reds, Rocks, Minorcas, Chicks, Turkeys, CHICKS, EGGS—hundreds. LAYING, YOUNGER PULLETS, BREEDERS, near price ordinary stock. Well booked into Spring, yet most weeks open for thousands chicks, 140,000 hatching capacity. Half go to former customers. Returned thousands dollars for chicks we couldn't supply. Learn why. J. Beeson, Pasadena, Calif.

WARDS' S. C. RHODE ISLAND REDS caused a sensation at Sacramento by winning: 2nd cock, 1st and 3rd hens, 1st and 3rd cockerels, 1st and 3rd pullets, special for best-colored female. Special for best display. Hatching eggs. Write for circular. Ward's Poultry Farm, 39C South Lincoln Avenue, San Jose, California.

MAHAJO FARM

P. O. Box 597,
Sacramento, Calif.

White Leghorns, Brown Leghorns, White Rock; Cockerels and Pullets.
High-class, standard-bred stock.

ORDER BABY CHICKS NOW—For immediate or spring delivery. Several varieties. Safe arrival guaranteed. Write for free circular. R. I. Red, Buff Orpington and White Rock cockerels now ready for shipment. Stubbe Poultry Ranch and Hatchery, Box 67, Palo Alto, Cal.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hoganized and Trapped stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. D. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

FEBRUARY PULLETS from selected pens of Barred Rock hens weighing eight and nine pounds and laying from 16 to 24 eggs per month from October to February last season. Prices very reasonable. Geo. L. Horine, Winton, Cal.

ANDERSON'S PEEKLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels \$5 and up. 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Hatching eggs. Improve your color and egg capacity. Wm. Larm, 3915 39th Ave., Fruitvale, Cal.

WHITE HOLLAND TURKEYS—Young breeding stock. January and February hatch. Chance to get a thoroughbred young tom reasonable. A. P. Ward & Son, Calistoga.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Voden, Box 3, Los Gatos, Calif.

"EASTMAN'S BRED-TO-LAY"—Hoganized and trapped Barred Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Calif.

ROCK, RED OR LEHOEN baby chicks—large or small lots. Right prices. Madera Hatchery, Madera, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferns Ranch, Rt. 2, Box 144D, Pomona, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GEENE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California. Stamps

BLACK MINORCA COCKERELS—\$3.00. Roman Drakes—Pekin Ducks. Edward A. Hall, Route 1, Box 39, Watsonville, Cal.

SUPERB BARRED ROCK and Blue Andalusian cockerels. February hatch at \$5.00 each. Geo. I. Wright, Mokelumne Hill, Cal.

PUREBRED S. C. RHODE ISLAND RED hatching eggs. \$2.00 per fifteen. E. G. Going, Quail Ranch, Pixley, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

Attend the California International Livestock Show, San Francisco, November 1st to 8th.

PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

Western Meat Company

SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

Uniformity

You can depend on the uniform, high standard of Red Crown gasoline. Look for the Red Crown sign before you fill.

STANDARD OIL COMPANY
(California)



The Gasoline of Quality

TROUBLES A-PLENTY.

To the Editor: Our chickens were recently troubled with two diseases and they are beginning again. The chickens that are troubled with one of the complaints cannot stand; they fall over, but otherwise they look well and eat. Finally they become helpless on their feet. Those with the other complaint stand around stretching their necks, gasping for breath. They do not eat and very soon they die. Advice.—R. M. M. Modesto.

If the chickens that look well but cannot stand are young and growing fowls the trouble very likely is caused by rapid growth in connection with a lack of bone-building material. This may be quickly corrected by supplying them with fresh, or good dried, ground green bone. A fresh brisket bone chopped into small pieces is excellent. If they are well grown or mature fowls they may be suffering from night-shade or other poisoning. In our issue of September 20, page 402, we published a remedy for night-shade poisoning. Without more information as to feed, quarters, and whether or not fowls are infested with vermin or houses with mites, it is practically impossible to determine the exact cause or causes of death from the other complaint. Vermin alone will produce symptoms as described, so will a drafty house, or one that has no ventilation. The symptoms of roup, fowl diphtheria and some other complaints are similar, but as it has been determined that when fowls are fed with an exactly correct ration they are nearly immune against these common diseases it is likely that the trouble is due to improper feeding.

LOOKS LIKE PTOMAINE POISONING.

To the Editor: About a week ago one of my young roosters would throw his head up and walk straight up—I killed it. Now another is affected the same way. They run at large and are fed Gyp. corn. What is the trouble and is there a remedy?—C. N., Linne.

Without more information as to the feed secured on the range we can only advise a careful examination of the premises. It may be the fowls are eating decayed animal matter which has resulted in ptomaine poisoning, or the trouble may be due to eating night-shade, mention of which has been made in recent issues of this paper.

FEEDING FOR EGGS.

In order to make hens lay in winter we must duplicate summer conditions. To take the place of grasshoppers, worms and bugs obtained in the late spring and summer, the fowls must be provided with animal food. After the frost has killed the bugs and worms, high grade meat scraps offer a convenient form of animal food. Fresh green bones make one of the very best animal foods. Half an ounce per hen daily will be sufficient. When this amount of green bone is fed, no other animal food is required. Skim milk is also very good.—E. J. Peterson, N. D. Agr. College.

MOVING TIME FOR PULLETS.

September is moving time for the hens and pullets which must be transferred from the range to their winter quarters as early as possible so as to be acclimated to their cold-weather environments before they begin to lay. Year after year poultry keepers neglect to ship their stock from the summer resorts to winter lodgings early enough, as this is one of the basic principles of best management, according to specialists of the United States Department of Agriculture.

BEST CORN FOR FATTENING TURKEYS.

To the Editor: Kindly let me know which would be the best to fatten turkeys on—Egyptian corn or Indian corn?—W. F., Hardwick, Cal.

Opinion among turkey raisers seems divided as to which is better, but when both grains are of equal market value the majority favor Indian corn. Some prefer a mixture of both.

HOW MANY EGGS IN A YEAR.

How many eggs does your hens lay in a year. A state egg-laying contest has been arranged for at the North Dakota Agricultural College by Enoch J. Peterson, the poultryman. Breeders can send in a pen of five birds. These will be trapped for a year, thus giving a complete record of each bird for every day in the year. This egg-laying contest begins November 1st.

Ducks are easily raised. They are hearty eaters and must be fed liberally. They should have plenty of pure water and a pond for swimming is desirable but not absolutely necessary. They generally lay at night.

Feed regularly at certain intervals each day. Feed as long as the birds will eat ravenously and eagerly, but when you notice a hesitation or slowness in seizing the food, stop feeding.

INTRINSIC WORTH.

San Jose, Aug. 25, 1919.

Dear Rural Press: My attention has been called to your renewal offer. The subscription is a present to my wife and is actuated by our belief of its intrinsic worth. We have both been in touch with the Rural Press in some way since the "seventies," which is the basis for that belief and hope to continue so long as either exists. We believe your paper is worth much more than your regular rates, and I enclose a check for its continuance for six years.

Trusting that you may long continue your good work, I remain, Very truly yours,

F. P. McCRAY.

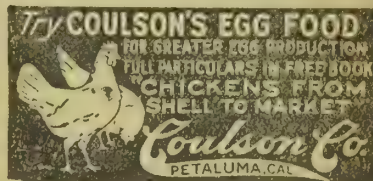
Tainted eggs are often due to hens eating onions, garlic, decayed meats and other things which have strong odors, or to drinking filthy water.

"Some have many possessions and some have few possessions." But whether these possessions be knowledge or wealth, they might just as well be in a hole in the ground unless they are used that others may benefit.

EGG-O-LATUM KEEPS EGGS ONE YEAR

It costs only one cent per dozen eggs to use Egg-o-latium. There is no other expense. Eggs are kept in carton or box in cellar. Eggs may be boiled, poached or used in any other way, just like fresh eggs. Simply rubbed on the eggs—a dozen per minute. A 50c jar is sufficient for 50 dozen eggs. At Drug, Seed and Poultry Supply Stores or postpaid.

GEO. H. LEE CO., Dept. 528, OMAHA, NEB.



After the Moul— EGGS



REMEMBER, going through the moult is like going through a long spell of sickness. To force out the old quills and grow new feathers saps a hen's vitality.

If you expect your hens to be fall producers and winter layers, then feed them Poultry Pan-a-ce-a during and after the moult.

Dr. Hess Poultry Pan-a-ce-a

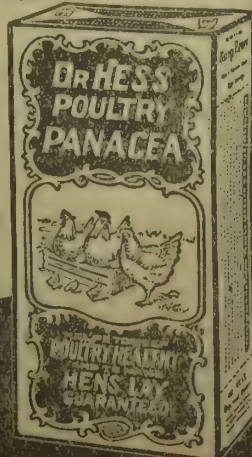
will start your pullets and moulted hens to laying

It contains Tonics that put your moulted hens in fine condition—Tonics that tone up the dormant egg organs—Iron that gives a moulted, run-down hen rich, red blood and a red comb. It contains internal antiseptics that destroy disease germs that may be lurking in the system. No disease where Pan-a-ce-a is fed.

It brings back the singing—it brings back the scratching—it brings back the cackle. That's when you get eggs; and it's eggs you want—fall eggs, winter eggs—when eggs are eggs.

Feed Pan-a-ce-a to all your poultry to make and keep them healthy. The dealer refunds your money if it does not do as claimed. Tell the dealer how many fowls you have and he will tell you what sized package to buy. Always buy Pan-a-ce-a according to the size of your flock. 30c, 60c, and \$1.25 packages. 25-lb. pail, \$3.50; 100-lb. drum, \$12.00. Except in Canada.

DR. HESS & CLARK
Ashland, Ohio



DR. HESS
STOCK TONIC
keeps hogs healthy,
drives out worms

Dr. Hess Instant Louse
Killer Kills Lice

THE HOME CIRCLE

THE THINGS I PRIZE.

These are the things I prize
And hold of dearest worth;
Light of the sapphire skies,
Peace of the silent hills,
Shelter of woods and comfort of the
grass,
Music of birds, murmur of little rills,
Shadows of clouds that swiftly pass.
And after showers,
The smell of flowers
And of the good brown earth.
—Henry van Dyke.

POLLY'S BIRTHDAY.

By Sydney Dayre.

"I say it's a shame,—a real shame!"
It was one o'clock in the afternoon,
and Polly had gone to her own room
to have a fit of crying.

"I wouldn't let anybody know how
I feel about it for the world. But—
to think of its being my birthday, and
not a single thing done to make it a
greater day to me than any other day
in the year! Well,—I don't care!"

And, to show how little she cared,
Polly burst into another flood of
tears.

If mamma had been there, it
wouldn't have been so."

But mamma was not here, and
Polly knew she would have to make
the best of it.

"I wouldn't let one of them know I
expected to have anything done. Not
for the world! If they don't want to
think about my birthday, they
needn't."

"They" meant Polly's grandfather,
grandmother, and Aunt Sarah. Polly's
father was dead, and her mother had
come back to her old home to live.
And two weeks ago her mother had
been sent for to go to another aunt,
who was very ill. It was owing to
her absence that her birthday had
not been remembered.

She sat by her window, feeling
very forlorn and wretched indeed.
The early spring day was raw and
cold, and everything looked gloomy.

"And there's Aunt Sarah going out.
Where's she going, I wonder? Down
to the village. Well, I do think she
might have asked me to go with her.
Even that would have been better
than to stay here alone."

She followed Aunt Sarah with her
eyes until the last flutter of her dress
in the wind disappeared as she turned
a corner of the country road. Half a
mile further on was a little village.



Only 1/3 cent for a cup
of fine rich invigorating
tea!

If you could have
everything else as good
for so little money, the
"high cost of living" would
be out of date.

Schilling Tea is the fine
practical economical tea of
this country.

There are four flavors of Schilling
Tea—Japan, Ceylon-India, Oolong,
English Breakfast. All one quality. In
parchmy-lined moisture-proof packages.
At grocers everywhere.

A Schilling & Co San Francisco

"Perhaps, if I had been downstairs,
she would have asked me."

But it was too late for that now.
She sat looking out of the window.
The roof of a long porch sloped below
it. It was very old, as was all the
large farmhouse. The shingles on it
were loose and warped. Grandpa had
told her she must not get out on it.

No danger of her doing that, Polly
had thought, when he spoke of it. It
always made her dizzy to be in high
places, and nothing would have
tempted her to step out on that steep
roof. So she thought.

At the back end of the porch was a
low building used for a wood-house.
The shingles of this were also old and
loose.

Now, as Polly's eyes wandered idly
on outside things, they stopped near
the edge of the wood-house roof.

"What's that? Dust?"

But how could there be any dust
there this time of year?

"Why,—I believe—"

Polly sprang to her feet, still gaz-
ing fixedly out of the window.

"It is—yes, it's smoke."

For one moment she stood with
hands clasped in terror. At once she
guessed what it was. A tall pipe,
which carried off the smoke from the
kitchen fire had lately blown down.
Grandpa had said it was not safe
without it, for now cinders might
blow on the dry, old roof. This very
afternoon he had gone, with the hired
man, to bring home a new pipe.

But perhaps that new pipe was
coming too late.

There had been a great fire in the
kitchen all the morning, Polly knew,
—along with which had come a new
birthday grievance in the fact of Aunt
Sarah's not having asked her to help
about what she was baking. Some-
thing good it must have been, too, by
the smell; but she hadn't even baked
her a patty-pan cake or offered her so
much as a cookie.

Polly watched the smoke. Only a
little curl at first, but getting larger.
She was about to scream, for what is
more natural than to scream at sight
of fire where fire should not be?

But, with a sudden effort, she con-
trolled herself. Grandma was the only
person in the house except herself.
She could do nothing. She was not
strong, and a fright might do her
great harm. The curl of smoke grew
larger. Now it came in bunches with
the gusts of wind. Now,—yes, there
was a little tongue of flame.

In all her life Polly will never for-
get the terror which came over her
with the thought of all that was de-
pending on her in this dread emer-
gency. The old buildings which
formed the dear home of all she loved
lay at the mercy of a pitiless de-
stroyer, unless she, with her feeble
hands, should prevent it. Could she?

For one or two moments she held
her breath, sending up a swift prayer
that she might be enabled to do the
right thing. Then she snatched up a
rag rug from the floor, and brought
her water-pitcher to the window. She
opened it. Could she step out? Her
head seemed to swim with the
thought. But there was no time to
lose. With the rug under her arm,
and in one hand the pitcher, trem-
bling in every limb, she walked along
the shaking, rattling shingles; the
whole roof seemed to sway under her
feet. She reached the end, but never
could remember how she got down
upon the lower roof.

But she trampled down her fears,
as she bravely did the work she had
come to do. Pouring the water over
the rug, she beat upon the fire with it
again and again. The bit of flame
was soon put out; but how long it
seemed before she saw the last of the
smoke, and could feel sure that no
smouldering danger was left!

At length, certain of this, she
turned sick and faint. The edge of
the porch roof had crumbled under
her feet, as she had stepped down
from it; and nothing could have in-
duced her to climb upon it. She
could not get down without help, and
for a long hour she waited in the cut-
ting wind.

Grandpa and Caleb came at last.
Caleb put up a ladder, and brought
her down; and grandpa carried her
into the house in his arms.

Aunt Sarah was just coming in the
gate, and, with every one else, was
shocked and horrified, as Polly,
through quivering lips and just able
to keep back her sobs, told her
strange story.

"Well, I've heard tell of heroines
before," said grandpa; "but I don't
know as I ever heard of a braver
little one than you, Polly."

"What shall we give her?" said
grandma, as they flew about and
petted her, and seated her by the fire
wrapped in warm blankets.

"Peppermint tea," said grandfather.
"Catnip's better," said grandma.

DREADNAUGHT
BLAZING-AWAY-IN-COST-DEFENCE!



When a Fellow Needs a Friend

Talk about your "blues" and a "dark and stormy
night"—could anything be worse than on a raw, cold
morning, to have mother announce, "No wood, no break-
fast"? The chill is bad enough, but a fellow's hungry,
too. Oh, isn't it wonderful, the experience necessary to
become a member of the "Regular Fellows' Club?"

We are that man's friend—mother's, too—bless her
heart. We can forever eliminate this frosty morning
hustling and the everlasting poking in of wood. A
Dreadnaught Oil-Gas Burner in the same stove, a tank
of kerosene elevated to give it the "fall," or natural
pressure—that's all—real clean gas. Nothing to clean,
bring in or take out. The gas is properly matured so that it is
dry, burns clean and produces full value in heat. Wet gas is a
carbon maker, dirty and expensive. With wood it means expense
and slavery, and then lose two-thirds of it up the chimney in un-
consumed fuel. Write for circular—questions cheerfully answered.

**BURNER FOR COOKSTOVE OR HEATER,
COMBINATION NEEDLE VALVE AND DRAIN—
PREPAID ANYWHERE\$7.50**

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Durable-DURHAM
Hosiery is a product
of industrial democ-
racy—never of Child
Labor. We have no
strikes or lockouts.



**The right hosiery for all the family
—for every season—for work, dress, or play**

HOSIERY for every one in the family that is made thick and warm for winter—and light and
cool for summer, but always of honest wearing value—and always good-looking. Every pair has
real value. Longer wear at reasonable cost means true economy. Not only in the money saved—
but the time that is saved in less darning.

Right now, thousands of men and women are buying Durable-DURHAM fleecy-lined hosiery for
winter. Every pair is full of warmth and full of wear. This hosiery is comfortable to wear—and
has a fine appearance.

**DURABLE
DURHAM HOSIERY**

FOR MEN, WOMEN AND CHILDREN
MADE STRONGEST WHERE THE WEAR IS HARDEST

The strong reinforcing at point of greatest strain gives extra months of wear
to Durable-DURHAM Hosiery. Styles for men and women include all
fashionable colors and come in all weights from sheer lisle to the heavy fleecy-
lined hosiery for coldest weather.

Every pair of Durable-DURHAM is made right. Legs are full length; tops
wide and elastic; sizes are accurately marked. Soles and toes are smooth,
seamless and even. The Durham dyes will not fade.

Ask for Durable-DURHAM Hosiery and look for the trade mark ticket
on each pair. Your dealer should have Durable-DURHAM. If you do not
find it, please write to our sales department, 88 Leonard Street, New York,
giving us the name of your dealer.

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HIKEE
An extra warm and
long wearing sock.
Double fleecy-lined
throughout. Full of
warmth and full of
wear. Strongly re-
inforced heels and
toes. Black only.

"Nothing like ginger-tea," said Aunt Sarah, positively.

And, long before it could be agreed on, three bowlfuls had been made; and Polly had to take some of each kind. She thought within herself that she would easily get over her out-of-doors experience; but whether she should live through the remedies was a thing to be doubted. She was, however, too polite to say so when such a kind fuss was being made over her; and it is pleasant to be able to say that, whether it was due to the petting or the wrapping or the teas, Polly suffered no harm from her exposure.

"And here is her birthday letter," said grandpa, when at length Aunt Sarah stopped bringing her some kind of tea. "It was at the post-office, and I thought I'd wait to give it to her till she was well warmed up."

Polly read it, and handed it, with a smile, to Aunt Sarah, to read to the others. The beginning is the only part we shall listen to:

"My Dear Little Daughter,—Your birthday is very near; and I am kept so closely at your aunt's bedside as to be able to do nothing to make it pleasant for you. But I wish you to remember, dear, that, though nothing may be done to make it a special day to you, you may, if you try, make it a special day to others."

"Well, if she hasn't"—Aunt Sarah broke off, with a little cry, and ran to give Polly another hugging, in which the others joined. Polly was afraid more tea would be brought, but no one spoke of it.

"And now," said Aunt Sarah, "do you feel well enough to dress?"

"Dress?" said Polly, inquiringly; for she did not usually change her dress in the afternoon.

"Yes; I see two of your little friends coming up the walk."

Polly skipped up the stairs as actively as if she had not been sitting in the March wind for an hour. A quarter of an hour later she was down again to meet, not simply two girls, but two dozen, who greeted her with—

"Happy birthday, Polly! Many returns of the day!"

In her own room at bedtime, Polly again talked with herself.

"Oh! oh! oh! How glad I am that I didn't let anybody know how scowly and growly I felt all the morning because I thought nobody was thinking of my birthday. And all that baking that Aunt Sarah was doing was for my party. And, when she went down to the village, it was for the nuts and candy."

"I like what mamma says about birthdays." She opened the letter and read from it—

"Though nothing may be done to make it a special day to you, you may, if you try, make it a special day to others."

HOUSEHOLD SUGGESTIONS.

To make a copper kettle look new, rub it with salt and vinegar.

After a cane chair has had much use the seat will begin to sag, and a simple and easy way to tighten the cane is to wash it with very hot water and let it dry.

In order to clean black cloth and restore the color, sponge with logwood and ammonia. Infuse the logwood chips in a jar of boiling water placed in a pan, strain and use cold, adding a teaspoonful of ammonia to half a pint of logwood. This solution should be guarded as a poison.

Candles improve with keeping, so it is wise to buy in large quantities.

Cloves are said to be as effective an agent against moths as either camphor, tobacco, or cedar chips.

Half a cupful of milk put in a dish-pan full of hot water will serve instead of soap. It softens the water, keeps the hands better, because it will not roughen them like soap, and leaves no scum in the pan.

HELPFUL HERBERT.

What a friend we have in Hoover,
All the skins and thieves to bare,
What a surplus fat remover,
All our hungry pangs to share.

Ever present help in trouble,
Guide, philosopher and friend,
Pass the shark-meat and fried stubble—
Will the conflict ever end?

Edith was giving a birthday party, and there was some slight delay in providing seats for her little friends, when she spoke up, quite soberly—

"You see, it isn't that we have not chairs enough, but I have asked too much company."

MORE LIGHT THAN 20 OIL LAMPS
AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electricity
More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The



COLEMAN QUICKLITE
No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over.—will last a lifetime.

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(Successors to)
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Los Angeles, Cal.

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into modern bathrooms to which you can conduct your guests with a feeling of pride.

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Write for a copy of the Book of Bathrooms. It's a 56-page book, brim full of helpful ideas on bathroom arrangement.

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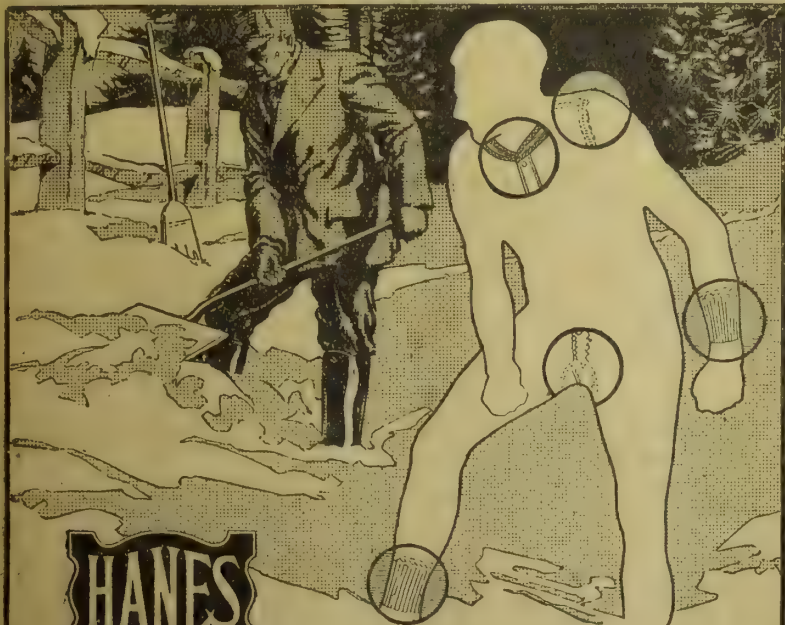
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ELASTIC KNIT
UNDERWEAR

GUARANTEE—We guarantee Hanes Underwear absolutely—every thread, stitch and button. We guarantee to return your money or give you a new garment if any seam breaks.

Greatest underwear value in America at the price!

You can't get greater warmth or better workmanship or more comfort or more actual wear than every suit of Hanes winter weight underwear for Men and Boys surely will supply!

Hanes is made in winter weight Union Suits and Shirts and Drawers. Illustrated here is the staunchest, most comfortable, wear-resisting union suit ever sold at the price.

Hanes Union Suits have the most desirable and dependable features—unbreakable seams; reinforced, non-stretching buttonholes that last the life of the garment; tailored collar that cannot gap; shape holding elastic shoulders; elastic knit wrists and ankles; pearl buttons sewed on to stay. And, a closed crotch that stays closed!

Hanes Shirts and Drawers have the same desirable quality; perfect workmanship and features. Drawers have the durable, snug-fitting 3-button saten waistband.

Union Suits for Boys in quality, cozy warmth and workmanship are unsurpassed at the price! Reinforced at all buttonhole and strain points. In fact they duplicate Hanes Union Suits for men, with added fleeciness. Made in sizes from 2 to 16 years. Two to four year sizes have the drop seat.

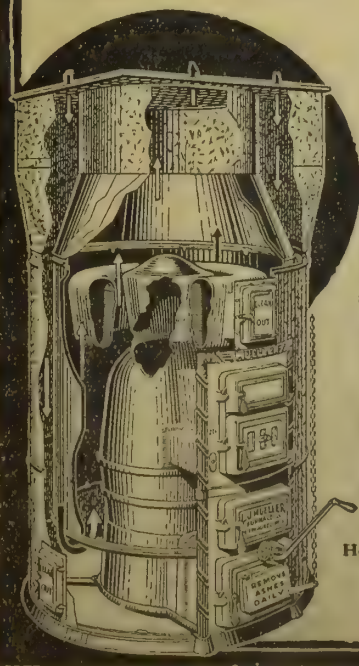
If your dealer cannot supply "Hanes" write us direct.

P. H. Hanes Knitting Co., Winston-Salem, N. C.
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Warning to the Trade—Any garment offered as Hanes is a substitute unless it bears the "Hanes" label.

Don't "Shut Off" Rooms This Winter Heat them all with a Mueller Pipeless and save on fuel

INSTEAD of huddling around stoves in two or three rooms this winter—instead of shutting off half or more of your rooms because of cold—install a Mueller Pipeless Furnace and experience a grateful, cozy, homelike warmth in every room.

The Mueller Pipeless will enable you to do this without fuss or bother. It is guaranteed to heat every room to a comfortable temperature through one register and it will keep the air moist and healthful. The Mueller Pipeless burns any fuel—hard or soft coal, coke, wood, lignite, gas or oil—you can use whichever is cheapest and easiest to obtain. And you can actually save money by using less fuel than ever before and many have reported a saving of 1/3 to 1/2 on fuel.



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Los Angeles, Cal.
22 other distributing points. Immediate shipment to any part of the country.

Market Comment

Italian Lemon Products Cost Double.

The cost of lemon production in Sicily has more than doubled since 1914. There has also been a heavy increase in the manufacturing cost of citrus by-products, such as citric acid, citrate of lime, essential oils, etc.

Cotton Crop Brings Many Millions.

With the 1919 cotton crop of the southwest valued at approximately \$43,360,000, the territory embracing California, Arizona, and the Imperial Valley in Mexico, is regarded potentially one of the greatest cotton-growing sections in the world.

Bean Growers Need Protection.

It is the contention of our California bean growers that they must have protection against their Oriental competitors or go out of business. An import duty as high as 4 cents a pound, it is claimed in some quarters, is essential to the conservation of this important industry in this State.

Easterners Like the California Egg.

The California hen and her product are in high favor in the East. Large shipments have been made recently to Eastern centers with the result that local storage supplies have been heavily drawn upon to meet these requirements.

Walnuts Still in the Ascendant.

Despite some protests from Eastern brokers handling California walnuts, that the announced prices are too high, it is believed that owing to light imports from Spanish sources of supply and to the plentifulness of money in circulation at home, prices will go still higher. An increase any day need not surprise us.

Price Trend Upward.

It is the prevailing belief that the maximum prices on many foodstuffs have not yet been reached, and that the approaching winter will see many farm commodities go to still higher price-levels. Present efforts on the part of the Government and of the public to hold prices down, may avail temporarily, but it is thought there is no permanent relief yet in sight.

Dairy Products—Foreign Competition.

Roy C. Potts, specialist in marketing dairy products, says America is not likely to feel foreign competition on home markets for two years at least. He also makes this interesting observation: "Fluctuating prices at wholesale make for wider margins between producer and consumer, while stabilization permits greater economy in distribution. Wide price publicity, he contends, narrows fluctuation."

Citrus Market Satisfactory.

Growers of Valencia oranges are, on the whole, receiving satisfactory prices for their shipments, which are on a \$5 to \$5.25 f. o. b. basis. Stock showing decay is responsible for lower prices received. There are now about 3,200 cars remaining for shipment, due to scarcity of refrigerator cars. Growers of Navel in Central California state that the crop is developing satisfactorily, and giving promise of yielding quality fruit. The lemon market is still high, but it is thought the topnotch price has been reached. The total shipment of cars of oranges for the season commencing November 1, 1918, are 33,294 and 9,334 cars of lemons.

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., October 14, 1919.

Considering unfavorable weather conditions in some of the Eastern markets and the fact that most of the cars were loaded heavily, which caused some of the fruit to be in poor condition, fruit the last two weeks sold to exceptionally good advantage. The light supply has unquestionably stimulated the demand.

We do not look for any improvement in the refrigerator car situation. The Malaga growers were very fortunate in having been able to ship about 85 per cent of the crop, whereas but less than 50 per cent of the Lodi Tokays have been shipped, and about 80 per cent of the Florida.

Industrial disturbances in many of the Eastern markets have not so far affected the demand for fruit, nor the delivery of the cars, except in New York. The strike situation, however, in New York was short-lived as the carriers finally made arrangements to unload cars with practically no loss to the shippers.

If fruit continues to arrive in fairly good condition, and is not too seriously affected by the overloads, we anticipate a strong market, with indications towards an advance throughout the balance of the season.

Averages for the week:

NEW YORK: Bartlett Pears, \$3.82; B. Hardy, \$3.77; Glout Morceau, \$3.65; Winter Nellis, \$3.42; B. Clairgeau, \$3.78; B. Anjou, \$4.75; Levi Cling Peaches, \$2.90; Salways, \$1.32; Orange Cling, \$1.80; Malaga Grapes, \$2.14; Tokays, \$1.82; Cornichon, \$2.00; Muscats, \$1.95; Black Prince, \$2.16; Seedless, \$2.13; Alicante Bouschet, \$2.71; Zinfandels, \$2.30; Emperors, \$1.75.

CHICAGO: Tokays, \$1.87; Cornichon, \$2.16; Malaga, \$1.94; Seedless, \$1.79; Zinfandel, \$1.86.

BOSTON: Malaga Grapes, \$1.78; Tokays, \$1.72; Muscats, \$1.75; Cornichon, \$1.92; Alicante Bouschet, \$2.10; Mission, \$2.03; BBlack Prince, \$2.20; Zinfandel, \$2.10.

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, October 15, 1919.

BARLEY.

The barley market is quiet and no interest is being displayed in either spot or futures. The continuance of the waterfront strike is holding up some small shipments up the Coast, but even with this drag on the business removed there appears very little prospect of much increase in the demand.

Feed \$2.90 @ 2.95
Shipping \$3.15 @ 3.20

OATS.

Like barley, oats are very dull, and the few sales consummated this week showed a lower price than last week. The general labor situation, as well as the water-front conditions, is affecting all the grains.

Red feed, per ctl. \$2.75 @ 2.85
Red for seed Nominal
Black for seed Nominal
Recleaned Red or Black for seed. Nominal

CORN.

Egyptian sold somewhat lower this week on small demands. While in somewhat stronger position than the other grains, corn is suffering from the prevailing conditions.

California \$3.50 @ 3.60
Egyptian, choice \$3.20 @ 3.50

HAY.

Receipts of hay for the past week were 1,365 tons compared with 2,893 the previous week. This drop in receipts is attributed to the clearing of the fields and the scarcity of cars. Most of the hay is now under cover and shipments by water are falling off materially. Although the receipts are small, there has been sufficient hay arriving to meet all demands. Most of the receipts, however, have been of the medium and poorer grades and very little fancy hay, which usually comes from rail points, has been available. The results have been that when a car of fancy hay has arrived it has been sold at prices in advance of quotations.

No. 1 Wheat, or Wheat & Oat. \$15.00 @ 18.00
No. 2 Wheat, or Wheat & Oat. \$12.00 @ 15.00
Choice Tame Oat Hay \$15.00 @ 18.00
Wild Oat Hay \$10.00 @ 14.00
Barley Hay \$12.00 @ 16.00
No. 1 Alfalfa Hay \$17.00 @ 22.00
Stock Hay \$ 8.00 @ 12.00
No. 1 Barley Straw, per bale. \$50 @ 80

FEEDSTUFFS.

There was a general lack of interest in the feedstuffs during the week, and while possibly rolled oats should be lowered, in the general lack of business all quotations are maintained nominally unchanged.

Roller Oats \$61.00 @ 62.00
Cocoanut Meal None
Cracked Corn \$78.00 @ 79.00
Alfalfa Products \$38.00 @ 45.00

POTATOES, ONIONS, ETC.

Potatoes are dull and unchanged in price. There seems to be a scarcity of real good to fancy stocks, and if they were shipped they would probably bring a higher price, although the shipyard and other strikes have a tendency to lower consumption. Onions are in a better position and a fair demand gives strength to this product. Both peas and beans are higher.

String Beans 5 @ 7c
Peas 9 @ 11c
Carrots, per sack \$1.00 @ 1.25
Rhubarb, Strawberry, box Nominal
Cucumbers 75c @ 1.00
Eggplant, box 75c @ 1.00
Lettuce, per crate 75c @ 1.25
Tomatoes, Early Annas 50 @ 75c
do, Stone 75c @ 1.00
Summer Squash, lugs, Alameda \$1.00 @ 1.50
Green Corn, Alameda, sack \$1.50 @ 2.00
Potatoes, Garnets \$2.00 @ 2.35
do, local whites \$2.25 @ 2.50
do, Rivers \$2.00 @ 2.35
do, Sweets, new, lb. 3 @ 4c
Onions, new red Nominal
do, Browns \$2.50 @ 2.75
do, Yellow \$2.50 @ 2.75
do, Green, Alameda \$1.00 @ 1.25
Garlic 20 @ 22c

BEANS.

A demand developed during the week for blackeyes and cranberry beans and the prices responded by advancing. Otherwise the market was dull with lower prices quoted on small whites and garbanzos. Limas have maintained their opening prices, and it may be that the association will be able to maintain this price.

Bayos, per ctl. \$6.25 @ 6.50
BBlackeyes \$5.75 @ 6.00

Cranberry beans \$6.50 @ 6.90
Pinks \$6.00 @ 6.25
Mexican Reds \$5.50 @ 5.75
Tepary beans \$2.50 @ 2.75
Garbanzos \$0.50 @ 1.00
Small whites \$6.75 @ 6.90
Large whites \$6.25 @ 6.50
Southern limas (new) \$14.50
do, (new), baby \$13.00

POULTRY.

The poultry market is showing considerable strength. Receipts have not been excessive and a steady demand has been maintained for practically all descriptions. An exceptional demand for small broilers caused their price to advance and the same is true of fryers. Most of the turkeys coming in at this time are sale, very few arriving dressed for immediate sale. Live turkeys are quoted from 40 to 45 cents, according to their condition, and the daily fluctuations of the market due to the supply and demand. Jack rabbits have not been in first-class conditions in many shipments, but the extra readily brought \$3, and in one or two cases higher prices.

Broilers, 1 1/2 lbs. and under 36 @ 38c
do, 1 1/2 to 2 lbs. 32 @ 34c
Fryers, 2 to 3 lbs. 32 @ 34c
Hens, extra, per lb. colored 33 @ 34c
do, Leghorn 30 @ 32c
Smooth young roosters, per lb. (3 lbs. and over) 32 @ 34c
Old roosters, colored, per lb. 22 @ 23c
Turkeys, dressed, young spring, lb. 60c
do, live 40 @ 45c
Geese, young, per lb. 26 @ 27c
do, old, per lb. 22 @ 23c
Squabs, per lb. 60 @ 65c
Ducks, young 20 @ 25c
do, old, per lb. 15 @ 20c
Belgian hares 15 @ 16c
Jack rabbits \$1.50 @ 3.00

BUTTER.

Butter has been steady throughout the week with a drop of a cent on Wednesday, which is said to have been due to the fact that some of the large dealers did not have the usual orders on file this morning. The finer grades of butter are scarce and other grades are not in excess of the demand. Storage butter is coming out freely at present prices of fresh butter, and this is one of the reasons that the present small receipts do not cause butter to go higher.

Thurs. Fri. Sat. Mon. Tu. Wed.
Extra 63 63 63 63 62

EGGS.

Monday, October 13, was observed as a holiday on the exchange and no quotations were made on that date. Extra eggs continued to show weakness to Saturday of last week. At that time a new description was called, Dirtsies No. 1, and on the next call, Tuesday, extras showed an advance again. It is stated that the producers of eggs are making careful selection of extra white eggs and are shipping them to New York, where they bring 86 cents. This leaves a number of dirtsies or slightly soiled eggs on the hands of the producers. These eggs are extras as far as size and freshness go, but they can not be sold in that category. The removal of these eggs and the selected eggs for the New York market leaves but a few extra eggs to come to this market and the price advanced as a consequence. At the same time extra pullets sold at lower prices and undersized advanced on the demand of consumers to have fresh eggs at less than the top prices. Storage eggs are being sold in larger quantities.

Thurs. Fri. Sat. Mon. Tu. Wed.
Extras 67 66 66 69 70 1/2
Dirtsies No. 1 61 61 61 62
Ex. pullets 55 52 1/2 52 1/2 54 54 1/2

Special Livestock Market Report

San Francisco, October 15, 1919.

CATTLE—The cattle markets have ruled steadily this past week, though prime, grain-fed steers are scarcer and higher. Beef trading is, on the whole, quite active. Quotations unchanged.

Steers, No. 1, 950-1100 lbs. 10 @ 10 1/2 c
do, No. 1, 1100-1300 lbs. 9 1/2 @ 10 c
do, 2nd quality 8 @ 8 1/2 c
do, thin 6 @ 7 c
Cows and Heifers, No. 1 8 @ 8 1/2 c
do, 2nd quality 6 1/2 @ 7 1/2 c
do, common to thin 4 @ 5 c
Bulls and Stags, good 5 1/2 @ 6 1/2 c
do, fair 4 1/2 @ 5 1/2 c
do, thin 3 1/2 @ 4 1/2 c
Calves, lightweight 12 @ 12 1/2 c
do, medium 11 @ 11 1/2 c
do, heavy 8 @ 9 c

SHEEP—There is a fair market for all sheep on the hoof, and an especially good demand for fat lambs and good yearlings. Indeed, it is not easy to meet requirements for the latter grade of stock. Quotations stand:

Lambs, Yearling 10c
do, Milk 12 @ 12 1/2 c
Sheep, wethers 8 1/2 c @ 9 c
do, ewes 8 1/2 @ 7 c

HOGS—The rapid and steady descent of hog prices during the past few weeks is dispiriting to the swine growers of the State—and to make matters worse, no one can forecast the end of the slump. The lessened demand for our pork products from Europe and the general protest against the high cost of living, including the cost of meats, appear to be the leading factors in this sensational decline. The various swine growers' associations of California are giving serious attention to this somewhat depressing situation, and are hopeful of strengthening their position and of giving new tone to the weakening market. Settlement of labor troubles and improved shipping facilities are looked forward to for some relief. Quotations are sharply lower.

Hogs, hard, grain-fed, 100-150 13 1/2 c

Undersized, 49 46 1/4 47 1/2 .. 49 1/2 50 1/2

CHEESE.

The cheese market is steady and very quiet. Price changes were slight during the week. The general demand was lacking for most descriptions and this was especially marked in the case of California flats fancy.

California Flats, fancy 31c
do, Firsts 27c
Y. A. Fancy 31 1/2 c
Oregon Triples 29 1/2 c
do, Y. A. 32 1/2 c

FRESH FRUITS.

The apple market is the best of the fresh fruit market at present. The Oregon product at \$3 is now plentiful and receives much support. Oregon peaches are also plentiful. While there are a few cantaloupes still coming in, there is no demand for this fruit at this season of the year. Quinces are weaker, on account of the sugar situation.

Apples, Alexanders \$1.25 @ 1.50
do, Jonathan, \$1.50 @ 2.20
do, Kinn \$1.50 @ 2.00
do, Bellflower \$1.50 @ 1.75
do, Newtown Pippin, \$1.75 @ 2.00
do, Oregon Delicious \$3.00
do, Oregon Banana \$3.00
Pears \$1.50 @ 4.00
Figs \$1.00 @ 1.25
do, white \$1.00 @ 1.25
Plums, box 75c @ 1.50
Grapes, Seedless \$1.25 @ 1.75
do, Others \$1.50 @ 2.00
Strawberries \$1.50 @ 1.80
Raspberries \$1.40 @ 1.60
Watermelon, lb. 14 @ 1 1/2 c
Quinces \$1.00 @ 1.25
Oregon Peaches \$1.25 @ 1.50

CITRUS FRUITS.

There have been some arrivals of grapefruit this week and these were eagerly snapped up by buyers. The new crop will not begin to arrive before the middle of next month and at about the same time navel oranges will begin to arrive. In the meantime there were no changes in quotations for any description.

Oranges, Valencia \$5.25 @ 5.75
Lemons, fancy \$7.00 @ 7.50
do, choice \$6.00 @ 6.50
do, standard \$5.00 @ 5.50
Lemonettes \$4.00 @ 4.50
Grapefruit \$6.00 @ 6.50

DRIED FRUITS.

Prices to growers for dried fruits weakened very materially this week. Most of the buyers have secured practically all they care to contract for and as a consequence prices dropped one or two cents for the several descriptions still on the hands of growers.

Apples 16 @ 18c
Pears 16 @ 18 1/2 c
Peaches 15 @ 17c
Apricots 21 @ 28c
Prunes 11 @ 13c
Figs, Adriatic 12 @ 18c
do, Calimyrna 15 @ 21c

RICE.

There were no changes in rice quotations either for spot or futures this week. The market is regarded as steady and little variations from present prices are expected before the crop is about ready to move.

LOS ANGELES.

Los Angeles, October 14, 1919.

BUTTER.

Following a break in the San Francisco market, prices went off here up to Tuesday 2c, but at this decline there was very good buying the balance of the week. Receipts for the week 260,000 pounds. We quote:

Fresh California extra creamery 65c
do, prime first 63c
do, first 62c

EGGS.

There were a few more eggs in the past week. Yet the arrivals of fresh ranch eggs

do, 150-225 14c
do, 225-300 13c
do, 300-400 12c

Los Angeles, October 14, 1919.

CATTLE—Steers continue rather scarce, firm and in demand. Cows are plentiful, but slow sale and weak. Calves are steady and in fair demand.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 @ 1100 lbs. \$9.50 @ 11.00
Prime cows and heifers \$8.00 @ 9.00
Good cows and heifers \$7.50 @ 8.00
Canvans \$5.00 @ 5.50

HOGS—Sharply lower in sympathy with declines East. Offerings only fair, and what are coming in selling without trouble at quotations.

Per cwt. f. o. b. Los Angeles:
Heavy averages 225 @ 350 lbs. \$11.50 @ 13.00
Heavy averages 225 @ 275 lbs. 13.50 @ 14.50
Light 14.50 @ 16.00
Rough docketed 20 lbs. piggy sows 40 lbs. and stags 40 per cent.

SHEEP—Market steady and lambs and yearlings in good demand. Ewes and wethers slow sale. Prices steady.

Per cwt. f. o. b. Los Angeles:
Prime wethers \$8.50 @ 9.50
Yearlings \$8.50 @ 9.50
Prime ewes \$8.00 @ 8.50
Lambs \$12.50 @ 13.50

PORTLAND LIVE STOCK.

Portland, Ore., October 14, 1919.

CATTLE—Slow: receipts 26. Steers, best, \$9.50 @ 10.50; good to choice, \$9 @ 9.50; medium to good, \$8 @ 8.50; fair to good, \$7 @ 8; common to fair, \$5.50 @ 6.50; good to choice cows and heifers, \$7.50 @ 8.25; medium to good, \$6.50 @ 7.50; fair to medium, \$5.50 @ 6.50; canners, \$4.75 @ 5.75; bulls, \$5 @ 6; prime light calves, \$14 @ 16; heavy calves, \$8 @ 13; stockers and feeders, \$7.50 @ 9.25.
HOGS—Weak: receipts, 3. Prime mixed, \$15.50 @ 16; medium mixed, \$15 @ 15.50; rough heavies, \$12.50 @ 14; pigs, \$14 @ 16.

were short of the demand and the market advanced for the week up to Monday 2c on extras, 4c on case count, and 3c on pullets, the demand being good at this advance. Receipts for the week, 576 cases, by rail. We quote: Fresh ranch extras 71c
do, case/ count 64c
do, pullets 58c

POULTRY.

The market remains much the same as a week ago. Broilers in very good demand and under lighter offerings prices are higher. Fryers are lower and slow sale and so are roasters. Heavy hens are in good demand and steady, but light hens are slow sale. Ducks and turkeys are steady and selling fairly.

Broilers, 1 to 1 1/4 lbs. 42c
Broilers, 1 1/2 to 1 3/4 lbs. 42c
Fryers, 2 to 3 lbs. 30c
Roosters (soft bone), 3 lbs. and up. 27c
Stags and old roosters, per lb. 19c
Turkeys 40@42c
Hens 30@35c
Ducks 25@27c
Geese 27c

VEGETABLES.

There is little change in this market. Potatoes and onions continue much the same as at the close of our last review. A good many potatoes are coming in, but the arrivals of onions the past week were light. Lettuce is sharply lower. More is coming in. String beans are lower but in fair demand. Tomatoes are steady and selling fairly. But few cucumbers are coming in and the price is higher and the demand fair. Green peppers are steady and so is celery and both are moving fairly. Cantaloupes are out of season. Watermelons are steady and in fair demand.

Potatoes, local, per cwt. \$2.00@2.20
do, Northern Burbanks \$2.25@2.50
Sweet Potatoes \$2.25@2.50
Onions, Stockton, yellows, cwt. \$2.75@2.80
do, White Globe, cwt. \$2.40@2.65
Cabbage, per 100 lbs. \$1.00@1.25
Lettuce, crate \$90c@1.00
Rhubarb, per 30-lb. box 75c@1.25
Summer squash, lug 30@40c
Peas, per lb. 8@10c
Kentucky Wonders 6@7c
String Beans, wax 6@7c
do, Green 5@6c
Tomatoes, lug box 25@65c
Lima Beans, local, lb. 7@9c
Cucumbers, local, lug box 60@75c
Watermelons, 100 lbs. 75c@1.00
Corn, lug box 50@65c
Peppers, Bell, lb. 3@3 1/2c

do, Chile, lb. 3@3 1/2c
Casabas, lb. 1@1 1/2c
Celery, crate \$4.00@4.50

FRUITS.

Apples and grapes make up most of the offerings. They are coming in freely and all good stock is meeting with a good demand at steady prices. Peaches and plums are about out. Pears continue to come in in a fair way and are selling well. Strawberries are firm and selling without trouble.

Peaches 5@6c
Strawberries—
30 basket crates, fancy \$5.00@5.50
Poor to choice \$3.00@3.25
Blackberries, case 30 boxes \$4.00@5.00
Raspberries, case 30 boxes \$5.00@5.25
Plums—Sugar, lb. 5@6c
do Nectarines, lb. 6@7c
Grapes, Malaga, lb. 5@6c
do, Muscat 4@5c
do, Tokays 6@7c
do, Rose Peru, lb. 3 1/2@4c
do, Hamburgs, lb. 3 1/2@4c
Crabapples 5@7c
Pears, Bartlett, lb. 6@9c
Apples, White and Red Astrakhan, lb 4@7c
Apples, Bellefleur, 4 tier \$1.35@1.40
do, 4 1/2 tier \$1.30@1.40
do, 3 1/2 tier \$1.25@1.30
do, Jonathans, lb. 6@7c
do, 4 1/2 tier \$1.35
do, Spitzenburg, lb. 5 lb 6s; box \$3.25
do, Red Pearmain, lb. 3@4c; box \$1.65
do, White Pearmain, lbs. 3@4c; box \$1.60
do, Yellow Newtown Pippins, lbs. 3 and 4c; box \$1.65

BEANS.

There was a further advance in limas the past week and the demand was very good. Some little move was also made in blackeyes, but the whites and pinks continue dull. Limas, per cwt \$12.50@13.50
Large white, per cwt. \$6.25
Small white per cwt \$6.50
Blackeyes, per cwt. \$5.00@5.25
Tepary, per cwt. \$3.00@3.25
Pink, per cwt. \$6.25

HAY.

Not much came in the past week, and the market is a little stronger for alfalfa, with fair buying. Grain hay is still dull. We quote f. o. b. Los Angeles.

Barley hay, ton \$18.50@21.50
Oat hay, ton \$22.50@25.00
Alfalfa Northern, ton \$24.00@25.00
Alfalfa local, ton \$25.00@27.00
Straw \$ 9.00@10.00

BERRY PLANTS—Strawberries, Raspberries, Blackberries, Currants, Gooseberries, Dewberries and Loganberries. Order now to assure delivery. Write M. J. Moniz, Berry Specialist, Sebastopol, California.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

FOR SALE—Bean Tractor, has latest improvements; in A-1 condition. Will sell cheap Gibson Development Co., Oakdale, Calif.

WANTED—Married dairyman, experienced in A. B. O. fitting for shows; calf raising, etc. Sunnybrook Ranch, Willits, Calif.

A NEW ALFALFA—Investigate now. Our great "Hardy Hybrid" alfalfa. For facts, write J. L. Lawson, San Jose.

MAMMOTH JERSEY KALE SEED—2 oz., 15c, by the pound, \$1.00. A. P. Ward & Son, Calistoga.

COUNTRY LANDS.

FOR SALE—20 acre ranch, 5 miles from Oakdale, 1/2 mile from S. P. Flag Station, 1 1/2 mile from Valley Home Railroad Station, 1/2 mile from Highway; under Oakdale Irrigation System, plenty of water; property all checked for alfalfa with laterals for irrigating every part of ranch; land ready for re-seeding to alfalfa; good sandy soil of A-No. 1 quality; good barn; enclosed tank house; good tank and windmill; family orchard around the house; four-room house covered with vines. Price \$5,000 gross. If bought direct from owner real estate agents' commission will be thrown off. Owner, BERKELEY SECURITIES COMPANY, 218 First National Bank Bldg., Berkeley, California.

FOR SALE BY OWNER—Ten-acre apple orchard 3 miles south of Bishop, Cal., in Sunland District. Just coming into bearing. Lays under head of Mesa canal with ten inches of water—none better in America. Climatic conditions are unsurpassable. Orchard is in good location on main traveled road with ideal view of mountains and valley. Varieties of fruit are Winesaps and Jonathans, the leading varieties for Owens Valley. Phone 5F4, No trade. Clyde Hall.

SMALL FRUIT RANCH for rent at Loomis, Cal. Address 206 Lake St., Reno, Nev.

\$1500 DOWN SECURES

108 Acres, 3 Horses and 9 cows, 3 heifers, bull, hogs, chickens, wagons, buggy, plows, cultivators, harrows, disc, mowing machine, rake, grain drill, harness, long list tools, 150 bu. oats, large quantity hay, corn, potatoes, near railroad town, electric cars, high school, few steps milk station, 10 miles world-famous resort, 12 miles large city, 60 acres in high cultivation fields, wire-fenced, 20-cow pasture; home-use wood; 200 apple trees, 40 pears, 24 cherries, abundance other fruit, berries, 12-room house, good condition, running water, air-pressure system, good, painted barns, stable, granary, corn, smoke, ice, poultry houses. Retiring owner sacrifices all for \$6,500, only \$1500 down needed. Details page 32, New Fall Catalog Farm Bargains, Maine to Florida, and west to Nebraska; copy free. STROUT FARM AGENCY, 831AF, N. Y., Life Bldg., Kansas City, Mo.

WANTED TO BUY in Santa Clara county, in the hills, between Mayfield and Saratoga, about six productive acres and a house, or a good home-site, the same being part of a large, modernly-equipped orchard or dairy farm. The seller to continue, by yearly agreement, to work the six acres, in addition to his own land. Trees, water and view necessary. No agents. Address, Room 324, Merchants Exchange Building, San Francisco.

FOR SALE—Eighty-acre alfalfa dairy ranch in heart of orchard district, two miles from Hollister, including forty milk cows, 28 heifers, four work horses, 150 tons alfalfa hay, 6-inch centrifugal motor-driven irrigation plant, 60x90 barn, modern house, machine shop and other buildings. Address, Owner, Geo. P. Merritt, Hollister, Calif.

120 ACRES IRRIGATED LAND—52 acres cleared, 35 acres in orchard, 17 acres hay land, balance timber. Price \$4,000; one-half cash; terms on balance. Abstract title water with the land. Located in Happy Valley, Shasta Co., Cal. Write Box 133, Cottonwood, Shasta county.

FOR SALE—15-acre improved and irrigated ranch one-half mile from Newman in Stanislaus county. Deep soil, no hardpan. Bargain at \$4,200. Good for dairy, chickens or variety farming. Ready for double crop this year. Owner, W. L. Bone, Escalon, Cal.

FOR SALE—450 acres—sediment soil; water on each five acres, 16-inch cement pipes. Will sell in tracts to suit. Raised over 200 sacks of onions per acre this year. Full particulars. Address R. H. Middleton, Lakeview, Cal.

40 ACRES—Fine for berries, vegetables, poultry and cows; plenty water and wood; near town. H. Koenig, Fort Bragg, Cal.

FOR SALE—14 acres orchard or berry land. Paradise near Chico. Cheap. Address Box 1700, Pacific Rural Press.

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DAIRYMEN, ATTENTION!—Young woman, University of California graduate, desires a position on a dairy ranch. Experienced. Can take charge of records, testing and calves. References. Address Box 1690, Pacific Rural Press.

SUDAN—We want to buy Sudan grass seed. Send us samples. Bomberger Seed Co., Modesto, Cal.

WANTED—Position as superintendent or foreman on ranch by married man thoroughly experienced in growing deciduous fruits, pruning, drying and irrigating, raising of alfalfa and general farming. Also willing to take place on shares. San Joaquin Valley or Santa Clara Valley preferred. Address answers to P. O. Box 271, Ileton, California.

FOR SALE—Complete refrigerating plant; 6 H. P. gas engine, compressor, shafting, piping, milk cooler. Everything nearly new and in first-class condition. Reasonable terms. Write Coast Dairies & Land Co., Davenport, Cal.

RANCH FOREMAN, married, two children, will be open for engagement after November 15. Fourteen years' experience in citrus and general farming. Must be near school. References. G. R. Koenig, Berenda, Cal.

MARRIED MAN—Experienced general farming, handling stock, wants employment; straight salary, salary and percentage, or might consider share lease. Give full particulars. George Mitchell, Box 14, Denair, Cal.

WANTED—Silent partner with some capital for good nursery proposition. Good soil, thirty years' experience. Excellent location. T. J. True, Lancaster, Los Angeles Co.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

12-20 YUBA TRACTOR, used very little. P. M. Pederson, Oakdale, Cal.



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Anyone can install them.
'Tis safe, clean and economical.

Single Outfit Complete \$12.50—for No. 6 stoves.
Double Outfit Complete—\$22.50—for No. 7 to No. 9 stoves.

Prompt delivery upon receipt of order.

VAUGHAN & MATTISON,

225 Market Street,

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YOUR party, dance, social or club session calls for refreshments—and there's one unfailingly successful beverage—Ghirardelli's. Creamy, delicious, fragrant—it's an instant favorite with or without cakes or sandwiches. Better than all, Ghirardelli's is made in a jiffy!

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In 1/2 lb., 1 lb. and 3 lb. sealed cans—
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Say "Gear-ar-delly"

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Since 1852

San Francisco

(F4)

GHIRARDELLI'S Ground Chocolate



No birds get through *his* shot patterns

THE successful sportsman knows that his bag depends almost as much upon the shot pattern, or evenness with which the shot spreads out and covers the game, as it does upon his gun handling.

The secret of uniform game-getting patterns is in the control of the gas blast from the exploding powder. This in turn depends upon the *wadding* in the shell.

The Winchester gas control system

The Winchester system of wadding and loading is the result of repeated experiments to determine the most effective control of the gas blast.

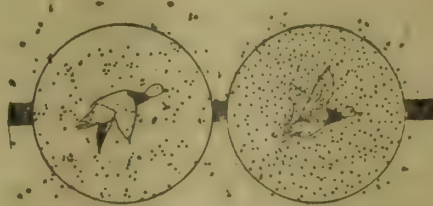
The base wads of Winchester Shells are constructed to give what is known as progressive combustion to the powder charge. The ignition spreads to the sides, in all directions, as well as forward.

Under the heat and pressure of this progressive combustion the tough, springy driving wad expands and fills the bore snugly, completely sealing in the gas behind. In being driven through the bore this wad offers just enough resistance to the gas blast to

insure complete combustion of every grain of powder, so that the full energy of the whole powder charge is developed at the muzzle. Thus none of the shot charge leaves the gun until it is being driven by the maximum energy and velocity possible from the load.

At the muzzle, the expanded, snug-fitting driving wad is slightly

sure the maximum pattern possible from any load. The broad fish-tail flash from the primer gives even and thorough ignition; the driving wads completely seal in the gas behind the shot; the stiffness of the crimp or turnover at the shell head is varied exactly according to different loads, great care being taken never to stiffen it to such a degree that it offers undue resistance to the powder explosion.



A patchy pattern often means a miss, many times a cripple, and sometimes badly mutilated game.

The hard-hitting Winchester pattern is evenly distributed. No game gets through, and no game is mutilated.

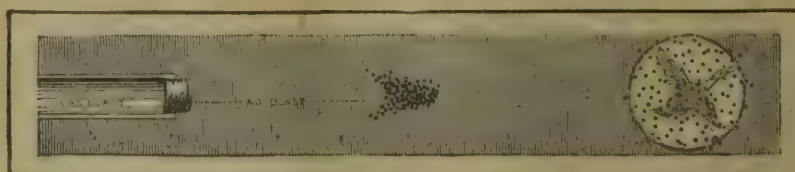
checked by the muzzle choke or constriction, while the shot cluster travels on unbroken by gas blast or wadding, making the hard-hitting uniform pattern for which Winchester Shells are world-famous.

Uniform shells. From primer to crimp Winchester Shells are so balanced in construction as to in-

In addition Winchester Shells are, of course, thoroughly waterproof, insuring true shooting in damp saturating salt air or drenching rains. A special lubrication of the paper fibre prevents brittleness and splitting in dry weather.

Clean hits and more of them

To insure more hits and cleaner hits in the field or at the traps be sure your shells are Winchester Leader and Repeater for smokeless, Nublack and New Rival for black powder. Leading hardware and sporting goods dealers in every community carry Winchester arms and ammunition. They will be glad to assist you in determining the particular load best suited to your purpose. Upon request, we will send you, free of charge, our interesting booklet on Winchester Shotguns and Loaded Shells. Winchester Repeating Arms Co., Dept. 251, New Haven, Conn. U. S. A.



The Winchester system of wadding. The wadding expands evenly, sealing in the gas blast all the way to the muzzle, where the wadding is checked by the "choke" or constriction. The shot cluster travels on ahead unbroken. Actual test target 350 pellets out of 451 or 78% of the shot charge (1 1/2 oz. of 7 1/2 chilled) inside a 30-inch circle at 40 yards.

WINCHESTER

World Standard Guns and Ammunition

THE PACIFIC RURAL PRESS

SAN FRANCISCO

OCTOBER 25, '9

LOS ANGELES

California International Stock Show and--



GREAT HORSE SHOW AS WELL. They are not doing things by halves. A great big live stock show is fine and they are going to have it, but also a real Horse Show, to take the bread and buttery taste out of our mouths, to give us all a good time, young and old, rich and poor alike. After the serious business of the day is over, the judging of the hogs and cows, the sheep and goats, and dinner has been eaten, what then? The day is not complete without amusement of some kind to relax the tired thought with something beautiful and send us to bed and into delicious dreams of expectation of what is coming tomorrow.

Go and See a Real Horse Show.

Did you ever go to a real horse show such as they will have in San Francisco, when they really set out to do their level best? No, you have not. You may have gone to something in the past that was called San Francisco's best, but it was just as the Mid-Winter Fair was great. That was years before the "Panama Pacific," and which was greatest and best? The last one, of course, and that is the way it will be with this coming horse show. It will "see" the last one whenever that was held and "raise" it a

"stack of blues," it will be so much better. San Francisco, with the assistance of all the horse lovers of California, will see to it that a perfect setting is given to this great livestock show that is going to be "pulled off" the first week in November.

You have seen horses before, but the horses you will see here will have the fire and the courage, strength and endurance, the beauty and the gentleness of the ages back of them all. With a skin and coat like satin, the intelligence of man and the carriage of conquerors. Single and double, abreast and tandem, fours and sixes, all greater and better and more beautiful than ever before under thousands of lights to the strains of the most entrancing music, the gaited saddle horses, the light harness and heavy harness horses, trained and fitted to the second, all will be there ready and willing to show as they never have shown before. They cannot help it, these beautiful things we call them. They always do their best. Always go to "the end of the trail."

In connection with the stock show the U. S. Department of Agriculture will have a large part of the exhibit here that was at the National Dairy

(Continued on page 564.)



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J. W. J. FOX	Horticulture
THOS. F. MCCONNELL	Livestock

EDITORIAL.

SERMONS IN STEERS.

TWO WEEKS ago we indulged in a few reflections concerning the entry of the live stock idea and enterprise into the portion of geography which is now included within the boundaries of California. The entry was then accredited to our padre pioneers and path-finders who herded or corralled the first domesticated grazing animals in San Diego in 1769, multiplied them during the following half century until their skins and tallow brought traders' ships half the circuit of the globe to secure them—and thus California's export trade in animal products began. While this was going on many animals saved their hides by breaking away from their herders and populated California's arid pastures with wild stock. Thus the Americans who came in '49 found the State well filled with animals on ranches, also animals wild as antelope on wild land, which had never been subdued even to the degree of a Spanish grant, and the first Americans were free to supply themselves by rope or rifle as they saw fit. Thus California was provisioned throughout from the south and supplied also with foundation stock ready for rapid multiplication and improvement as American development of the State began. For Americans had no idea of continuing California as a hide and tallow state, nor of prolonging the rude, pastoral husbandry which satisfied the ambitions of their predecessors. And thus it came to pass that, though historically there were foundations laid for California's animal industries by the Spanish occupants who entered the country from the south, the superstructures which are building today rest only remotely on those foundations, for they have now deeply passed from view beneath the achievements of the American plains-crossers, isthmus-crossers and horn-rounders who entered California over the Sierra or through the Golden Gate "in '49 or the spring of '50," and developed in Central California herds and flocks upon the basis first of the British and later of the Hollandish breeds. So strong was the feeling in support of improved stock in the early '50s that to charge a man with owning and breeding Mexican cattle was something of a social reflection and reproach and by as much as was the dishonor to such by so much the more came honor to those who gave effort and money to importing "good stock" by driving them across the plains from the Middle West or bringing them by ship from ports on either side of the Atlantic.

CITIES' INTEREST IN COUNTRY CATTLE.

It is an interesting fact, which carries its lesson even to the present day, that the live stock industries of the country-side owed their origin and speed of development to the insight and interest of pioneer city men and their participation in the demonstration that California never could become great as an American State unless Mexican cattle, sheep and swine and Mexican ways of growing them were completely displaced by better animals and better animal husbandry. It was largely owing to city men that arrangements were made to vividly

contrast the old with the new, the worse with the better in animal forms and the significance of form in capacity and capability. The first State Fair was held in San Francisco in 1853, but it was wholly an affair of plants and their products, and was popularly criticised as incomplete. The second State Fair was also held in San Francisco in 1854, and it was rounded out by a branch consisting of a cattle show at the Mission which was of course richer in popular Spanish equine exploits than in improved stock, but involved a conception and impulse toward the latter. The State Fair of 1855 was held in the Assembly Chamber at Sacramento with a cattle show at the "Louisiana race track"; that of 1856 was in San Jose and was prominently designated as "not only a fair but a cattle show," and deserved the title; that of 1857 was of the same complete character and was held in Stockton; and the same is true of a display in Marysville soon afterward. Thus the five "great cities" of the '50s joined in declaring their conception of the desirability of the proper development of American live stock industries in California and their confidence in the attainment of it. And the contribution of these pioneer towns was not merely the arrangement of a popular assembly to promote sport and extend trade, which is always an urban motive in getting the country to the town—it was more than that, for the exhibits, in the live stock lines especially, were largely imports made by city people and the offspring thereof bred upon their own country property—and thus the resources of townspeople were poured out in enterprises which made for rural development. It is fair to say "poured out," for distant purchases for California account were of the very best and the prices at the very top for the times, because nothing less than the best would be worth the trouble and expense of delivery in California at a time when it cost a lot more to deliver a bull than a man in this corner of the world—especially as the bull required the services of a human valet to bring him through. It was largely due to the free money of successful city people, therefore, that California made such a quick start toward an abundance of pure bred stock, and one of the results was the early obliteration of the Mexican types and the multiplication of grades which manifested the prepotency of their pure bred sires to such an extent that as early as the '60s it was a common observation by expert visitors that the common-run of stock in California was superior to that in the oldest Eastern States, which were slower to recognize the powers of the pure bred and more cautious in investing money in it. Long before hard-headed Eastern farmers ceased to claim that "a cow is just a cow" the adventurous and discriminating Californians were perfectly satisfied that "a cow may be a cow—providing she is not a Mexican," and they backed their judgment with their coin.

COMMUNITY OF CITY AND COUNTRY.

This wide interest and free participation of successful city people in rural improvements has had a marked influence upon California rural advancement from pioneer times to the present day. We are not of course claiming that it was a new idea in California, for it has been in the world ever since Nebuchadnezzar took to grazing, and it has been discernible in the history of all great cities and their environments—in none perhaps more striking than in the rural proclivities of the nobility of ancient Rome. In modern times also all great cities have furnished their wealth-winners great sport on country estates. What we claim for California that is different from all this lies in two lines, viz.: the conception of the importance of urban investment in rural advancement and indulgence in it as a development-motive rather than for personal gratification; second, the wider prevalence of both the idea and the action in urban population. The effect of this wide recognition of patriotic motive in building up the country was also twofold: it engendered a better attitude of the urban toward the rural resident and a recognition of the dependence of the city's growth upon rural development and increase of the highest class of rural production. Nowhere in the world has the farmer been recognized as capable of moving in so high a social class as in California and nowhere has he carried so light a commercial and financial handicap. Of course we do not mean that he has

not been the victim of social and commercial discrimination at all, for that claim would be nonsense. The world seems to have been set for that line of injustice ever since Adam slipped, sprained his back and was put to pulling thistles, and never again this side of heaven will the farmer be allowed to look upward as he ought, but he comes nearer to the perpendicular in social and financial affairs in California than elsewhere in the world, so far as we have heard or seen. This fact is due in the main of course to the capacity, quality and culture of our farming people, who have been able to command such confidence and consideration by their own achievements in production and organization of their business affairs, but contributory to such standing has always been the general recognition, by other population-groups of Californians, of the fact that in California the food produced is not a mere incident or subsidiary of commerce, finance or manufacture, and ought to be thankful to live as a by-product thereof, but is really the wealth-producer upon whose activity the State advances and all other activities find their opportunity and chance of reward. The standing of the farmer depends not upon his self-consciousness of this fact, but upon others' recognition of it, and therefore our claim that the early and continued interest of our urban populations in what the country can do and must do if the State is to reach its fullest development has contributed to the honorable standing which the farming element of our population has always occupied in California, and is destined to more fully occupy in the future.

COUNTRY'S SHARE OF CITY'S SURPLUS.

Our observation is that no other State has two great cities where interest in rural development is keener, more direct and more widely spread among city people than in San Francisco and Los Angeles. We doubt if there are any which come so near to farming its own back-country than do these two. So far as that fact goes by itself we are not sure that it is a good thing, and we are taking no pride in it, but if it is a fact it clearly involves an obligation which the present generation should acknowledge and act upon as frankly and fully as their ancestors did. If the city does largely own the country it should work actively for its development, for that is the secret of either holding or selling profitably—ignoring all altruistic or patriotic motives, which should be strong if not predominant. The city should therefore proceed wisely and continuously with improvement of rural property. If such obligation is recognized, along what lines should such improvement be urged? Three lines suggest themselves as chiefly contributing to State development, viz.: the horticultural (fruits and vegetables and preservative industries thereof); the animal (meats and dairy products and their preservative industries); the agricultural (grains and milling, which gives them commercial forms; forages and their profitable lifting to higher forms by animal agencies). Of these three lines the first has a character which is in itself very attractive and has attained a headway which is self-impulsive, and may not need systematic promotion—our horticultural industry. It is ministering to the desires of the world for food of particularly delicious and salutary characters. It is attracting capital and enlisting workers about as fast and far as either can be profitably employed. It is making its own way and will continue to make it.

It is an interesting historical fact that fifty or sixty years ago the relations of the three lines of agriculture which we have indicated sustained about the same relations to each other as they do now. Nine-tenths of those who came to California for any agricultural purpose in the '50s came to grow fruits and vegetables, and in from three to five years the capacity for local consumption of both was oversupplied. It was nearly ten years before a surplus of grains was produced, and nearly twenty years after the first inherited mass of Mexican meat was eaten up before American meats reduced importations (on foot or in the barrel) to the fraction of the local consumption which it has never fully displaced, and about thirty years before the dairy industry caught up with importations. The general situation has therefore always been this way: fruit production has never needed promotional effort, though it had plenty of it from

colony-organizers and county-advertisers; animal production has always needed promotive effort, either in production, packing or commercial handling, and has never had it in the effective ways which the fruit industries enjoyed. The result is that about seventy years after American farming began in California the fruit industries by their own attractiveness and by the cultural and commercial ability of those whom they attracted—fruit products which were a glut on the California markets of 1858—are scarce in the markets of the world in 1919, although the value of a quarter of a billion dollars' worth were produced and exported. Another result is that our animal industries, which never have been adequately promoted, have never reached production equal to local consumption, and have never made anything more than spasmodic exportation at odd times of the year and are wholly insignificant when compared with the volumes which still steadily seek our markets from distant producing regions. In view of these facts it is not hard to see in what direction the city's surplus for country development should go—for its own profitable employment and the good of the State.

HOW SHOULD THE CITY DO ITS PART?

In a word, the city should do what the country is not doing, or cannot sufficiently do, for itself. This is capable of being done in ways too numerous to enumerate. Two broad lines may however be cited. First, the city should finance the country fairly and generously from its vast accumulation of surplus capital. It is agreeable to note the fact that the city is now better disposed toward this service than ever before. Large city banks are establishing branches in country towns for more direct trade in money. During the present month a group of city capitalists organized and established in San Francisco the first joint stock farm loan bank on the Pacific Slope. Such banks are cousins of the co-operative farm loan banks (of which the central institution is the Federal Farm Loan Bank in Berkeley), and their organization was provided for by the same act of Congress. This new financial institution in San Francisco, looking country-ward, may be taken as an indication that our metropolis is inclined to do its financial duty, and we let it go at that for this time.

The second broad line of urban activity in rural affairs leads to the turning of idle land to productive activity. This may take the form of irrigation organization and construction, subdivision and settlement, etc., which are now proceeding very actively and will increase of their own accord. The phase which needs promotion, because it requires rather more courage and a higher degree of personal attention and mastery of practical and scientific details, is the installation of production on large tracts which may be bought as an investment or if already in ownership may be turned from idleness and desolation to activity and the music of industry. It is an economic sin to let large tracts of land lie waste, not bearing their proper share of public expense and giving our single-tax friends the mull-grubs. Owners of such lands, who are mostly city people and institutions, should not be putting in so much time bluffing the county assessors, but should blow in some more money making their lands do something. Suppose the tax collector does get most of the net income—he will probably leave enough for interest upon your development-investment and that will put you ahead, for the land yields you practically nothing now and by making it produce something you will hurry up the unearned-increment so that it may hit you instead of your grandchildren. Besides you will be doing something which may justify the public in the hope that you may live long in the land, whereas they now do not care a whoop how soon your toe hits the bucket! There will be some risk in it, of course, but you are used to that. Unless you are a miser, everything you do has risk in it, but this is a thing which you can work at yourself, fill your life with sporting joy and interest and make the end justify the means in an honorable way. Besides if you lose you are not worse off. What you have title to now is not only emptiness to you but to the whole community. Do something to fill her up or let her go, Gallagher! We are perfectly sure that the city has no right to our land in the country for the sake of keeping it idle. If

you cannot think of anything else to do with it, smooth it off and let the public use it as a landing-place for air-planes. It may bring you nearer to heaven that way than you will get otherwise.

A SUGGESTIVE DISPLAY.

Whither is this homily tending? It is this way. This issue of our journal largely looks forward to the opening in this city of a live stock show of which the purpose and motive closely resemble those which actuated the first of its kind just two-thirds of a century ago—viz.: the amplification and diversification of the live stock industries of California. It is significant that great as is the contrast between the scant collection of commendable beasts which they had in 1855 with the multitude of purebreds which will be assembled this year, and the contrast also of the fancy riding of the Mexican chicken-snatchers of that day with the elegance and grace in the horse-show ring of 1919—both events made clear the same great fact, viz.: California's opportunity for the expansion and improvement of the animal industry. The fundamental and far-reaching significance is that no matter how great may be the attainment at any date, the State and its capacity for progress will still beckon forward to the men and women who have love and effort for California.



H. C. Ahlers on San Vicente, 5-gaited stallion, undefeated champion at 1919 State Fair, to compete at the Horse Show, California International Live Stock Show, San Francisco, November 1-8.

What may be expected at the coming show and all the facts about the arrangements for it may be found in other columns of this issue, which is the contribution of the Pacific Rural Press to the glorious success of it. The show itself is San Francisco's acknowledgment of its joy to discharge, as best it can in one event, the obligation to promote the prosperity of its environment and to suggest specific ways in which this end can be attained. As the metropolis undertakes such a concrete suggestion, the obligation rests upon all San Franciscans to translate its language into individual attitudes and actions. The city says to all citizens: "Come ye and see the glories of the animal kingdom as applied by human insight, ingenuity and industry to the advancement of civilization and the prosperity of mankind." And this means of course that the show will be a demonstration of the capability of the domesticated

animal to assume forms and serve purposes which are essential to State development and individual prosperity which have been continually in view throughout the course of this discussion. It will be an idle show if one beholds it only for passing gratification—though that is perfectly commendable if that forms the limit of one's abilities or resources. It is hoped, however, that for thousands it may serve as a spur and incentive to action; that the lordly animal one sees may suggest that to grow poor animals is a waste of time, land and money; that the enthusiasm which the study of a good animal is likely to beget in any discerning mind may lead to desire to enter into generous rivalry with other men and women to produce such animals or even better ones; that the whole display may create in many minds an appreciation of the industrial significance of the promotion of live stock interests by such investments as are needed in enterprises for fair and systematic sale of stock, preparation of products and resulting rewards to producers. Our animal industries need betterment all the way from the pasture to the consumers' tables to the end that more and better products may more adequately requite those who give their lands and lives to the output thereof, and a great stock show must hold such ends to be its ultimate aim and purpose.

Spring or Fall Plowing.

To the Editor: Which is the most beneficial—spring or fall plowing?—F., Biggs.

Neither is clearly superior under all circumstances and conditions. If you have land which is pretty well on edge in a place where rainfall is heavy and erosion dangerous, or if you wish to get all the natural cover crop which will grow, it is better not to plow in the fall, but let the weeds hold the land until they get to be as high as you can plow under and this will be late in the winter or early in the spring. On the other hand, if you wish to start a cover crop by sowing, it should be put in as early as practicable in the fall. Also, if your rainfall is not excessive and you wish to save run-off and get as much moisture into the ground as you can and there is no great danger from erosion—them again fall plowing and leaving the land rough is also best. And there are many other conditions and purposes which may make either fall or spring plowing superior on particular places, so there can really be no rule. It is up to every man to look and think closely and decide for himself which is better for his land. In a general way it may be said that fall plowing gets most moisture into soils which are disposed to yield run-off if left hard. It is also true that spring plowing, as a rule, is capable of losing considerable moisture by evaporation, which in many cases cannot be spared.

ASSOCIATED DAIRYMEN WIN PRIZES.

At the San Francisco Land Show the Associated Dairymen of California won first on butter, first on milk (San Francisco Dairy Company's product), second on cheese and second on milk products.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending October 21, 1919.

Stations—	Past Week	Rainfall		Temperature	
		To Date	Normal To Date	Highest	Lowest
Eureka .....	.00	1.65	3.03	64	42
Red Bluff .....	.00	.86	1.81	86	36
Sacramento .....	.00	.53	1.03	84	44
San Francisco .....	.00	.56	1.06	78	48
San Jose .....	.00	.26	.93	80	36
Fresno .....	.00	.27	.71	84	50
San Luis Obispo .....	.00	.40	1.21	84	44
Los Angeles .....	.00	1.29	.48	88	50
San Diego .....	.00	.20	.37	84	56
Winnemucca .....	.00	.70	1.04	78	22
Reno .....	.00	.48	.91	74	28
Tonopah .....	.00	.39	1.69	68	30

INVITATION FROM CALIFORNIA DAIRY COUNCIL.

California Dairy Council welcomes you to participate in its activities at the California International Live Stock Show.

The Council is an organization of producers, distributors, manufacturers and allied industries interested in the promotion of the Dairy Cow and increasing the consumption of her products through co-operative and united effort.

SAM H. GREENE, Secty-Manager.

Program of California Dairy Council

Thursday, November 6th, has generously been set aside as California Dairy Council Day by the management of the California International Live Stock Show. The whole day will be given over to practical discussions and the viewing of the many enlightening exhibits which no member of the Dairy Industry can afford to miss. A special meeting has been called for November 6th by California Dairy Council for all members to attend a special program which has been arranged, featuring topics of paramount importance given by recognized authorities.

The program has been divided into morning and afternoon sessions as follows:

9:30-10:30 A. M.—Stock judging demonstration in the arena, open to all dairymen.

10:45-11:15—"The Place of Cow Testing in the Dairy Business," N. A. Negley, Dairy Division, U. S. Dept. Agr.

11:15-11:45—"How Cow Testing Will Help to Make Money for the Dairy Man," A. J. Gallagher, Bodega.

11:45-12:15—"The County Agents and the Dairy Council," Prof. B. H. Crocheron, State Leader, College of Agriculture.

2:00-2:30 P. M.—"The State Dairy Council Idea," Sam H. Greene.

2:30-3:00—"Why Every Commercial Dairy Herd Should Have a Purebred Sire," M. H. Tichenor, Palo Alto.

3:00-3:30—"The Dairyman's Obligation to the Public and His Opportunity," Prof. C. W. Ruebel, College of Agriculture.

3:30-4:00—Illustrated Lecture—"Ten Years of Cow Testing in Humboldt County."

Many interesting features will be provided that do not appear upon the program. Every member of the Council should attend this special meeting, and all dairymen, whether members of the Council or not, are specially invited.

The Council plans to have committees of school children visit the show daily and report their observations to their respective classes either orally or by compositions. These student committees will be in charge of either officials of the Council or of the Live Stock Show and will be shown the different breeds of dairy cattle and the various exhibits of interest to the youth of California.

During the week, November 1-8th, it is planned to hold a typical dairy luncheon at the Commercial Club, at which only dairy products will be served. It is planned to have Dean Thos. Hunt, Dr. Wm. Hassler and Sam H. Greene address the club on the importance of Dairying to the State of California and present facts and

figures showing the true patriotism and practical wisdom of encouraging the use of milk and its products.

During the same week it is planned to call a meeting of representative people in order to disseminate accurate information concerning the true status of the Dairy Industry and its obligation to the Public. It is contemplated having in attendance at this meeting Ralph Merritt, Dean Hunt, Dean Van Norman, Dr. Meyer Jaffa, Dr. Geo. Ebright, Dr. Wm. Hassler, Dr. Adelaide Brown and members of the San Francisco Medical Milk Com-



Lady Beatrice 593394, Senior and Grand Champion at California State Fair, 1919. Property of Alexander & Kellogg, Suisun, California.

mission, Heads of the Home Economics Departments of the University of California and the S. F. Public Schools, Four City Milk Distributors, two representatives of the Certified Milk Producers, two ice cream manufacturers, two to four milk producers, representatives of both the Milk Drivers and Stationary Engineers' Unions, Frank Connolly of the Retail Grocers' Association, S. F. Secretary of Labor, officials of women's clubs, etc.

MILK GOAT BREEDERS' MEETING.

The next regular meeting of the Central California Milk Goat Breeders' Association will be held in San Francisco on the afternoon of Saturday, November 1, at 1:30 p. m. This meeting will be held at the time of the California International Live Stock Show and will assemble in the California Building on the old Exposition Grounds.

Miss Irmgarde Richards of Montara, Calif., is to read a paper on some phase of the goat industry.

INVITATION OF PRESIDENT W. T. SESNON.

The California International Live Stock Show, Inc., is about to stage the greatest exhibition of livestock ever given west of the Rocky Mountains. Work has been going on for months in all departments, and now comes the culmination of it all. We have the great California Building on the old Exposition grounds at San Francisco fitted with stalls and pens for the animals, a stadium with seats for 5,000 people, and ample ring facilities for judging the largest classes of livestock and staging the greatest of the horse show acts. We are certain of the greatest display of its kind. Instruction and amusement features of the very highest order will be in evidence throughout the show, and I, now, on behalf of the officers and directors of this corporation, invite the people of the Pacific Coast and beyond, one and all, to come to San Francisco during the period of the show from November 1-8, inclusive, and be with us and enjoy the fruits of our labors.

W. T. SESNON, President.

Judging Livestock at International

Saturday, November 1st.

9:30 a. m.—Poultry, by E. F. Mitchell, Fresno, Cal.; Nat. E. Luce, Los Angeles, Cal. Pigeons by W. J. Head, Berkeley, Cal. Rabbits by Hale Prather, Ukiah, Cal.; Louis Regner, San Mateo, Cal. Dressed Poultry by J. H. Spelker, Oakland, Cal. Dressed Rabbits by J. H. Spelker, Oakland, Cal. Junior Feeding Classes by Prof. J. I. Thompson, Davis, Cal.

Monday, November 3rd.

9:30 a. m.—Hereford Cattle by R. D. Mousel, Cambridge, Nebraska. Fat

Wednesday, November 5th.

9:30 a. m.—Aberdeen-Angus Cattle by Alex. McDonald, Davis, Cal. Ayrshire Cattle by Prof. H. H. Kildee, Ames, Iowa. Hampshire Swine by W. H. Pew, Ravenna, Ohio. Yorkshire Swine by W. H. Pew, Ravenna, Ohio. Tamworth Swine by V. F. Dolcini, Davis, Cal. Shire Horses by Dean C. F. Curtiss, Ames, Iowa. Dressed Carcasses by Frederick Miller, U. S. Meat Inspection Service, San Francisco, Cal.; E. E. Niccolls, Bureau of Markets, San Francisco, Cal.

THE COMING SHORTHORN SALE AT SAN FRANCISCO.

(Written for Pacific Rural Press.)

Forty head of specially selected Shorthorns are in this the third sale under the auspices of the California Shorthorn Breeders' Association. Lovers of the "reds, whites and roans" will have a great opportunity to supply their minds at their own price. Consignments are tops from the leading herds of the State, which means that the quality of the offerings could not be excelled on the Pacific Coast. Coming as it does at the time of the California International, prospective visitors can "kill two birds with one stone" by exploring the wonders of the big show and attending the sale.

Seventeen specially selected Shorthorns will go to make up the offering of the Caledonia Farms to the third Shorthorn sale at San Francisco on November 6.

Mr. Edward Cebrian, the owner of the magnificent Caledonia herd, is in this way evincing his enthusiasm over the San Francisco sale during the period of which the sale will be held.

This will be the first appearance on the Coast of Auctioneer Earl Gartin, whose reputation has, however, preceded him. Many of the Shorthorns entered in this third sale will come direct from the judging ring. California is entering on an era of appreciation of "better quality."

The distribution of breeding animals of the quality of those entered in this annual sale is tremendously far reaching in effect. The three heifers consigned by Murphy Brothers of Perkins are the same which they contemplated showing at the Sacramento State Fair, and were unable to do so on account of the illness of one of the brothers.

The Ormondale offering needs no eulogy, as the quality of the animals entered by this enterprising company are always worthy of commendation. The same is true of the consignment of the Pacheco Cattle Company, who have entered three head of choice heifers.

FOR SALE

One of the best bred foundation herds of Aberdeen-Angus cattle to be found in the United States, consisting of herd bull; three young cows with two heifer calves at foot. While these cattle are high-priced for the reason that they are highly bred, I offer them at a reduction, owing to the fact that I have decided to sell my ranch property. The cattle are on my ranch, which is located 8 miles east of Oakdale, Stanislaus Co., Cal.

Address Owner,

DR. VERDO B. GREGORY,

323 East Weber Avenue,

Stockton, California

ELDERSLY FARM

ABERDEEN ANGUS

We have several Young Bulls for sale, sired by our Eldersly Prince, Grand Champion bull of 1917 State Fair. Remember, the "DODDIE" has a most enviable record as a herd improver. This young bull will put quality into your cattle.

J. H. WARE, Live Oak, Calif.

The Best of the Beef Breeds

(Written for Pacific Rural Press.)

The above title certainly tells in a general way what will be shown in the beef classes at the California International at San Francisco, November 1-8 inclusive. The "best of beef breeds" includes those that will be shown at this coming great show, and is made up of the Aberdeen Angus, the Herefords and Shorthorns. No doubt there are other beef breeds that should be included in this list, but they did not happen to be coming this way when the show is to be held.

The beef cattle industry was perhaps the first of the livestock departments to be started in this State and for many years the improvement was slow; in fact, at a standstill. Gradually it began to show until at the present time there are as good Shorthorns and Herefords to be found in California as there are anywhere. If you who read this do not believe it to be true, then come to the California International Livestock Show and see for yourselves, and we know you will be convinced. The following is a list of the exhibitors and their entries:

Ormondale Company with a ranch in the Portola valley, 7 miles west of Menlo Park, has 12 Shorthorns entered in the show and 8 in the Shorthorn sale slated for November 6. The Ormondale Company's herd is strong in Scotch blood and the individuals are as good as the breeding. They will show Little Sweetheart 2nd, a full sister of Little Sweetheart, the grand champion female of the Shorthorn breed at the State Fair this year, and Golden Beauty, another good one. A number of the entries for the sale are sired by Golden Good Jr., the sire of Little Sweetheart mentioned above and a bull of great prepotency.

Cumberland Gloster, first prize junior yearling bull at the State Fair this year, will head the entries by Wm. Bond of Newark. Mr. Bond will have three at the show and of the kind the Shorthorn breeders like. Mr. Bond bred Frantic 33rd that recently sold for \$4,500 at a public sale in Medford, Oregon.

In the foothills of the Mt. Hamilton range, near the western portal of Pacheco Pass, is located one of the noted Shorthorn breeding establishments of the Pacific Coast, known as the Pacheco Cattle Company. They will have their tops at the show and in the sale. They had the first prize two-year-old bull, Pacheco Marshal; the first prize junior bull calf, Pacheco Brampton, and the first prize senior heifer calf, White Pacheco, with other prize-winners at the California State Fair this fall. They are coming with their usual strong showing and will materially help to make the show and sale a success.

J. A. Bunting, Mission San Jose, owner of the Mission Herd of Herefords, has entered 11 head in the show and 4 in the sale to be held during the week of the show. Mr. Bunting has not been in the purebred cattle game very many years, but he certainly is making his mark. Last year his herd won "all along the line," and this year

did equally as well, as his 8-months-old bull calf, Mission Chief, was made grand champion at the State Fair. Among those Mr. Bunting will have in the sale is California Prince Donald, that was grand champion bull of the breed last year at Sacramento.

Harold Rice of Paia, Maui, Ter. Hawaii, will show a yearling Hereford bull, sired by New Era 2nd, that weighed 1,150 pounds at 11 months of age and is just as good as he is heavy. There may be better ones shown, but it will be a great Hereford exhibit if there are.

Wm. T. Chapple, owner of Fair Oaks Ranch at Willits, has entered Shorthorns for exhibition in the coming California International. Mr. Chapple has been gradually adding to his herd after selling down to quite a small bunch of select cows of Orange Blossom, Victoria and Elgetha blood lines. The additions made were of straight Scotch stock, which combined with what he already had, should place Mr. Chapple's entries close up to the top. His ranch is located in an ideal cattle country.

Caledonia Farms of San Francisco and West Sacramento, breeders of Shorthorns, have entered and will be found competing in all the classes. This herd is considered by good judges to be one of the best herds on the Western Hemisphere. Four hundred matrons of the best individuality and breeding, with herd sires that are of the very best, we cannot help but prophesy a wonderful showing from this great herd at the coming California International. The senior herd sire is Imp. Caledonia, and is considered the best Scotch bull imported in recent years. He seems to be right in every way.

The show herd of Scotch Shorthorns from Hillcrest Stock Farm, Davis, owned by T. S. Glide, have entered a full quota and will show in all the classes. Little Sweetheart, grand champion at Sacramento this year; Spicy Lady, King's Countess, junior champion female; Village Lassie and others of this famous herd of many years, will make it one of the competitors to be reckoned with in the final contests. Quality, breeding and individuality all are to be found in the animals composing the herd.

H. M. Barngrover of Santa Clara is following the show circuits this fall, filling all classes with his Hereford herd. He won a good lot of ribbons at the State Fair. His bull, Patrician 5th, was first in class and senior champion. He also won first in aged herd and calf herd with a strong, typey lot of cattle that will show well in any company.

The representation of that great breed of beef cattle, the Aberdeen Angus, will depend upon Congdon & Battles' herd from Yakima, Washington, and our own University Farm. The time will come when this typical beef breed will be more largely represented than it is now. When it comes to uniformity of size and type, excellent beef conformation and kill-

YAKIMA STOCK FARM ABERDEEN ANGUS CATTLE



QUALITY LAD OF ROSEMEERE 4th.
Never defeated in class. Junior Championship at the International, 1916.

We have 250 head in the Herd, representing the very best breeding.

Choice young breeding stock for sale. Herd Bulls—Range Bulls, single or in car load lots.

This Herd (competing at the large Eastern Shows) has made great winnings. At the big markets, the demand is greatest for Angus Steers.

In the International Live Stock Shows held in Chicago, 11 out of 17 single steers, 13 out of 17 carlots and 16 out of 17 carlots have been won BY THE ANGUS.

See Our Herd at the
SAN FRANCISCO LIVE STOCK SHOW
November 1st to 8th

CONGDON & BATTLES YAKIMA, WASHINGTON

OTTO V. BATTLES,
Manager.

OLIVER CROSBY,
Herdsman.

Herefords

Have forged to the front by reason of
PECULIAR FITNESS

Veramont Herefords

are first because climate, altitude and careful selection have
vied in developing vigor and stamina.

See our herd at the coming
San Francisco Show, November 1-8.

6 SPLENDID ANIMALS IN HEREFORD SALE, NOVEMBER 7 Veramont Stock Farm

SAN JOSE AND TAYLORSVILLE, CALIF.
H. M. BARNGROVER, Owner.

When You Buy Herefords

Bear in mind that

BUNTING HEREFORDS

Have

- (1) Size (2) Bone (3) Constitution
(4) The best breeding. (5) Are the most profitable.

These five characteristics you will find in the four head I am consigning to the Pacific Coast Hereford Breeders' Sale at the

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW
At San Francisco, November 7th.

See my cattle at the Show.

JOHN A. BUNTING

Mission San Jose,

California.

HEREFORDS

LEADING HERD OF THE STATE.

My stock is the result of nearly 40 years of careful breeding and selection. Have for sale a carload of registered bulls and a carload of heifers—1917 calves, grandsons and granddaughters of Beau Donald 31 No. 109885 and Mr. Perfection No. 215575.

They will go quickly. Write or call at once.

Wm. Bemmerly - Woodland, Calif.

The Hereford Corporation of Wyoming

Will have their Show Herd on Exhibition at the California International Live Stock Show, San Francisco, November 1 to 8. We have several car loads of Bulls and Heifers. Will be glad to quote prices on one animal or a carload. See us at San Francisco, or write us

The Hereford Corporation of Wyoming. Box 876

RAYMOND HUSTED,

Vice-Pres. & Manager

CHEYENNE, WYOMING

Room 715, E. & C. Bldg., Denver, Colo.

WM. COX, Herdsman

NEVADA HEREFORD RANCH

Will exhibit a young herd at the California International Livestock Show and from this herd sell at the Hereford Sale on November 7th:

NEVADA LAD EIGHTH, 697062—1st in senior bull calf class and reserve grand champion bull at California State Fair in 1918.

ISIS 2ND, 697049—1st in senior heifer calf class and reserve grand champion female at California State Fair in 1918.

VENETIA 2ND, 733062—2nd in senior heifer calf class at California State Fair in 1918.

STANDARD EYES 2ND, 733061—1st in junior heifer calf class at California State Fair in 1918.

CLEO 4TH, 645543—Never shown.

Our entire offering was sired by Harris Standard Second, 425030, and the three females of breeding age are bred to the \$10,000.00 Bean Blanchard 76th, 685487.

JNO. H. CAZIER & SONS CO.

WELLS, NEVADA

Herefords of Royal Quality

AT PUBLIC AUCTION, FRIDAY, NOVEMBER 7
California Building, Exposition Grounds,
SAN FRANCISCO

A splendid offering of carefully selected registered Hereford cows, heifers, and bulls, representing the choice blood lines and individually equal to their breeding.
Under auspices of

PACIFIC COAST HEREFORD CATTLE BREEDERS' ASSOCIATION

J. I. Cazier, Pres., Wells, Nev.

J. A. BUNTING, Sec., Mission San Jose, Calif.

Sale begins promptly at 1 p. m.—Catalog free on request.

Auctioneer—

Sales Manager—

EARL GARTIN, Greensburg, Ind.

C. L. HUGHES, Sacramento, Calif.

90 PUREBRED UNREGISTERED HEREFORDS At Public Auction, Saturday, Nov. 8, at 1 p. m.

WESTERN MEAT COMPANY YARDS, SOUTH SAN FRANCISCO, CALIF.

In this sale MR. H. M. BARNGROVER, Santa Clara, Calif., will disperse his entire herd of unregistered cattle to make room for the expansion of his herd of registered Herefords. The offering includes choice cows, bred and open heifers, and bulls of various ages. Buyers will find in this sale the most desirable sort of cattle for profitable range purposes. For further information communicate with owner or sales manager.

Auctioneer—

Owner—

Sales Manager—

COL. BEN A. RHOADES,
Los Angeles

H. M. BARNGROVER,
Santa Clara, Calif.

C. L. HUGHES,
Sacramento, Calif.

Valle de las Viejas HEREFORDS

We will have only a limited number of choice young bulls for sale, until spring delivery.

D. H. OGDEN

P. O. Address, ALPINE, (San Diego Co.) CALIF.

VISIT THE BIG BEEF SHOW.

The beef cattle division will be made up of animals that would easily grace the ring of the International at Chicago. It is admitted by the other sections of the country that the Pacific Coast is the best place on earth for growing good stock, and we are going to demonstrate that it is the best place to show this stock. It's going to be a great show and we want everybody to come and see it.

W. S. GUILFORD, Supt. Beef Cattle Division.

ing qualities, they always make a supreme showing. It is to be hoped that those who have small herds in different parts of the State will have them in condition for the show circuit in another year or two, so that we may have a better showing of the breed.

Woodland, California, is noted for many good things in the various lines of agriculture, horticulture, and last, but not least, its herds and flocks of purebred livestock, and it is something that seems to be growing in the community. Henry M. Elberg will bring some of his beautiful Shorthorns down to the big livestock show at San Francisco the first week in November. Mind you, they won't be any common, every-day cattle either, but will be in the pink of condition, showing the highest quality, excellent Shorthorn type and the best of breeding.

The Hereford Corporation of Wyoming, the most extensive breeders of purebred Herefords probably in the world, are making the circuit of the big shows on the Pacific Coast this fall. It is certainly an addition to any cattle show to have their show herd enter the lists, as it surely very materially helps to make a beef show what it ought to be. They have somewhere about 1,000 purebred cows in their breeding herds, which gives them great opportunity to select show animals.

Another great Hereford breeding establishment that will show their good ones at the San Francisco Show is John H. Cazier & Sons of Wells, Nevada. The best of breeding and individuality, coupled with the highest quality, makes their Herefords sought after wherever known. Their cattle at the show and sale will be the kind that will make competition closer in the show ring and bidding higher in the sales ring. Those who think Nevada grows only sagebrush will change their minds when they see these cattle.

Thos. B. Dibblee Estate of Santa Barbara and Lompoc will have their native-bred and imported Shorthorns in the show ring when the classes are called in their departments. Their

great herd sires, Hallwood Flash and Bashan Augusta, the first-named first in class and senior champion and the latter junior and grand champion in the Shorthorn classes at the State Fair this year, with a lot of classy females, make them a force to be reckoned with in any show ring.

Thos. T. Miller of Hollister, formerly of Los Angeles, breeds and will show Shorthorns of high class and individuality. This herd has been selected with great care as to breeding and individuality and is composed of some of the best cattle bred in America and Great Britain as well. Mr. Miller's show will fill all classes.

W. J. Bemmerly of Woodland breeds Herefords that grow so fast and into such excellent animals that he can sell 'em for \$2,500 apiece when they are a year old. Of course, he may not sell all his yearlings for quite that figure, but he has good ones and always in good condition. If he hasn't sold all his topnotchers, and who ever knew a good breeder that did, he will have a bunch at the California International that we will all like to look at. Mr. Perfection, Bonnie Brae 9th and New Era 2nd are sires that have a wonderful lot of progeny in this herd and that are hard to beat anywhere.

H. H. Gable of Esparto, owner of the Diamond G. Ranch, will show at San Francisco, and if his purebred herd look so well as they did in August on the wheat stubble, he could bring the whole herd to the California International and win with 'em. Of course, they were not washed and combed, but it almost seemed as though that was all they needed to put them in the best of show shape.

Jenner-By-The-Sea at the mouth of the Russian River, where the grass is green nine months in the year and the other three months it is just right for cattle to eat—right in such a location and with 5,500 acres of land that grows such grass, Chas. Rule breeds and raises beautiful "Whitefaces" with the bluest kind of Hereford blood in their veins.

Mr. Rule will show some of these aristocrats at the California International and have some in the sale.

CALIFORNIA CATTLEMEN'S CONVENTION.

California Building, Exposition Grounds, San Francisco.

Program.

WEDNESDAY, NOVEMBER 5, 10 A. M.: Called to order. Opening address by Pres. L. A. Nares. Secretary's report. Importance of the Kendrick-Kenyon Bills, by D. B. Heard, Phoenix, Ariz. 1:30 P. M.: Report of Marketing Committee and discussions.

THURSDAY, NOVEMBER 6, 9:30 A. M.: The State Department of Agriculture and its Relation to Cattle Protection, G. H. Hecke, Director of Agriculture. Report of Committee on Transportation. Report of Committee on National Forests and Grazing. Address by Hon. Wm. Kent. Address by Frank D. Thomson editor, Shorthorn in America. Report of Committee on Legislation. 1:30 P. M.: Sale of Shorthorns. 7 P. M.: Banquet California Shorthorn Breeders' Association, California Building.

FRIDAY, NOVEMBER 7, 9:30 A. M.: "A Slogan for the Live Stock Industry of California," C. E. Rachford, Assistant District Forester. Co-operative Marketing, H. C. Carr, Porterville. 1:30 P. M.: Sale of Herefords. 7:30 P. M.: Banquet of Live Stock Breeders of California and business men of San Francisco to consider ways and means to perpetuate the California International Live Stock Show.

GOOD HEREFORDS.

The Hereford Corporation of Wyoming, with ranches and offices at Cheyenne, Wyo., and headquarters in Denver, Colo., is the last new member to be reported in the Pacific Coast

Breeders' Association. It is one of the largest, if not actually the largest breeder of registered Herefords in the United States, as it carries approximately 1,000 head of breeding cows.

This corporation is following the Coast show circuit this fall and will have 15 head in the California International the first week in November. It is showing some that have won in Nebraska, Colorado and Utah this fall. It also has 4 head consigned to the Hereford sale on November 7. This consignment consists of Miss Era 14th, Miss Dale, an aged cow, and the two Dare heifers, Miss Dare 10th and Miss Dare 11th, sired by Premier Dare.

PACIFIC COAST HEREFORD ASSOCIATION SALE.

This sale will be held on Friday, November 7, at the California Building during the California International Live Stock Show. The consignors to the sale are: W. J. Bemmerly, Woodland, H. M. Barngrover, Santa Clara, J. A. Bunting, Mission San Jose, G. W. Emmons, Oakland, H. H. Gable, Esparto, Chas. Rule, Jenner, J. H. Cazier & Sons, Wells, Nev., Hereford Corp. of Wyoming, Cheyenne.

Having a total of 34 head in the sale. These as a whole will be the finest lot of Herefords that ever went through a sale ring in the west. In this lot there will be about 24 head that will be shown at the California International Live Stock Show. These cattle are all tuberculin tested and guaranteed breeders. There will be about 17 head of cows with calves and most of the others to calf in the spring. Earl Gartin of Greensburg, Indiana, will be the auctioneer, and the sale will be conducted under the auspices of the Pacific Coast Hereford Breeders' Association.

ROSELAWN SHORTHORNS SELL WELL.

Again it has been demonstrated that good Shorthorns bring big money. Not that the demonstration was needed, but it gives the owners and breeders of this great breed another assurance that their faith in their favorites is well founded and not a "house built upon the sand." Forty-three animals averaged over \$600 each, or, to be accurate, \$607.55. The top of the sale was Rosie Mayflower, sold to the Conaway Ranch for \$2,200, and a close second was the 3-year-old bull, Crescent Dale, selling for \$2,000 to O. L. Raper of Glenn County. Mischief E 3rd became the property of Caledonia Farms for \$1,550. Fair Oaks Ranch of Willits paid \$1,150 for Lovely's Pride.

THE OTIS HERD

WILLOUGHBY, OHIO.

Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledge the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison.

Santa Rosa Stock Farm, Santa Rosa, Cal. California Representative.

Among the buyers who purchased liberally were Edinger-Johnson Co. of Hood, who obtained 7 head; Butte City Ranch, 4 head; R. H. Parsons of Holt, 3 head; J. F. Dunne of Gilroy, 5 head, and J. H. Bond of Newark, 3 head. The rest going in single and double lots in various directions.

The sale was well attended both by buyers and others interested in the welfare of the breed. B. O. Cowen, former assistant secretary of the American Shorthorn Association, spoke on the history of the Shorthorn.

If no alfalfa is available it will pay swine breeders to feed tankage in connection with any of the grain feeds at the ratio of 1 part tankage to 10 to 15 parts grain.

HILLCREST STOCK FARM



KING LANCASTER,

The only bull three times Grand Champion at the California State Fair and five times Grand Champion in one year.

SHORTHORN CATTLE SHROPSHIRE and MERINO SHEEP

BULLS AND RAMS FOR SALE

Single or Carload Lots

T. S. GLIDE, Prop.

Davis,

California

30-DAY SACRIFICE SALE

Registered Shorthorns

On account of having leased my Live Oak Farm, will sell at private treaty about 60 head, including between 30 and 40 head of cows with calves at foot by Count Glory and Hallwood Village; also 20 high-class young bulls.

Write at once or call and see them

Carruthers Farms

LIVE OAK CALIFORNIA

INNISFAIL FARM

Dairy Shorthorns

WON AT STATE FAIR, 1919

GRAND CHAMPION COW (Lady Beatrice) on five cows in milk.

FIRST—Herd; best record of milk cow on all herds; Get of sire and produce of dam.



BELLEVUE DAISY,

Grand Champion State Fair, 1918.

She has three records in 8,000 lbs. milk and 30 lbs. fat, including last official record of 8,841 lbs. milk and 331.6 lbs. fat.

See our herd at the

CALIFORNIA INTERNATIONAL LIVE STOCK SHOW,
SAN FRANCISCO, NOVEMBER 1 TO 8

Alexander & Kellogg

SUISUN,

CALIFORNIA

Breed for BEEF and MILK

The Two Greatest Necessities of the Age.

Milking Shorthorns

Supply both. Authorities admit they are the greatest dual purpose cows. It is the coming breed.



FOOTHILLS PIONEER,

Senior and Grand Champion at State Fair, 1919

Herd Sire: FOOTHILLS PIONEER, by General Clay, who has 30 daughters in the Register-of-Merit list.

DAM, IMP. TASSEL, who has a record of 10,000 lbs. milk.

CHOICE BULLS, ALL AGES, FOR SALE. Write me, or better, Call and See Them.

Meet me at the California International, November 1-8.

Thomas Harrison

SANTA ROSA STOCK FARM

SANTA ROSA,

CAIFORNIA

Pacific Coast Representative for the celebrated Otis herd of Willoughby, Ohio, which has the largest sale connections in America.



THIRD SALE OF SHORTHORNS

under the auspices of CALIFORNIA SHORTHORN BREEDERS' ASSOCIATION,
will be held on **THURSDAY, NOV. 6, 1919**
at 1:30 P. M. sharp

At CALIFORNIA BUILDING, EXPOSITION GROUNDS,

In conjunction with the SAN FRANCISCO LIVESTOCK SHOW, NOVEMBER 1-8, 1919.

The entries to this sale have been selected both from the standpoint of individuality and breeding, and represent unquestionably the greatest lot of Shorthorns ever offered at public sale in California.

This offering comes from the herds of the following well known breeders,

CALEDONIA FARMS, West Sacramento
(Edward Cebrian)

T. T. MILLER, Hollister.

ORMONDALE COMPANY, Redwood City
PACHECO CATTLE CO., Hollister.
SAN JULIAN RANCH, Santa Barbara.
(Estate of Thos. B. Dibblee)

For Catalog, Address

CALIFORNIA SHORTHORN BREEDERS' ASSOCIATION
222 Sharon Bldg., San Francisco.

AUCTIONEER, EARL GARTIN,

GREENSBURG, IND.

Caledonia Shorthorns

LARGEST HERD OF HIGH-CLASS SHORTHORNS

In this country—400 head of wonderful breeding matrons, combining the noted Elmendorf and Harkness herds.

The fountain-head of international prize-winning stock, producing the dam of the Grand Champion steer over all breeds at the 1917 Chicago International; the dam of the Grand Champion Shorthorn steer at the 1918 International; the dam of "CALIFORNIA MODEL," the highest priced Shorthorn bull ever sold on the Pacific Coast, bringing \$5,500 at public sale.

Prof. Trowbridge, eminent Shorthorn Judge, says of our herd: "I do not know where I have seen a more valuable lot of cows." Prof. Cotchell, representative of The American Shorthorn Association, Prof. Burns of Ames, Iowa, and others who have seen our herd recently, say the same.

The Greatest Herd Sires

IMP. CALEDONIA, our senior sire, is considered the best Scotch bull imported in recent years. Sired by the Duthie bull Proud Emblem, the best stock bull in Scotland, whose calf topped the sales last year at \$20,000. Out of a Rosewood cow—the best in the Wm. Anderson herd. In breeding, type, color and individuality, this bull stands supreme.

GAINFORD MATCHLESS, first prize senior yearling at last Chicago International, son of Imported Gainford Marquis, combines finest breeding with unusual scale (weighs 2,500 lbs. at 2 years).

PINE GROVE KING, by Champion King Cumberland, the highest-priced bull of his day, and out of a Clipper dam. His individuality is as good as his pedigree.

SELECT SULTAN, a double great grandson of Whitehall Sultan. This young bull combines with wonderful breeding, fine individuality, and a most promising outlook.

Will show at the CALIFORNIA INTERNATIONAL, November 1-8,
and have consigned some good ones to the Shorthorn Sale,
November 6.

CALEDONIA FARMS

Office, 57 Post St., San Francisco. WEST SACRAMENTO, CAL.
Attend the CALIFORNIA INTERNATIONAL SHOW,
SAN FRANCISCO, NOVEMBER 1-8.

Brighton Farm Herd Shorthorns and Berkshires

We have a very fine yearling bull for sale sired by Sir Type and out of a Laurel Frantic cow. This is an ideal bull for a breeder of Dairy Cattle.
Also some very choice cows and heifers.

H. L. & E. H. MURPHY, Perkins, Calif.
6 miles east of Sacramento.

RANCHO SAN JULIAN SHORTHORNS

Santa Barbara, Calif.



BASHAN AUGUSTA—Grand Champion 1919 State Fair.

FOUNDATION OF THIS HERD is the very best that can be found and represents the principal Scotch Shorthorn families, the breeding dams being of such popular families as Princess Royal, Augustas, Lavenders, Mary Anne of Lancaster, Imp. Eliza, Ruby, Queen of Beauty, Orange Blossoms, Village Princess (Imp. from Canada), Ury, Alexandrians, Acanthas, Rosemary, Seonets, Butterflies, Missies, Marr Bessie, and Marr Roan Lady.

HERD BULLS.

BASHAN AUGUSTA, by Right Stamp and out of Baron's Delight by Augusta Baron. HALLWOOD FLASH, Grandson of Hallwood Village, out of a Choice Goods cow, First prize and Senior Champion bull at State Fair, 1919.

KING LEAR, Sired by Scotch Cumberland and out of a Queen of Beauty dam. IMP. GRAND GALLANT—A Straight Marr Roan Lady. Full brother to the \$12,000 bull at the head of the famous herd of Mr. Thomas of Kentucky.

WILL SHOW AT THE CALIFORNIA INTERNATIONAL—NOV. 1-8,
AND WILL CONSIGN 3 HEIFERS TO THE SHORTHORN SALE—NOVEMBER 6th.
ESTATE OF THOS. B. DIBBLEE
JOHN TROUP, Mgt. LOMPOC or SANTA BARBARA

LOVERS OF SHORTHORNS

and visitors at the
California International Livestock Show
are invited to look over several daughters of

PACHECO LAD 58th

These heifers are so uniformly good that we believe we have a bull of our own breeding that will excel the wonderful record of his sire,

"TRUEDALE."

At San Francisco in 1915 and at Sacramento, 1916, 1917, and 1918, in 23 classes, showing practically all the blood of TRUEDALE, we won 23 firsts and 13 seconds.

Pacheco Cattle Company

HOLLISTER,

CALIF.

GOLDEN BEAUTY,
By Golden Goods Jr.



LITTLE SWEETHEART 2ND, Sister to
Grand Champion at State Fair this year.



GOLDEN GOODS, JR.,
Senior herd sire.



ORMONDALE

SHORTHORNS

Our herd of Straight Scotch Shorthorns, headed by Golden Goods Junior, sired by Golden Goods out of Roan Marble 3d, tracing back to Imp. Gem by Beaver.

The female herd comprises the very best lines of Scotch breeding, tracing to Imp. Sorrel by Roan Gauntlet, Imp. Volumnia by Cumberland, Young Mary by Jupiter, Imp. Orange Blossom 31st by Roan Gauntlet, Imported Sunray by Stockwell, etc.

We guarantee every animal we sell. Have a long list of satisfied customers in both North and South America.

LITTLE SWEETHEART, first prize two-year-old and Grand Champion, and **ORMONDALE MAID 2nd**, who won second prize in what was considered the strongest Junior Yearling Class ever shown at the State Fair, are both of our breeding and were sold by us at public auction.

OUR POLICY IS TO CONSIGN OUR BEST

In accordance with this policy we will consign to the Shorthorn Sale to be held at the California International Livestock Show, November 6th, five females and three bulls of the very highest class breeding, and fine individuals, many of them by our herd sire and out of straight Cruickshank cows. Three of them are shown below.

Meet us at the **CALIFORNIA INTERNATIONAL LIVESTOCK SHOW**, November 1-8th

SHORTHORN CATTLE
DUROC-JERSEY SWINE

ORMONDALE COMPANY

JAMES McDONNELL, Superintendent,
P. O. Address, Redwood City, R. D. 1

Ranch 7 miles from Palo Alto on
Woodside Road.



ORMONDALE RADIUM, by Radium, out of
May Flower 4th, 1st prize heifer, Sac'to, 1916.



BEAVER CREEK BUD,
By Beaver Creek Sultan, out of Searchlight Bud.



ORMONDALE LADDIE 2ND,
By Golden Goods Jr.

THE QUEENS OF THE DAIRY EXPECT YOU.

The great development of the dairy cattle business on the Pacific Coast will be reflected in the Dairy Division of the California International Live Stock Show. There is scarcely a recognized dairy breed but what will be represented with strong classes. Not only will we have a good show of dairy classes in the show ring competition, but we will have the honor of entertaining Tilly Alcartra, the world's record cow, giving dairymen and public alike an opportunity to see the greatest cow of all time.

C. W. RUBEL, Supt. Dairy Cattle Division.

LARGE ATTENDANCE MARKS LOS ANGELES STOCK SHOW.

By the time this paper reaches its readers the above mentioned show will have about closed its doors and passed into history as a land mark of progression in animal industry. As we go to press reports are coming in as to its auspicious opening.

Sunday the grounds were thronged and at least 30,000 people visited the show, and all were loud in their praises except those who had forgotten the ban on Sunday racing.

The horse show feature was "pulled off" between the heats of the racing and Monday saw the beginning of this popular feature. An innovation in the horse line was the parade of individual exhibits in certain open places reserved for them so that the crowds could see them comfortably, as it was impossible for the people to see them by the "walk around method."

The Secretary of the Chamber of Commerce was very enthusiastic over

DAIRY SHOW AT CHICAGO.

Sam H. Greene, secretary-manager of the California Dairy Council, was one of the fifty Californians who helped make up the grand total of 75,000 people who passed through the turnstiles of the National Dairy Show, October 6-12, and he pronounced it as to be expressed in the most superlative terms—Immense! A whale! And such expressions used as a barrage only would convey the correct thought of this the greatest of dairy exhibitions.

The exhibits were extremely large with 870 head of cattle entered for competition and 1,000 head in all, including those consigned to the Jersey and Holstein sales. The exhibit of machinery was tremendous and all the exhibitors report good sales. Twelve additional buildings were necessary to house the exhibits of all kinds, in addition to the amphitheatre building.

The exhibit of the U. S. Department

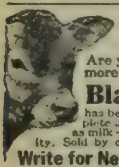


California Gretel, World's Record Milch Goat. Bred and owned by the University of California, Berkeley.

the livestock exhibits. He thought the show would be a great demonstration of the varied resources of California and would show people who think we have only "oranges, flowers and sunshine," that we are surely doing great things in the livestock lines.

Grading in the horse show departments commenced Monday. Three and five-gaited saddle horse classes were judged and also California stock horses.

It seems as though more interest was manifest in the livestock judging than in former years. This is as it should be, as the time is coming when livestock, particularly the pure-bred, is going to be much more in the spotlight and people will be obliged to know more about the different classes. A stock show like this was, is one of the very best places to learn many things about the different breeds. All classes are shown and the very best types of these classes.



Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scours—promotes early maturity. Sold by dealers or direct from the makers.

See actual figures showing you how to increase your calf profits. Write for New Data.

COULSON CO. - - - Petaluma, Cal.

ROYAL HOLSTEIN BREEDING

Young bulls, mostly from females of Prince Hiske Walker breeding,—a classy lot. They have outstanding quality and vigor, with supreme dairy conformation and temperament. Nicely marked. Profitable for grade herds; fit to head any purebred herd.

CALL OR WRITE FOR PARTICULARS.

H. E. CORNWELL

Route B, Box 183,

Modesto, Cal.

Ranch 3 miles N. W. on Prescott Road.

OUR SENIOR HERD SIRE

King of the Black and Whites

First bull whose nearest 7 dams averaged over 30 lbs. butter in 7 days. He has more A. R. O. daughters than any other bull on the Pacific Coast.

Our Junior Herd Sires are

King Pontiac Segis Inka King Lillian Walker Segis

The latter is a son of King of the Black and Whites. His first daughter to be tested made over 17 lbs. as a two-year-old.

THESE THREE BULLS REPRESENT THE BEST OF THE HOLSTEIN BREED.

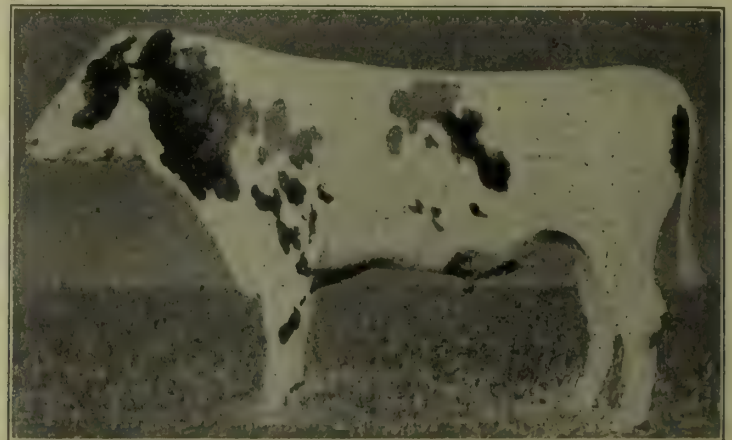
We have a few of their sons who will soon be ready for service that are the finest individuals we have ever been able to offer.

TERMS IF DESIRED.

Write at once or call and see them.

HENDERSON COMPANY

Sacramento, Cal.



SUPREME GLISTE PIETJE

The King of High Testers

Sire of First Prize Junior Yearling and Junior Champion Bull at the State Fair this year.

We have a few of his sons from A. R. O. cows that will soon be ready for light service. They combine type and big production.

Write for pedigree and prices.

BONITA STOCK FARM

Sacramento, Cal.

J. M. HENDERSON, Prop.

V. L. HEATH, Mgr.

BRING UP YOUR PRODUCTION

by introducing the world's greatest producing dairy blood into your herd, with a son of Sir Aaggie Korndyke Alcartra, grandson of Tilly Alcartra, the World's Champion long-distance dairy cow. His two nearest dams average 1,096.58 pounds of butter and 27,300 pounds milk in 365 days.

Bulls of serviceable age sired by him and out of A. R. O. dams.

WRITE OR CALL AND SEE THEM AT ONCE.

LEEMAN & KILGORE

Ripon,

California

MEET TILLY ALCARTRA

THE WORLD'S GREATEST DAIRY COW

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW

San Francisco, November 1 to 8

Tilly Alcartra and two of her get will be included in our show herd at San Francisco. This great cow holds the world's long distance record for both milk and butter with a six years' production of

156776.1 pounds milk—6142.17 pounds butter.

She is the only cow in the world that has produced over 33,000 pounds milk in one year.

She is the only cow in the world that has produced over 63,000 pounds milk in two years.

She is the only cow in the world that has produced over 93,000 pounds in three years.

She is the only cow in the world that has produced over 120,000 pounds in four years.

She is the only cow in the world that has produced over 1100 pounds butter three different years.

She is the only cow in the world that has five records averaging over 1,100 pounds butter in one year.

She is the only cow that has six records averaging over 1,000 pounds butter in one year.

She is now in her seventh yearly test and has produced 18,400 pounds milk and 700 pounds butter in 204 days.

KING MORCO ALCARTRA, son of this great cow, heads our herd. His dam and sire's dam average 1204.07 pounds butter and 31,125.8 pounds milk in one year. A young bull by this great sire, or out of one of his daughters, which are soon due, merits your consideration.

A. W. MORRIS & SONS CORPORATION

Woodland,

California

A Great Opportunity

—IN—

REGISTERED HOLSTEINS

On Thursday, October 30, 1919

My entire herd of registered Holsteins, excepting two cows and a few heifers, will be sold at public auction at my ranch. This herd is the result of years of careful selection and breeding. It contains nearly fifty head, of which about half are cows in milk, many with A. R. O. records.

A Great Herd Sire

Nudine Butter Boy is the son of a 31-lb. cow. Of his nineteen calves fifteen have been heifers. A majority of the cows in the sale are bred to this bull and most of the young stuff is sired by him. Be sure to attend the sale and buy these cattle at your own price. Write for catalog.

C. A. MILLER

RIPON,

CALIFORNIA

Ranch located 6½ miles northwest of Ripon and 13 miles southwest of Stockton on French Camp Road. Take Tidewater and Southern Electric from either Stockton or Modesto.

DISPERSAL SALE

—OF—

**100 REGISTERED
HOLSTEIN-FRIESIAN
COWS 100**

WEDNESDAY and THURSDAY
NOVEMBER 5th and 6th, 1919

6 Granddaughters of King of the Pontiacs, the sire of 253 tested daughters—3 above 40 lbs., 3 above 1,000 lbs. Butter in one year.

3 Granddaughters of Pontiac Korndyke, the sire of 149 tested daughters—2 above 1,000 lbs. Butter in one year.

6 Granddaughters of Pontiac Aaggie Korndyke, the sire of 58 tested daughters—6 above 1,000 lbs. Butter in one year.

1 Granddaughter of Hengerveld De Kol, the sire of 116 tested daughters—10 above 30 lbs. Butter in 7 days.

1 Granddaughter of Colantha Johanna, the sire of 120 tested daughters—25 above 30 lbs. Butter in 7 days.

2 Granddaughters of Rag Apple Korndyke 8th, sire of 30 tested daughters—1 above 40 lbs. Butter in 7 days.

4 Granddaughters of Beauty Pieterje Butter King Jr., the sire of 21 tested daughters.

1 Granddaughter of King Segis Pontiac, the sire of 92 tested daughters.

1 Granddaughter of Sir Pontiac Rag Apple, the sire of 22 tested daughters.

3 Granddaughters of King Hengerveld Palmyra Fayne, the sire of 18 tested daughters.

68 of these Cows are now on Year's Test, making good records. Several have completed their Year's Test and have made good records.

These cows are nearly all bred to Funderne Soldene Pontiac Valdessa, the Bull with the phenomenal backing. He is a son of a WORLD'S RECORD COW, and his sire is a son and grandson of WORLD'S RECORD COWS. The names of 10 cows with WORLD'S RECORDS and 8 BULLS that have each sired one or more WORLD RECORD COWS, appear in his pedigree.

Complete Dispersal Sale of OUR FOUNDATION HERD.
Write for Sale Catalogue

ALL TUBERCULIN TESTED

GEO. A. SMITH & SON, Owners, Corcoran, Calif.

HOLMES STOCK FARM

Waterford Road, Modesto

REGISTERED HOLSTEIN-FRIESIANS

Young bulls for sale out of A. R. O. dams up to 33 lbs.

Inspection invited. Satisfaction guaranteed

Seventh Annual Pacific International

Holstein Sale

Portland, Friday, Nov. 21, 1919

To be held in the new Sale and Show pavilion. The finest structure of its kind in the world, costing \$250,000.00. This is a wonderful Stock Show, and the opening of the new pavilion makes an unusual occasion. The livestock breeders of California should all be in attendance.

80 Head Registered Holsteins

Young Cows

Heifers

Young Bulls

Nineteen heifers, all by dam's and sire's dams each having over 1,000 lbs. butter in a year. An unequaled offer, in a western sale. 30-lb. bulls from the greatest breeding. Young cows, in calf to our greatest sires. An unusual opportunity awaits you at this greatest Holstein Sale. The cattle are TUBERCULIN TESTED and guaranteed to be right.

Holstein Breeders' Banquet will be held Friday night, after the sale. Drop the Manager a Postcard, if you expect to be present. so proper reservations can be made.

George A. Gue, Sale Manager
Yakima, Wash.

Dandy Dairy Cattle at International

(Written for Pacific Rural Press.)

Producers of "whole, fresh, clean lacteal secretion" will be much in evidence at the San Francisco Live Stock Show during the first week of November. Lovers of the stately Holsteins, the beautiful Guernsey, the dainty Jersey and comely Ayrshire will find scores and scores of their favorite breeds to inspect and admire. Many of the herds have been seen at previous fairs and some are exhibiting at this show for the first time this year. Even those who have shown at previous fairs have in many cases added some animals to their former exhibit, something they have held in reserve for the bigger time.

It has often been said in these columns that because a breeder, young or new, did not have a full herd to exhibit should be no reason why he should not have something at the show if he has even only one or two to uphold the glory of his ranch. In the horse line it is no uncommon occurrence to find exhibitors having only one animal on exhibition, but in other classes many times they think it is of no use if they only have one or two. Everyone that is making a business of raising and selling purebred animals of any kind should give their business as much publicity as possible and therefore, whether it be goat,

granddam in the world. Come and see us at San Francisco.

Toyon Farms at Los Altos, with a wonderful (the adjective is used conservatively) herd of cows to draw upon, will make an exhibit, and of course, it will be a super excellent one. Their senior herd sire is Pietertje Ormsby Mercedes 43rd, with a great record back of him, and he is an excellent individual as well. The past year has seen a supremely good lot of animals added to this already great herd. In making these additions from time to time, first consideration was given the health of the animals; then came points of breeding, performance and conformation. Every female in the herd will be given a 305 or 365 day record, and when it is known the herd contains over 200 head, it will be partly realized the work of such a breeding establishment.

Frank B. Anderson of Sacramento will have his Holstein-Friesian junior calf, Juliana De Kol Mead, sired by King Mead of Riverside, in the show and she ought to be in the money. She will be a credit to Mr. Anderson no matter where placed.

Holstein-Friesians from Palo Alto Stock Farm will mean stronger competition in these classes. Such breeding establishments are the kind that



Tilly Alcartra, World's Record Cow in Milk and Butter Production. Property of A. W. Morris & Sons Corp., Woodland, California, will be shown at the California International Live Stock Show.

hog or horse, if it is a good one, take it to the fair or livestock show.

The Napa State Hospital, T. J. Brown, dairy superintendent, will have 12 Holstein-Friesians at the coming San Francisco Show. Their herd is headed by Prince Rag Apple Imperial, Napatalios Asa and Hiram Raphaella Alcartra. Among the noted animals they will have on exhibition will be Hazelwood Heilo Queen, grand champion at the 1917 Land Show, San Francisco; Raphaella Johanna Aaggie 3rd, champion official milk producer for one year and U. S. champion for 7, 30 and 60 days. Hiram Raphaella Alcartra is a son of the last-mentioned cow and a grandson of Tilly Alcartra, which makes him the highest record calf from dam and

go to help in a large way to make livestock shows a success. King Pontiac Segis Korndyke is their senior herd sire with a long string of producing daughters better than most. Among the great producing females in this herd is Johanna Princess Mooie 2nd, that has 1,175 pounds of butter and 25,625 pounds of milk in 365 days to her credit. This cow is only one of many good ones to be found at this place and there is no question but what the show herd sent to the San Francisco Live Stock Show will be a great one.

Woodland and the surrounding country claims many notable herds of cattle, but perhaps there are none more worthy of the high reputation they bear than the A. W. Morris &

Sons Corporation, breeders of Holstein cattle and owners of Tilly Alcartra, the world record cow for the combined production of milk and butter. Tilly will be shown at the coming

California International. This great cow was sent to Seattle to be bred to Carnation King Sylvia, the \$105,000 bull owned by the Carnation Milk Co. On her return she was given a stop-



KING SEGIS ALCARTRA PRILLY

Grand Champion California State Fair, 1917, 1918, 1919.

His get won State Fair, 1919: Grand Champion Female; Junior Champion Heifer; 1st and 2nd Get of Sire; 1st Calf Herd; 1st Breeders' Young Herd; 1st Senior Yearling Heifer; 1st and 2nd Junior Yearling Heifer; 1st and 2nd Junior Heifer Calf; 1st and 2nd Senior Heifer Calf; 2nd, 3rd, 4th and 5th Senior Bull Calf; 1st and 2nd Produce of Dam.

FOR SALE

Young bulls by this sire from highly-bred, heavy-producing cows, with records up to over 35 pounds of butter in 7 days and 139 pounds in 30 days. Have some exceptionally fine young bulls about ready for service at very reasonable prices. Our cows won more places in the list of prizes for production given by the Holstein-Friesian Association for 1918 and 1919 than any herd on the Pacific Coast.

WRITE TODAY, OR CALL AND SEE THEM

Bridgford Holstein Company

PATTERSON,

CALIFORNIA

WILLOWMEAD HERD

325 REGISTERED HOLSTEINS

Females represent choice breeding. The herd contains many granddaughters of Dutchland Sir Pontiac Rag Apple, full brother to Pontiac Clothilde DeKol, the first cow to produce over 37 lbs. butter in 7 days and over 1270 lbs. in one year, and to the former world's record cow, Pontiac Rag Apple, the dam of Rag Apple Korndyke; tracing granddaughters of King of the Pontiacs. A number of daughters of King Mead of Riverside, the sire of the world's record cow, Aaggie Acme of Riverside 2nd, and daughters of other sires of the best breeding.

THREE GREAT HOLSTEIN SIRES

YOLO VALDESSA HENGERVERELD, 1184353

carries some of the very greatest producing and transmitting blood of the breed on both sides of his pedigree, is almost white in color, and an individual of high excellence. The records of his dam, his sire's dam, and his sire's granddam average:

Butter, 30 days	149.68 lbs.
Milk	2534.20 lbs.
Butter, 7 days	38.83 lbs.
Milk	606.00 lbs.

PRINCE ECHO SILVIA SEGIS, 247369

is a splendid individual, evenly marked in color. No better blood lines have yet been developed in the black and white breed, large milk production with desirable per cent of butter fat appearing consistently on both sides of his pedigree. The seven nearest dams of Prince Echo Sylvia Segis average:

Butter, 7 days	31.75 lbs.
Milk	582.55 lbs.
Butter, 7 days	29.45 lbs.

RAG APPLE WALKER KORNDYKE, 266362

Is the youngest of our three herd sires, and promises to develop into an individual of great merit. Five of his seven nearest dams average:

Butter, 7 days	31.30 lbs.
Milk	578.28 lbs.

Five of his seven nearest dams have produced a total of 22 A. B. O. daughters, six of which have official records above 30 lbs. butter in seven days.

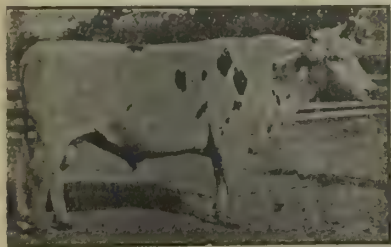
We can supply you with a good bull to improve your herd at a price you can afford to pay. Come and see the herd or write your wants. The farm is two miles south of Sacramento City limits on paved Freepoint Road. Go straight south on Twenty-first street out of Sacramento.

JAMES MCGILLIVRAY

Sacramento,

California

Large Production and Fine Type



are combined in the get of PRINCE RIVERSIDE WALKER

Aaggie Acme of Riverside 2nd and Miss Valley Mead De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

King Korndyke Pontiac 20th, our young \$6,500 sire, whose great individuality, fine type, and backing of an unbroken line of great

producing dams are hard to beat. Come and see the result of this breeding, or write us for further particulars.

Our Entire Herd is Tuberculin Tested.

TULARE HOLSTEIN FARM

W. J. HIGDON, Owner

TULARE, CAL.

H. L. REDD, Herdsman

over at Portland, where the Chamber of Commerce gave a luncheon in her honor and she was visited by over 2,000 people in the short time allowed.


Dairy Cattle.
San Jose is considered the center of the prune-raising industry of California, but Dr. L. J. Belknap of the Jersey Queen Farm finds a corner of that beautiful valley in which to raise Jersey cattle. He grows good ones, too, and will have some in the show ring at San Francisco. The doctor has not shown before this fall so that his coming will be watched with interest. He is known to have good ones.

J. Henry Meyer of San Francisco, with a great Ayrshire ranch known as the Elkhorn Farm, on the old "toll road" between Watsonville and Salinas, will have his herd here for the big show. They did very well at the State Fair, winning many firsts. The cattle were in fine shape then, and it is safe to say they will be here.

The Guernsey cattle classes will be filled by L. Dee Smith of Berkeley with his show herd. Mysie's Laddie of Claremont is a very classy youngster and will be in the herd showing. Mr. Smith exhibited at the State Fair this fall and is now coming to the San Francisco show. His herd will bear close inspection both as individuals and as performers. Do not fail to see them.

R. S. Holmes of Modesto is following the circuit of the fairs this fall with his Holsteins. Mr. Holmes always has his cattle in fine shape, and when they are seen at the home place it would seem as though to look at his cattle he was just ready to start for some fair. His cattle are performers as well as show animals, and he is a great believer in testing his cows regularly and finding out just what they can do.

The Jersey cattle have no stronger supporter than J. A. Goodall of Keyes



HOLSTEINS
and the
MILK CHECK

The size of your milk check depends less upon the size of your herd than upon the size of your cows. Get big, healthy, purebred cows with the ability to convert feed into milk at a profit.

Wherever dairying is on a prosperous footing, that's the home of the Holstein cattle. Besides being the leading dairy breed, they bring top prices when beefed. They breed regularly, and the calves are easily reared.

The Holstein-Friesian Assn. of America
BOX 141, BRATTLEBORO, VT.

HOLSTEINS

20

Registered Cows and Heifers

20

In preparing for the winter we find we are compelled to reduce our herd, so we are offering for sale a splendid string of young Holsteins. If you want good production and a reasonable price this offering will please you.

Write at once or call and see them.

M. HOLDRIDGE
R.D. A., Box 437, San Jose
1½ miles out north First Street, beyond city limits.

and he is bringing a contingent of his herd to the California International this fall. His herd is strong in the blood of Sophie Tormentor. His herd sires both come from the Hood Farm. June Acres Farm, Davis, V. F. Dolcini, owner, will show some of their Holsteins and Sir Aaggie Korndyke Mead, senior bull calf, is liable to repeat his performance at the State Fair, where he won first in a very close class. Mr. Dolcini is certainly on the right track in the Holstein breeding business.

The Holstein show is always a better one when the Henderson Company's contingent is present. Their senior herd sire, King of the Black and Whites, is the first bull of any breed whose seven nearest dams average over 30 pounds of butter in 7 days, four of which have produced 30-pound daughters which have 30-day records of 126 pounds of butter. They have a junior herd sire, Supreme Glista Pietje, that is a very promising youngster. His breeding is of the best and he should make a record for himself in this great herd. Their two-year-old bull, Domino Glista, and their senior yearling bull, Model Bonnie Fobes De Kol, both were first in class at the State Fair this fall, as well as many other winnings.

M. Fortini of Orland, owner of Tintagel Farm, is one of the small breeders who shows what he has, but almost anyone would show if they had two such outstanding individuals as Noble Peer's Jewel and her daughter, Jewel of Tintagel. The last named was first in class and junior champion at the State Fair this fall. Noble Peer's Jewel has a long record of winnings to her credit, and unless there is something very good in competition, they should stand a good chance of repeating their previous performances.

Phoenix, Arizona, is a locality where alfalfa grows almost the year around, and as a consequence, dairy cattle thrive and produce wonderfully. Frank Reed Sanders comes to the California shows with herds of Holstein-Friesian and Dutch Belted dairy cattle that we will all inspect with satisfaction. Mr. Sanders has shown cattle before in California with a good deal of success.

Ladies are coming more and more into the spotlight in the purebred stock business. Mrs. Annie Donders of Fresno has some good ones that have shown up wonderfully well in performance, and now will make their bids for their share of the ribbons at the coming California International. Mrs. Donders is the owner of the sen-

Sir Pietertje Ormsby Mercedes 43rd



SENIOR HERD SIRE

HIS SIRE: SIR PIETERTJE ORMSBY MERCEDES, the greatest sire of yearly record daughters of any breed. Twenty of his daughters, most of them under mature age, average over 1,000 pounds butter in one year; two have records above 1,300 pounds butter in one year; eight have records above 1,000 pounds butter in one year; fourteen out of his 66 A. R. O. daughters have records above 30 pounds butter in 7 days; two have records above 40 pounds butter in 7 days. Three of his daughters sold for over \$30,000, and one son for \$65,000 in the Minnesota Breeders' sale. Production and show ring records establish him as the breed's premier sire of producers and show-ring winners.

HIS DAM: AAGGIE WAYNE PEEP, one of the outstanding cows of the breed. Her records are:
Butter . . 7 days . . 34.59 lbs. 1 year . . 1,250.35 lbs. 4 years . . 3,999.35 lbs.
Milk . . 7 days . . 657.20 lbs. 1 year . . 27,762.50 lbs. 4 years . . 88,509.70 lbs.

She is a full sister to Early Dawn Peep 2nd, 1,287.72 pounds butter from 26,204.1 pounds milk in one year; and half-sister, by the same sire, to Ona Clothilde Wayne, 1,266.65 pounds butter from 27,091.5 pounds milk in one year, and Jennie De Kol Veeman Wayne, 1,003.21 pounds butter from 20,876.3 pounds milk in one year.

JUNIOR HERD SIRES

SIR AAGGIE MEAD
Sire, Sir Aaggie De Kol Acme, Dam, Aralia De Kol Mead.
His dam and sire's dam each have strictly official yearly records above 1,200 pounds, averaging 1,273.49 pounds; his dam, dam's dam, and his sire's dam average 1,229.76 pounds; his three nearest dams each have averaged over 2,200 pounds butter in two consecutive years. Five of his seven nearest dams average 1,177 pounds butter in 1 year. You can't beat this long distance ancestry.

FINDERNE SOLDENE VALDESSA
Sire, King Valdessa.
Dam, Finderne Soldene Hengerveld.
His sire is a son of the first 41-pound cow and a grandson of the first 44-pound cow. His dam, a 35.34 pound three-year-old (world's record for heifer with first calf), is a daughter of King Hengerveld Aaggie Fayne, one-third of whose daughters have exceeded the 30-pound mark, and who is a brother to the 50-pound cow Segis Fayne Johanna.

The Health of Our Herd is Under State Supervision

We have over 200 head, including cows with yearly records up to over 1,100 pounds butter, and daughters of large yearly record cows. Also 10 cows and heifers with records above 30 pounds butter in 7 days, and a large number with records from 25 to 29 pounds butter in 7 days.

EVERY FEMALE IN THE HERD WILL BE GIVEN A
305 OR 365 DAY RECORD

Visitors cordially invited to the farm.

TOYON FARM ASSOCIATION
Farm: Los Aitos, Calif. Office: Mills Bldg., San Francisco

EDGEMOOR FARM GUERNSEYS

Production AND Conformation



Imported Itchen May King
25174

Senior Herd Bull, many times
Grand Champion, and sire of
12 A. R. daughters.

Junior Herd Bull
ROYAL ROSE KING,

By Itchen May King, out of
Belladia, A. R., 19,631 lbs. milk,
934.05 lbs. fat.

**PENCOYD'S GOLDEN
MAY SECRET**

By Longwater Pencoyd, out of
Nellie Jay 4th, A. R., 20,709 lbs.
milk, 1,019 lbs. fat.

Practically all cows in Edge-
moor herd have A. R. records or
are on test. Twelve cows with
records averaging 15,056 lbs.
milk and 748 lbs. fat. Six class
leaders with records averaging
15,061 lbs. milk and 734 lbs. fat.

Bull Calves for Sale
at Reasonable Prices

See our herd at
CALIFORNIA
INTERNATIONAL SHOW,
San Francisco, November 1-8.

W. H. DUPEE, Owner
Santee, Calif.

for two-year-old State champion milk-
producing heifer, Dora Walker, with
a record of 664.4 pounds in 7 days.
This is only 10.4 pounds behind the
world record.

Grape Wild Farms, Escalon, owned
by A. B. Humphrey, will have Guern-
seys in line at the San Francisco big
show in November. Mr. Humphrey
goes to all the fair and livestock
shows of importance and gets his
share of the ribbons. Nobleman of
Maple Hill is one of the young bulls
in this herd that it does a lover of
Guernseys good to look at. Escalon
Truotype is another that is liable to
be up at the top in almost any com-
pany.

J. P. Phillips of Fresno, breeder
and importer of Holsteins, will have
some of his favorite breed at the San
Francisco Show to try for some of the
prizes. His stock is strong in the
blood of Pietertje Ormsby. Several
additions of "top" stuff from the East
have been made during the past year.

Jerseys are always a good show if
properly taken care of and when they
come from the Venadera Herd of Guy
H. Miller of Modesto they are always
in thriving condition. He will show
fourteen head at the California Inter-
national.

Ayrshires from the Steybrae Ranch,
San Mateo, E. B. McFarland, owner,
will be out in full force at the San
Francisco Show. They have some
mighty good cattle and always are li-
able to take more than the lion's share
of the ribbons.

Leonard Farm, Ceres, W. J. Hackett,
owner, will exhibit Jerseys at the Cal-
ifornia International this year. Mr.
Hackett will show eight head, with
Oxford's Majesty's Gold Link at the
head of the herd.

J. W. Scudder of Holt is listed to
exhibit Holstein-Friesians. He is a
new exhibitor this fall and we cannot
tell just how they will show up, al-
though we would expect something
good from what we hear.

Edgemoor Farms at Santee, W. H.
Dupee, proprietor, was the whole
thing at the National Dairy Show in
the Guernsey classes. Out of 30 class-
es the Edgemoor Farms won 17 firsts,
and eight seconds. Just think of it!
An Eastern show and where the dairy
classes are supposed to be filled with
the best in the world, and then to
have California come along and take
17 firsts out of 30 classes. Mr. Du-
pee's herd will be at the California In-
ternational and is worth a trip of
itself.

Mossdale Farms and "Jim" Thorp
has stood for Jersey cattle at Locke-
ford, his home, for a long time, and
now everybody is coming to know that
these two names stand for the best in
the Jersey cattle line. Why, if he
keeps on he will have to unload his
ribbons with a Jackson fork at the
end of the show season.

E. F. Smith of Haywards has a herd
of Jerseys headed by "Goldie's Ne-
helem Gold" and will have them at
the big show to help out the Jersey
list. His herd consists of 15 head of
Owl Interest and Rosafre Golden Lad
breeding.

WILL HAVE A BIG SHEEP SHOW

Sheep from all up and down the
Pacific Coast, in large numbers and
by the most prominent breeders, have
been entered in the various classes. In
some breeds the competition will be
keen and decisions close.

The following noted breeders will
exhibit:

Bullard Bros., Woodland, Rambou-
illets.

Calla Grove Farm, Manteca Hamp-
shires.

Conaway Ranch, Woodland, Hamp-
shires.

Butte City Ranch, Butte City, Shrop-
shires.

Vaughan & Fox, Lyons, Ore., Shrop-
shires.

Coffin Bros., Yakima, Wash., Lin-
colns, Romneys, Corriedales.

Ellenwood & Ramsey, Red Bluff,
Corriedales.

J. M. R. Boyd, St. Helena, Shrop-
shires.

An epidemic of colds has struck
town. Henry Bailey and Andy Dag-
gett and two of Hepburn's mules have
it.—Wardsville News.

MOSSDALE FARM HOME OF CHAMPIONS

Jersey Cattle

Herd headed by Jolly Senator Raleigh,
Grand Champion at the 1919 State Fair.
Heavy winners wherever shown. Our
stock meets the admiration of the
breeder and the approval of judges.
Cows tested regularly and many high
records made. Get your next bull
from this herd.

Duroc-Jersey Hogs

Herd headed by Freddie You'll Do, the
great young boar by Johnson's De-
fender. A great lot of brood sows of
Long Wonder, Brookwater, Cherry
King, Principal 4th and Defender
breeding. We have the big-type with
great size, bone and quality. We won
the State Duroc Futurity on sow pigs
three years straight running and won
all three—boar pigs, sow pig and litter
futures, 1919.

**We Breed What We Show, and We Show
What We Breed**

Write Your Wants and Let Us Tell You More About Our Stock.

J. E. THORP - Lockeford, Calif.

CLAREMONT HERD GUERNSEYS

Represent the best blood lines of the breed. They
combine big production and show type.

See them at the International Livestock Show,
November 1-8.

L. DEE SMITH, Proprietor
VICENTE ROAD, BERKELEY, CALIFORNIA



The Bell Cow for Profit

Jersey Cows don't eat merely to live, but to produce the richest quality
of milk from the smallest amount of feed. They are the money-makers.
Any breeder will tell you that a dollar's worth of feed goes farther
and yields a greater return when fed to a Jersey. Jersey Milk averages
5.3% butter fat. Jersey Milk, Jersey butter and Jersey cheese bring the
biggest prices on the market.

JERSEYS

Breeders will tell you that the Jersey is the Pride-Prize-Profit breed. Let us tell
you why the Jersey is the investment cow! Write for free literature about Jerseys.

THE AMERICAN JERSEY CATTLE CLUB
324-A West 23rd Street New York, N. Y.
An Institution for the benefit of every Jersey owner

THE KEEP-ON HERD

REGISTER OF MERIT JERSEYS

Fifteen Keep-On's won twenty-six prizes and one gold medal. All three first prizes for
production went to the Keep-On's. Grand Champion cow and Champion butter cow
won by the Keep-On Herd. Buy a Keep-On and get the best. Nothing finer or better.
Bred for show and production. Males and females at reasonable prices. Write your wants.

H. W. HAND, Orland, Cal.

T. B. PURVINE & SONS

PETALUMA, CALIFORNIA.

Breeders of

Registered JERSEYS

Young bull calves for sale. Also individuals
with Register of Merit backing

FOR LARGE AND ECONOM- ICAL PRODUCTION

Get one of
my young
Jersey bulls from a high producing dam.
They are rich in the blood of Gertie of
Glynville and Lady Letty Lambert. Occa-
sionally one old enough for service.

A. A. JENKINS,

Tulare, Cal.

RANCHO SANTA MADGUERITA

D. F. Conant, Prop.,
Modesto, Cal.

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit

Cows. Write for information.

W. J. HACKETT,
Ceres, California

EASTMONT FARM

Young Jersey bulls from Register of Merit
dams with records up to 931.2 lbs. butter
fat. Financial King breeding.

GRANT A. BROWN,
509 E. MAIN ST., EL MONTE, CALIF.

Register of
MERIT JERSEYS
A limited number of bulls for sale.

ASSOCIATED DAIRYMEN FAVOR MILK AS PUBLIC UTILITY

In an interview, James M. Henderson, President of the Milk Producers' Association, said:

"In a recent editorial of the Pacific Rural Press this expression occurs: 'Apparently it (the Milk Producers' Association) is now organized to give a profit to other people than cow-men, while our other co-operative organizations work for their producing membership only.'

"The fact of the matter is that we have one of the three genuine non-profit-sharing co-operative associations of the State dealing in products of the soil. The constitution and by-laws of the Milk Producers Association prohibit any profit to any one outside of the actual producers. All the co-operative associations provide for organization expenses by an acreage fee or a per capita fee on the animals included. There is no possible chance for any one to use the money subscribed by the members in any way except for the specific purposes mentioned in the constitution.

"I was the first one to advocate placing milk prices under the control of the State. I am still in favor of it if it becomes necessary, so that justice may be done the producer and consumer alike.

"The Milk Producers' Association was formed for the especial purpose of promoting efficiency in production, eliminating waste and preventing profiteering. In years past there always has been at times an enormous waste in skimmilk and buttermilk, always of time and energy in duplication of routes in hauling milk and cream from the producer to the factory. Also the duplication of routes by distributors in the cities, both small and large.

"In the use of skimmilk for the manufacture of casein, milk sugar and albumen, we are making products worth as much as the butterfat. This at times all went into the sewer.

"It is the aim of the Milk Producers' Association to absolutely prevent all profiteering, and sell to the consumer at a lower price than would be possible under the old regime. 'Getting more for the producer for his produce and selling to the consumer for less' is the slogan of the Milk Producers' Association."

LIVE STOCK DATE SALES.

November 6. California Shorthorn Breeders' Association, San Francisco. Consignment sale.

November 7. Pacific Coast Hereford Breeders' Association, San Francisco. Consignment sale.

November 11. W. D. Hollingshead & Sons, Duroc-Jersey boar sale.

November 28. Geo. W. Short, Shorthorn Cattle, Sacramento.

January 15. California Duroc-Jersey Breeders' Association, Davis. Consignment sale.

January 16. Harvey M. Berglund, Dixon. Duroc-Jersey swine.

600 Head of Sheep

Mostly Rambouillet and Merino Ewes Bred for early lambs. Must be sold to close an estate.

Address

C. H. BIGGIN

Redlands, Calif.

Route A,

Box 227

AUCTIONS THAT PAY

Sell your livestock, farm equipment or real estate at public auction. I can get big prices for you. Have cried successful sales in all parts of the State. Customers always satisfied. Purebred sales a specialty. Write or wire for terms and dates.

COL. ORD L. LEACHMAN, 1111 7th St., Sacramento

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

Everything for the Dairy



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DAIRY SUPPLY CO.

61 BEALE ST.
SAN FRANCISCO

Dependable Labor-Saving Machines That Increase Dairy Profits

DAIRY AND STOCKMEN:

When visiting San Francisco don't fail to take advantage of the opportunity to call on us and look over The De Laval Line—the largest and most complete line of dairy equipment on the Pacific Coast.

SPECIAL CATALOG ON ANY OF THE MACHINES MAILED FREE UPON REQUEST.

- ➡ De Laval Cream Separators
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- ➡ Pumps The Viking
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BLACKLEG

Thousands of cattle die every year with Blackleg. Vaccinate your calves with the

O. M. FRANKLIN GERM FREE AGGRESSIN

Manufactured by The Kansas Blackleg Serum Co. and save every calf. Do not use imitations of our vaccine. Get the ORIGINAL O. M. FRANKLIN GERM FREE

It is absolutely the only Aggressin on the market that is guaranteed to immunize cattle from Blackleg.

This Seal



on every bottle.

THE KANSAS BLACKLEG SERUM CO. Amarillo, Texas; Denver, Colorado; El Paso, Texas; Ft. Worth, Texas; Kansas City, Mo.; Oklahoma City, Oklahoma; Phoenix, Arizona; Pierre, South Dakota; Salt Lake City, Utah; Wichita, Kansas. BOX 96, SANTA MARIA, CALIF.

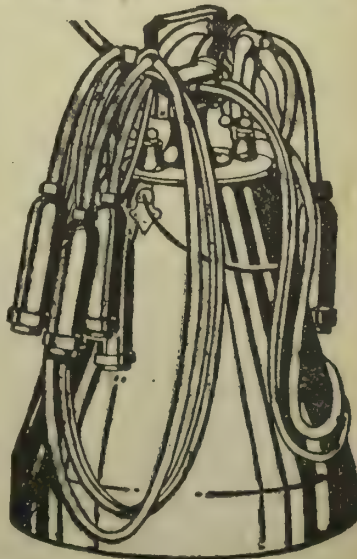
Universal natural milker

Right now good dairy help is hard to get and wages are mighty high. Why stick to the old-fashioned, laborious, time-wasting, hand-milking method while other dairymen are saving time and making bigger profits by using the Modern Universal Natural Milker?

One Universal lasts a lifetime. It alternates, milking two teats at a time, while it is massaging and relieving the other two.

Write for Catalog

Learn about this simple, dependable mechanical milker that enables one man to do the work of three, and do it better.



CALIFORNIA HYDRAULIC ENGINEERING AND SUPPLY CO.
68 Fremont Street, San Francisco
Dept. A, 420 E. Third Street, Los Angeles

Swells of Swinedom at International

(Written for Pacific Rural Press.)

California is fast becoming a swine-raising State, which is due no doubt to several reasons. First and foremost our great asset of a mild climate makes it possible for a sow to produce two full litters a year and grow them out nicely. Again, this is a great alfalfa country and that is another great asset in the swine-raising business, as alfalfa pasture with a little grain will grow hogs rapidly and cheaply. Then, the enterprise of a large portion of the hog raisers finishes the job. They have not, however, gotten out of the notion that they have to go East and pay big prices for their breeding stock.

The entries at the California International are from all parts of the State and as far east as Nebraska as well. Strong contingents from all the leading swine-raising sections of the State insure an unexcelled hog exhibit in numbers, quality and variety of breeds. Be sure and see this swine show if you are at all interested in the game.

Natomario Rancho is rather of a difficult method to spell Berkshire, but it really seems to spell it correctly, for W. F. Sandercock, owner of this beautifully named farm, raises Berkshires supreme and will have them on exhibition at the California International the first week in November with a good deal of confidence in the outcome. Of course, he has sold the grand champion boar, Natomas

Baron Duke, and four good sows since, but you never can tell what a resourceful breeder may have up his sleeve. Anyway, Mr. Sandercock is going to show Berkshires and we all know he will have a creditable exhibit. Look 'em up if you want to see some good ones.

J. E. Thorpe of Lockeford, owner of the Mossdale Farms and breeder of Duroc-Jerseys, is still showing 'em to people at all the principal fairs in California this fall. Sometimes he has competition and sometimes not, but he goes straight along collecting ribbons by the old, time-honored method of having good ones, and it seems as though his senior herd sire was getting better all the time and as though Freddy You'll Do is correctly named. He has a lot of good ones and you will always find him somewhere around his hogs or cows ready and willing to talk and show his stock. That's his business; he will bear investigation.

Fred M. Johnson of Napa, one of the noted breeders of Durocs, is slated to exhibit some of his favorite breed at the big show and you may be sure they will be right or Fred Johnson would not have 'em there. Look him up and see a real show of Duroc-Jerseys.

Anchorage Farms, Orland, breeders of the highest type Berkshires, are coming to the California International. They are people that believe in keeping right up with the times. They have purchased two new herd sires lately. First, it was Champion's Value 10th from the noted herd of E. J. Barker, Thorntown, Ind., and then Natomas Baron Duke, the 1919 grand champion at Sacramento. With the blood of that great sire, Star Leader, in the females, we can look for a continuation of good Berkshires from Anchorage Farms. Their exhibit will be worth seeing.

Harvey M. Berglund of Dixon is one of the coming breeders of Duroc-Jerseys. In fact, it might be said that he has already arrived. At least his hogs look so and sell that way. His herd sire, California Orion King, is right up among the very best in the State. Anyone with Duroc-Jerseys in their mind will surely get an eye full if they will only give his exhibit the "once over." You'll like 'em.

McCarty & Starkweather of Modesto surely will make some show as usual in the Poland-China line. They will have all the good ones they won with at the State Fair this fall and one or two others at the San Francisco Show to make even a greater exhibit. The senior member of the firm is in the East and will return before the show. It has been hinted that he will bring some Polands back with him and if he does they surely will be good ones and nothing but the big kind.

Berkshires bred right, fed right and all right. Whose? The exhibit from Grape Wild Farms, Escalon; A. B. Humphrey, owner. I don't know whether it is worth while going into detail about the exhibit or not, but they had the grand champion sow at the State Fair this fall and she is a good one. Good Lord, she had to be with the competition there. Nothing but what was right could get by the eagle eye of Wyman Lovejoy, and Grape Wild Rose was right. Look them up at the California International and Charlie Maurer will show 'em all to you.

Castleview Ranch of Santa Rosa, J. Francis O'Connor, proprietor, will have his show herd in line at the California International when the first of November comes, and if he doesn't win it will not be because they are not in proper condition. The Castleview herd won at the State Fair this fall in several classes, having in Castleview Premier Belle, the junior champion sow of the show, first on herd under one year, fourth on get of sire, fourth on produce of dam and champion barrow of the breed under 6 months of age. Mr. O'Connor is making a great success of the Berkshire business. If there were a few more like him along promotion lines the Berkshires would soon be at the head of the breed line in California.

Walter E. Graham of Del Paso Heights will have three barrows in the junior feeding contest. He exhibited at the State Fair this year. Miller & Lux are on the entry lists

for an exhibit in both Poland-Chinas and Duroc-Jerseys. They certainly have hogs enough and good enough to win anywhere.

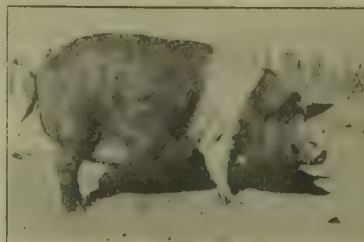
J. E. Moltzer of Van Nuys has

LLANO VISTA RANCHO

ONE OF THE WORLD'S CHAMPION HERDS

—OF—

HAMPSHIRE



Pure-bred Prize Winners

You will eventually buy and make big profits. Every animal in our herd is a Champion or their Sires or Dams have been Champions at some of the leading Expositions of the United States. Boars and Sows of all ages for sale at all times.

JUDITH—No. 126448

Sire: Calif. Lad, 45021. Dam: Mabel, 113078

Our system of development produces strong, vigorous animals of large size, strong feet and legs and strong backs. They are bred for size and quality.

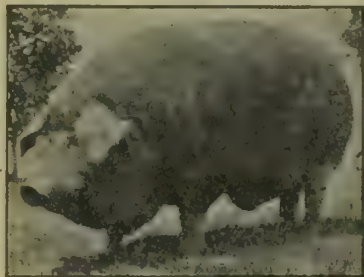
LLANO VISTA RANCHO

PERRIS (Riverside Co.) CALIF.

F. V. GORDON
Owner

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Lakeside Stock Farm Big-Type Poland-Chinas



MATCHLESS BIG BOB
284659

First Prize, Sacramento, 1919

This herd headed by Matchless Big Bob and Lakeside Defender. These sires are of the type and breeding that are so popular today.

Young stock from these boars and sows of A Wonder, Chief Defender's Choice and Major Hadley Wonder breeding, on exhibition at the State Fair and other fall shows.

Inquiries cheerfully answered and visitors always welcome.

Geo. V. Beckman & Sons
LODI, CALIF.

RHOADES & RHOADES

EXPERT LIVESTOCK AUCTIONEERS

Purebred Stock Sales a Specialty

Sales Conducted in All Parts of California.

BEN A. RHOADES, Auctioneer

RANCHO DEL SUR DUROCS

ORION'S KING GANO, a wonderful grandson of Orion Cherry King and Col. Gano, and the greatest Duroc boar in the State, heads this select herd of sows.

Young stock for sale.

DONALD H. GRAHAM
P. O. Box 177, Lancaster, Cal.

The Hampshire Hog

The Hampshire has become America's most popular hog by sheer force of merit. At the 1918 International he won Grand Championship over all other breeds, and sold for \$2.25 per hundred above his nearest competitor. And when it comes to high dressing percentages the Hampshire is in a class by himself.

Ideal for California Conditions

The Hampshire is a natural foraging, green-feed hog, and thrives particularly well on California's alfalfa and other succulent grasses, therefore requiring less grain than other breeds. Send for free information about the progress of the breed and its adaptability to California conditions.

American Hampshire Record Association

E. C. STONE, Secretary.

PEORIA, ILL.

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER **GARDINER'S KING'S COL.**
Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH

ROUTE 4, BOX 735,

SACRAMENTO, CAL.

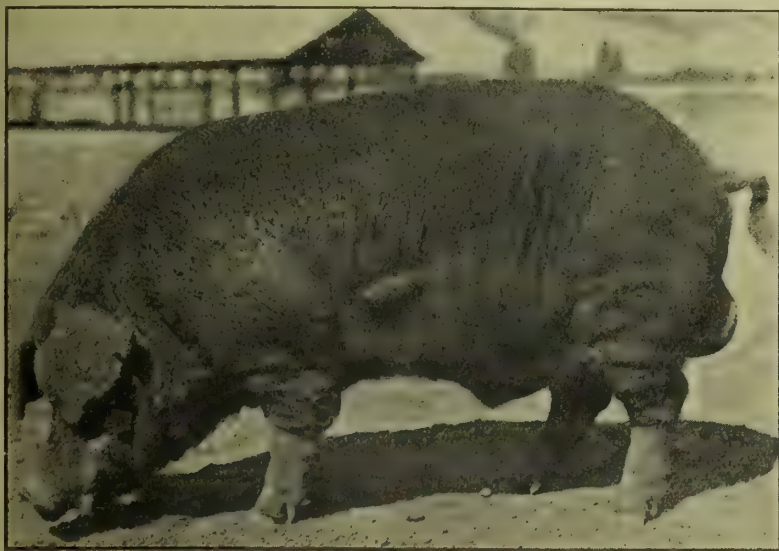
Berkshire swine entered and he is coming from the South to try conclusions with his brother breeders of the North. The California International is the logical meeting ground for a large territory, being the most centrally located of any place of importance on the Pacific Coast. We know Mr. Moltzer will make a good showing.

Geo. V. Beckman & Sons, Lakeside Stock Farms, Lodi, have Poland-China swine entered and those who know their herd know that they have plenty of prize-winners in it. Matchless Big Bob is their senior herd sire and was first in the aged boar class at Sacramento this fall and he headed the second prize aged herd. Their hogs are of the type that mature quickly, but have lots of bone and substance. Very close to the ideal type.

bone. They dress a high percentage of marketable meat. They are excellent graziers.

Lloyd & Tointon are the only exhibitors of Yorkshire swine, although there are several other good herds in the State. Their herd is a good one and typical of the breed. They have one sow that farrowed 20 pigs in one litter and raised 14 of them. If you want to see a large white hog, somewhat of the bacon type, look up this herd at the California International.

L. J. Belknap of San Jose, who woke up the California swine world by holding a hog auction in a prune district and topping the sales price for purebred sows by several hundred dollars, will have some of his Duroc-Jerseys in the show ring at the California International. He has made several additions to his herd lately



Mammoth Sensation II—Reserve senior and grand champion Duroc-Jersey boar, from Diamond Bar Ranch, Spadra.

R. Heckley of Santa Rosa and Dr. Jas. J. Summerfield of the same place both have Tamworth swine entered at the San Francisco Show. This is a breed that is not as well known in California as some of the others, but is one of the oldest breeds for all that. They are of the true bacon type with very deep sides, great length and strong, arched backs and not too heavy

and will no doubt be in the money.

Conejo Ranch of Newbury Park are coming north with a full quota of both Duroc-Jerseys and Hampshires. A recent addition of the Waltemeyer Bros.' entire herd of Duroc-Jerseys made an already strong herd stronger. Last year they won grand championship with one of their Duroc boars at the State Fair with a good showing

MONTELENA HERD OF LARGE YORKSHIRES



LAKE PARK KING 25211
Grand Champion Boar—California State Fair, 1917.

Due to the ever-increasing popularity of the breed, Yorkshire breeders are almost entirely sold out, and it would behoove the prospective purchaser to place his order soon.

We are only able to offer at the present time a very exceptional lot of fall pigs, some sired by "Lake Park King," others by "Montelena Prince 2d." They are out of such sows as "Deer Creek Nena 8th," present Grand Champion sow of the State, who has averaged a fraction over 17 pigs per litter for nine consecutive litters; "Riverina Nena 9th," one of her best daughters, and "Lake Park Lady Frost 291st," the top sow at the Thomas H. Canfield sale last year.

We solicit your correspondence.

A. L. TUBBS CO.

CALISTOGA,

CALIFORNIA

OAK KNOLL Chester Whites

The Breed Progressive Farmers Want

Large Litters--Quick Maturity
Easy Feeders--Top Prices

AT the Chicago International, 1918, this breed again won over all breeds on carcass tests. Either straight bred or crosses, the Chester White has for six years proven superior to all other breeds in Open Competition at these Internationals. Our last carload shipment dressed 72.30 per cent and brought 1½c. above the market price.

We Have the Largest Herd on the Pacific Coast
The Finest Blood Lines in America



HIGHLANDER—The Boar You Can't Forget.

This great boar is at the head of our big herd of over 100 mammoth brood sows. He is a son of William A. and Our Maid 3rd, both undefeated Grand Champions at three International Shows. He embodies all your ideas of a perfect boar, and stamps his pigs with his superior qualities.

This is the blood you need to insure your success. A wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs. Prices reasonable. Write us your wants.

See my stock at

THE CALIFORNIA INTERNATIONAL LIVESTOCK SHOW,
November 1-8.

OAK KNOLL FARM
Lakeport, Calif.

San Francisco Office

601 Balboa Bldg.

CERTAINLY SEE THE SWINE SHOW.

We will have representative types of hogs of the various breeds at this show that I feel certain will make it well worth the while for anybody in the West to make the trip to San Francisco to see. We will have car-load lot classes that will be new to California shows and I think that this class alone will be of immense educational value to growers of hogs in a big way, as well as to farmers who are making up consignments for car-load lots through the various farm bureaus because it will show the kind of carlots that the buyers want.

J. L. THOMPSON, Supt. Swine Division.

all down the line. Their Hampshires are of the best and their herd can be looked for to win its share of the ribbons. They have some excellent specimens of this smooth, compact, excellent killing breed.

The Billiken herd of Chester White swine will be shown by C. B. Cunningham of Mills. Mr. Cunningham has an excellent herd in fine condition, although he has been hampered by labor conditions somewhat. He won practically all the first and all the cham-

pionships at the State Fair this year and will come to San Francisco with a very strong exhibit.

The Wickiup Ranch of Burke, J. H. Rossiter, owner, will have a full exhibit of both Berkshires and Duroc-Jerseys. The Durocs are from the far-famed McKee herd of Versailles, Kentucky. The head of the herd is Beautiful Defender, a son of the original Defender. The Berkshire herd is headed by Rincon Mayfield, with Princess Lee 4th and Wickiup Princess 1st, 2nd and 3rd on the female side, making a very strong showing.

M. & A. L. Bassett of Hanford will show Poland-Chinas of the type that always look well, make wonderful gains for feed consumed, and are ready to top the market as quickly as any hog in the world. The senior member of the firm has probably shown more prize Poland-Chinas of his own breeding than any other breeder in California. Mr. Bassett recently paid the world record price (\$3,175) for an open gilt at a public auction.

S. E. Whiting of Sacramento is a new breeder in the Duroc-Jersey ranks, a new star on the horizon. He has been accumulating a prize-winning herd very rapidly, selecting his stock from some of the best herds in the State. If he keeps on as he has started he will be on a par with the older breeders.

A. L. Stephenson of Los Molinos, one of the veteran Berkshire breeders of California, will have his herd at San Francisco to compete for the ribbons. Wilsonia Chief Leader is the herd sire, with a good lot of females to form the other half of the herd.

Another breeder from the northern part of the State is Mrs. John J. Weber of Yuba City, who will have swine at the California International.

Sandyacre Farm of Modesto, owned by Hale I. Marsh, the prominent Poland-China breeder, will show some of his big ones and probably be in the money if we are to judge by his past record. The herd is strong in the blood of I. B. A. Wonder and Model Major, and of the type that is winning all along the line just now.

Oak Knoll Farm, Lakeport, owned by Lea Bleakmore, breeds Chester White swine that have a habit of winning many of the blues when shown. A full quota will be shown from the herd that had the grand champion boar, Highlander, at the State Fair in 1918. The herd is composed of 100 sows of Combination, Wonder and St. Elmo breeding.

W. F. Dolcini, owner of June Acres Stock Farm, Davis, will show some of his dandy Durocs and be in line for some of the ribbons. His herd is headed by Model Colonel, a grandson of King Colonel; Great Wonder's Model 3rd, by Great Wonder, and University Wonder.

J. F. Lehman of Lodi is coming to the San Francisco Show with some of the good ones from his Poland-China herd of merit that will look good to lovers of this great breed. Mr. Lehman is another breeder that is showing stock of his own breeding and winning with it. He won the big silver loving cup given by the State Poland-China Breeders' Association for best futurity litter, as well as numerous other prizes at the State

Ninety-five pounds of Ne Plus almonds were harvested from a single tree in a Terra Bella (Tulare County) orchard. They were worth \$28.50 to the grower.

JOHNSON'S DEFENDER JR.

Owned by GREENWOOD FARM, Live Oak, Cal.

Is California's greatest representative of Defenders, the greatest Duroc family. At the State Fair he was the smoothest boar shown, weighing 700 pounds at 17 months and carrying it on a perfect set of feet and legs. He won second in the strongest class of boars ever shown on the Coast and was a popular favorite. Three of his brothers won ribbons in the same class, showing the strength of this line of breeding.

Five Ribbons Won on Five Entries.

H. C. WITHEROW, Mgr.

LIVE OAK, Sutter Co., Cal.

Big-Type DUROCS



CALIFORNIA ORION KING.
His sire is by Orion Cherry King.
His dam is by Joe Orion 2d.

HARVEY M. BERGLUND, Dixon, Calif.

If you are looking for size, combined with quality and finish, you cannot afford to overlook getting some of this boar's stock.

My sows are strong in the Colonel and Defender lines, combined with Orion blood. Size and quality are essential. I will not tolerate anything but economical feeders.

Inquiries invited.

Visitors welcome.



FALFADALE FARMS

Home of GREAT ORION SENSATION Jr.

The sensational Duroc-Jersey boar, best son of Great Orion Sensation, the most talked-of hog of the day, Grand Champion at the 1919 National Swine Show.

This outstanding boar, recently imported from Nebraska, is a litter brother of Majestic Sensation, Jr., who won the distinction at the Missouri State Fair this year of being the first Junior Champion that was ever made Grand Champion.

Our herd is rich in the blood of the famous Orion Cherry King strain. Young stock of this big bone type for sale. Boars ready for service—well grown, wide, deep barrels and rumps, heavy bone—just the kind you need. Priced right.

Watch for Announcement of our Bred Sow Sale.

B. H. WILKINSON, Manager Perris, Calif.

Going!! Going!! IN OUR BIG FALL Nov. 11th

PUBLIC SALE
24 SPRING BOARS—6 SPRING GILTS

Duroc-Jersey Spring Boars

- 2 by Uneeda Orion by High Orion.
- 5 by Uneeda King of Orion 8th, by King of Orions.
- 3 by Valley View's Orion, Grandson of Orion Cherry King Jr.
- 3 by Sammy King's Col.—our herd boar.
- 6 by Uneeda Model Col., litter brother to the Grand Champion sow, Cal., 1918.
- 4 by Crimson Col., by Uneeda King's Col.
- 1 by Invincible King's Col., dam by Cherry King Orion.
- 6 Gilts by Sammy King's Col., Dam Granddaughter of Orion Cherry King Jr.

Dams of these pigs are by Cherry King Orion, High Orion, King's Model, and other noted boars.

Auctioneer ORD L. LEACHMAN.

BOX 505, **W. T. HOLLINGSHEAD & SONS ORLAND, CAL.**

WINSOR RANCH DUROCS

GRAND CHAMPION SOW
STATE FAIR, 1919

Winnings at Southern California Fair, Riverside, 1919:

1st aged herd, bred by exhibitor; 1st young herd, bred by exhibitor; 1st produce of dam; 2nd, get of sire; 1st, young herd; 2nd, aged herd; 1st, aged sow; 1st and 2nd, Senior Yearling Boar; Senior and Grand Champion sow.

WINSOR RANCH

Bonita, (San Diego Co.), Cal.
MORRIS C. ALLEN, Ranch Manager.

Address,
B. E. WALKER, Manager Swine Dept.



Model Defender Lady, Grand Champion Sow, Cal. State Fair, 1919

Italian Vineyard Co. Quality Berkshires

Won at Southern California Fair, 1919,
Riverside, California.

1st Junior Yearling Boar, 2nd Two-Year-old Boar, 1st and 2nd Junior Yearling Sows, 2nd Senior Sow Pig; 2nd Senior Boar Pig; 1st Junior Boar Pig; 1st Old Herd (1 boar, 3 sows); 2nd Young Herd; 1st Produce of Sow; 2nd Get of Sire; 1st Pen Fat Barrows; Senior Champion Boar; Senior Champion Sow; Grand Champion Sow.

ALEX. M. WILSON, Supt.
Swine Department.

Guasti, California

THE MODEL Duroc Rancho

Herd Headed by

**COL. DISTURBER PIONEER
DEFENDER**

Young Stock for Sale
at All Times

J. P. WALKER

Visalia, Cal.

W. J. Fulgham & Sons

Breeders of Purebred

DUROC-JERSEY SWINE

POLLED HEREFORD

and

SHORTHORN CATTLE

DUROCS for quality and breeding.
Call or write for particulars.

W. J. FULGHAM & SONS

Phone 54F3, Visalia, Calif.

Duroc Jersey Swine Gilts and Young Boars

By

JOE'S ORION CHERRY KING 5th

Sired by Fann's Orion,
the \$20,000 boar

or by

LORD'S ORION CHERRY KING,

1st prize Senior Yearling Boar,
California State Fair, 1919

JOE N. CHINOWTH,

Phone 54F11, Visalia, Calif.

TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes.
Sale to please.

SWINELAND FARM

W. O. Pearson, Prop., Woodland, Cal.

EVERYBODY SHOULD VISIT THE SHEEP SHOW.

The sheep and wool industry as represented in this show will be of great interest to the breeders, sheep men, farmers and general public. We will have some of the best specimens of the various breeds, some of which perhaps many people in the country have known only by names or pictures. We will endeavor through this department to encourage the raising of more small flocks by Pacific Coast farmers. It will be a good sheep show and one that everybody should visit.

W. B. CLOW, Supt. Sheep Division.

TREWHITT-NEHLS-VAUGHN POLAND-CHINA SALE.

This was not a sensational sale in that there were no sensational features, although Wm. Bernstein paid \$450 for Miss Orphan 2nd, the Delfelder gilt from Effingham, Kansas.

C. A. Vaughn sold 15 head for \$2,220, or an average of \$148 per head, which was a good price, although no better than his hogs deserved. Mr. Vaughn breeds good hogs.

The Geo. Nehls consignment did not average as high quite as the others, 12 head selling for \$870, or \$72.50 apiece.

\$126.44 was the average for the 38 consigned by W. D. Trehwhitt, which was not high considering the fact that Mr. Trehwhitt has bred the fashionable type for a longer period than almost any breeder in California.

The average for all three consignments was \$121.46, which is good money for hogs. We have gotten into the habit of looking for each sale to go a little higher than the one previous, but we must all remember that the peak has to be reached sometime and it may be that we are just at the high level now.

A CHANCE TO BUY HOLSTEINS.

At the C. A. Miller Ranch, November 30, 7½ miles north and west of Ripon on the French Camp Road, a sale of 100 head of Holstein-Friesian cattle will be held. These cattle consist of the bulk of Mr. Miller's herd, comprising 50 head with a large proportion of them cows in milk; 30 head from the noted herd of Gotshall & Magruder of Ripon and 20 head consigned by H. A. DeWolfe of the same place. These cattle are all registered and are first-class stock.

MILCH GOAT BREEDERS, ATTENTION

A meeting of the Central California Milch Goat Breeders' Association will be held in the California Building during the California International Livestock Show, on Saturday, November 1, at 1:30 p. m.

"Easy is the descent to hell" runs an old proverb. A passenger we were carrying gave us a number of similar remarks to cheer us up while we were patching a blowout. It was his sole endeavor to assist. We "acquired merit" by still carrying him with us.

LIVE STOCK ASSOCIATION MEETINGS DURING CALIFORNIA INTERNATIONAL.

Numerous meetings of the various organizations will be held throughout the show. Some have a definite hour stated and some will supply this item later.

Monday Night at California Building: California Poland-China Breeders' Association.

Western Berkshire Congress.
California Jersey Cattle Breeders' Association.

Tuesday at the California Building:

A meeting at 3 P. M. to complete the organization for the purpose of procuring legislation favorable to the execution of plans for improvement of the State Fair Grounds at Sacramento.

Wednesday at the California Building: California Cattlemen's Association. All day.

Thursday at California Building: California Cattlemen's Association, A. M.

Pacific Coast Hereford Breeders' Association in the evening.

Friday at California Building: California Cattlemen's Association, A. M.

California Shorthorn Breeders' Banquet, evening.

California Sheep Breeders' and Wool Growers' Association.

PORK DAY AT HANFORD.

Another feather in the cap of Kings County tending to "cinch" the title of "Swine Center of the Pacific Coast" for this enterprising community, was held Oct. 15th. At least 2,000 people partook of the free lunch, watched the judging and listened to the speeches and music.

Fat hogs were entered by all the Farm Bureau Centers of Kings County in competition for the prizes. In the carlot contest Corcoran Center won first, which sold for \$16.70 per hundred to Cudahy Packing Co.; second, Hardwick and selling to Western Meat Co. for \$14.75; third, Hanford, selling to Wilson & Co. for \$14.50; fourth, Stratford, selling to Cudahy Packing Co. for \$14.30; fifth, Grangeville-Armona and selling to Wilson & Co. for \$14.05. Best ten hogs won by Hanford Center, entered by M. Bassett 8, and W. Bernstein 2; second by Corcoran; third by Stratford; fourth by Island Center; fifth by Grangeville-Armona.

Best single hog, Wm. Bernstein;

second, G. I. McCune; third, Roy D. Filcher; fourth, J. W. Creelman; fifth, W. D. Trehwhitt.

Many prominent swine breeders and

heads of the meat packing industries on the Pacific Coast attended this contest and contributed to the success of the occasion.

Only Thrifty Stock Pays Big Profit



WHETHER it's cattle, hogs, sheep or horses, the more vigorous you keep them the more money you are sure to make from them. For it's the healthy, vigorous cows that produce the great quantities of the best milk. It's the sound, good-conditioned steers that put on the pounds of beef. It's the well, sturdy horses that can do the big day's work.

You'll make sure of thrifty stock by giving them

Pratts Animal Regulator

AMERICA'S original and guaranteed stock tonic and conditioner. It sharpens the appetite. It improves the digestion. It regulates the bowels. It makes rich, red blood. It makes the stock more thrifty and vigorous—and more profits for you—every time.

"Your Money Back if YOU Are Not Satisfied"

Sold by 60,000 dealers. There's none near you.

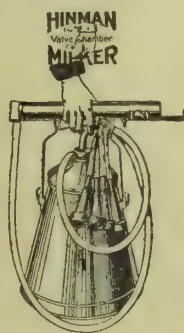
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PRATT FOOD COMPANY
Philadelphia Chicago Toronto

Makers of
Pratts Poultry Regulator, Pratts Baby Chick Food
Pratts Roup Remedy, Pratts Lice Killers



Packed in bags, pails and handy packages.



THE HINMAN MILKER

For 10 full years Hinman Milkers have been demonstrating in thousands of dairies that they save a vast amount of time, that they are a good thing, a benefit for the cows, that they are so simple anybody can quickly learn to use them, that they are thoroughly dependable—that they are one of the finest and safest investments the dairyman can possibly make. It is the leading milking machine, as proved by the fact that more Hinmans are in use than any others.

LOWEST COST.

Because the Hinman is simple—has no stationary pump, vacuum tank, vacuum gauge relief valve, pipe line and pulsator—its cost is about half that of other milkers.

Complete, Illustrated Catalog Free.

Write today for your copy. A postcard will bring it.

C. F. DANIELLS,

Hughson, Cal.

Distributor for California and Oregon.

Promote Pork Profits

With Better Poland-Chinas breeding

I have a few young boars by Joe's King just ready for service. They will make your spring crop of pigs profitable in spite of high price of feed and labor. They are the big type, with easy feeding and quick-maturing qualities. I have priced them very reasonably for a quick sale. Write at once for prices and particulars or call and see them.

WAUKEEN FARM

LES McCracken, Prop.

RIPON, CAL.

STRICTLY BIG-TYPE POLAND-CHINA BOARS

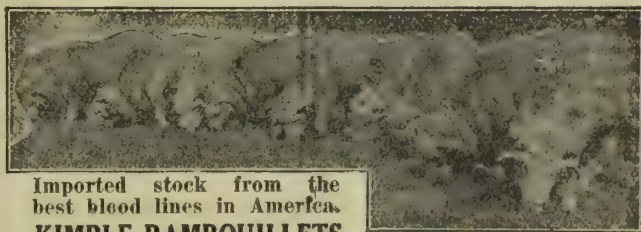
The kind that won the great big silver loving cup given by the Poland-China Breeders' Association of California for the best futurity litter. Sired by Big Bone Bob and Golden State King and out of sows that are of big-type breeding through and through. There is absolutely no use sending East for sires when boars of this type and breeding can be bought here in California for the same money, less the freight, acclimatization and shipping risks.

WRITE ME AT LODI,

OR SEE ME AT THE SAN FRANCISCO SHOW, NOVEMBER 1 TO 8.

J. F. LEHMAN

Lodi, California



Imported stock from the best blood lines in America.
KIMBLE RAMBOUILLETS

will make money on any farm. Pure bred, large and smooth, with heavy fleece of fine, long staple white wool. Yearling and older rams. Breeding ewes. Any quantity. Prices attractive.

CHAS. A. KIMBLE, Hanford, Cal.,

Breeder and Importer

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

ASK YOUR DEALER FOR

El Dorado Coconut Oil Cake

for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address

EL DORADO OIL WORKS

433 California Street,

San Francisco

RANGE CONDITIONS IN HUMBOLDT AND MENDOCINO.

(Written for Pacific Rural Press.)

The ranges in parts of Humboldt and Mendocino counties are in better shape than a year ago. With some exceptions there is more old "tore" left to protect the young grass now showing through since the rains—a very nice set and far enough along to be safe. In the bottoms, feed is likely to be a foot high by Christmas if the weather keeps mild. The winter ranges are in fine shape and there has been enough rain to soften up the browse (which is good) so that no loss is likely from acorn poisoning such as occurred to a great extent two years ago—particularly on Southern ranges. Range cattle have come from the reserves in good condition to winter over and those men who have good winter ranges and a decent supply of roughage will bring their stock through in good shape. We have seen a few lots of yearlings that will need nursing along particularly when the cold rains begin, or they will drop down too far in condition to ever come back. A little shelter to keep off the beat of the rains and a bit of dry stuff for their bellies will bring through yearlings in shape to grow right along at early spring.

MILKING SHORTHORNS A MOST USEFUL CATTLE.

(Written for Pacific Rural Press.)

Dual-purpose Shorthorns that will grow the best steers of any cattle in the world, is what the breeders of these very useful cattle say about them. Then, too, they will give anywhere from 40 to 70 pounds of milk daily with twice a day milking and long enough lactation period to make them profitable dairy animals. This, too, on the kind of pasture and coarse feed that some classes of dairy cattle show no profit on. They are the kind of cattle that the majority of the English-speaking people brought to this country when they came as pioneers.

Thos. Harrison of Santa Rosa, owner of the Santa Rosa Stock Farm, has a herd of these economical dual-purpose Shorthorns that he exhibited at the State Fair this year and is now bringing them to the San Francisco Show for further commendation. He won first in class and grand championship of the males of the breed at Sacramento with the great bull, Foothills Pioneer; also firsts on senior bull calf and junior bull calf, first and junior champion female on Glen Dorothy, with several other winnings besides. He has a great lot of cattle and should win his share of the ribbons at the coming show.

Alexander & Kellogg of Suisun, owners of the Innisfail Herd of Milking Shorthorns, after winning a goodly share of ribbons at the State Fair this year, are coming with 16 head of these great dual-purpose cattle to win some more. They had the grand champion cow, Lady Beatrice, first and second on 2-year-old cows, first on aged herd, breeder's young herd, get of sire, produce of dam and on dairy herd and cows with official records. Truly an excellent showing and great winning of a breed of cattle that are excellent at the pail and on the block.

Leon F. Douglas of San Rafael, owner of "The Pocket Ranch" located in Geyserville, will show some of his dual-purpose Shorthorns at the California International held during the first week in November. Mr. Douglas has been building up a herd of these cattle that help reduce the H. C. L., procuring his foundation stock from W. M. Rutherford of Petaluma and Thos. Harrison of the Santa Rosa Stock Farm, Santa Rosa. The females are of the Kitten Clay and Lee blood lines, which with that notable sire, Foothills Pioneer, grand champion of the breed at the State Fair this year, makes a good combination.

Brighton Farm, Perkins, H. L. & E. H. Murphy, owners, have entered some of their Shorthorns of the dual-purpose type for exhibition at the San Francisco Fair that will be true exponents of this class of Shorthorns. The blood lines of the cows include "Cumberland Type" and "Choice of All" breeding, with plenty of Dutchess blood in the foundation of the herd.

"Can sex be controlled in farm animals?" is a question that is coming up all the time, but has always ended in the same way. A recent article on the subject in Hoard's Dairymen, by R. R. Groves, draws the conclusion that so far the only method showing any success is that of heredity. It may be possible by selecting and mating males and females that have a tendency to produce females or vice versa to have a larger proportion of females or males as the case may be.

abortion booth. All the above is highly educational and is worthy of the closest inspection by all those interested in dairying.

The World's Record Goat.

The poultry, pet stock, rabbits and milch goats, all will be in evidence and given space and attention never allowed before. California Gretel, the milch goat with the highest record of any goat in the world and probably the most economical milk producer in the world, will be on exhibition. The money-making hen, the most economical meat producer—the Belgian, New Zealand and other breeds of hare—will attract and hold your attention, as these departments are going to be more complete than ever.

Then, the livestock show will keep you busy through the day, for you must know that the immense California Building that was thought plenty large enough, is to be filled to overflowing, and pens and stalls built outside to accommodate the excess. All the blue bloods of the horses, cattle, sheep, swine and goats on the Pacific Coast are coming each and every one to make this the greatest show ever held west of the Rocky Mountains. Cattle Exhibits Widely Representative. Cattle from Kansas City, Cheyenne,

Yakima and Phoenix, swine from Nebraska to the Pacific, and sheep from the Willamette valley to that of the San Joaquin. From far and near, for the edification, amusement and instruction of us all, but it will be in vain if we do not take advantage of this opportunity and see what is gathered at the most central point of the country west of the Rockies. Come and see it all and San Francisco will entertain and care for you, instruct you and send you home happy and glad that you could be with her and California in their glory.

An Eastern writer suggests rye and sweet clover as a silage crop for an early use in the spring, and it might be possible to use the same crop in California under conditions where other crops would not produce sufficient tonnage to be profitable.

A few weeks ago an ad appeared in a Scotch paper for an experienced bookkeeper at \$4.50 a week and found. In the same column a boot-then shake the fur to remove all par-black was wanted—wages \$6 a week. It would appear that boots are now more important than books. Some of our maidens packing fruit make this much in a day in California.

FIRST CALIFORNIA INTERNATIONAL LIVESTOCK SHOW

CALIFORNIA BUILDING

SAN FRANCISCO

NOVEMBER 1-8

Largest Exclusive Stock Show in the West

YOU WILL SEE—

The most complete exhibition of the live stock resources of the Pacific Coast ever assembled. The Cream of every improved breed of horses, cattle, sheep and swine and goats will be entered. Every allied industry will be represented.

The Dairy Division, with its world famous cattle and its exhibits of Dairy Products, makes this the "National Dairy Show of the West."

The most complete Poultry and Rabbit Show ever presented on the Pacific Coast will show the best that is offered from the most progressive breeders.

YOU WILL LEARN—

Why and how the best are produced in this State and who owns them. You will learn to recognize the modern type and how better breeding stock can increase your profits.

YOU SHOULD COME—

It is your show. It has much to offer and you will be welcome.

HORSE SHOW—MUSIC—PARADES EACH NIGHT—

World's famous horses will be exhibited in competition in the greatest night horse show ever staged in the West, furnishing educational amusement features that will be made into a different program for each night.

Remember: San Francisco Knows How

CALIFORNIA INTERNATIONAL LIVE STOCK SHOW

W. T. SESNON, President.

GORDON H. TRUE, Secretary-Manager

GLOBE "A1" FEEDS

-Judge them on Business Principles!

FEED FOR SWINE,
STOCK AND POULTRY

ASK YOUR DEALER

Profit in Dairying Analyzed

(Written for Pacific Rural Press by Geo. W. Fry, La Honda.)

The dairy owner who expects to break even on his 1919-1920 operations is going to have to watch his P's and Q's pretty closely. The consumer who is paying the present long prices for butter will not agree to this, but the man behind the scenes knows that in spite of one dollar butterfat (today's price is 73c, and it's still climbing), the margin of profit is going to be very slim and will in some events disappear entirely and become a deficit instead of a profit.

The Labor Question the Crux.

The labor question is one thing that is bothering the producer at this time. Will there be an adequate supply of help at prices we can afford to pay? A good many thought that with the demobilization of the army hundreds of boys would be seeking farm jobs, but this has not been the case. The factories, the shipyards and the offices took the best of our help during the war and neither they nor the ex-soldiers have returned to the soil in satisfying numbers. The labor question is also complicated in some sections by the return or contemplated return to the old country of some of our foreign help who prefer the conditions there, with liquor, than liberty and prohibition here. We have been advised that this exodus is more real than fancied in a great many of the dairy districts of California. This may be just as well, but it is unfortunate that it comes at a time we have not made the necessary readjustment caused by the war.

Small Herd Must Have Quality.

The dairy farmer, who keeps just enough cows so that he can do the work himself, or with the aid of one hired man, is the fellow that will make the largest net profits next year. But in order to make a satisfactory income from a small bunch of stock they must have quality. No common scrub will earn interest on investment in these days of high costs. A cow does not necessarily have to be a purebred to be a profit-maker, but she should be a well-bred grade, of good dairy shape, free from tuberculosis and other diseases, and she must have the proper feed and care. She should be, by all means, bred to a purebred bull.

The Iowa Experiment Station recently published the results of a long experiment under the title, "Influence of Environment and Breeding in Increasing Dairy Production." Some of the results obtained may be summarized, as follows:

(1) The heifers sired by a scrub bull showed no greater increase in production over their dams than would be accounted for by improved environmental conditions.

(2) The daughters of all except one purebred bull have proved to be larger producers than their scrub dams.

(3) The second generation grades showed larger production than did their dams (first generation grades) or their granddams (scrubs).

(4) In persistency of milk production the first generation grades were intermediate between the scrubs and the purebred cows and the second generation grades approximated the purebreds.

(5) In total feed requirements for milk production the second generation grades proved the most economical, followed by the first generation, while the scrubs proved the least economical.

Scientific Feeding Necessary.

With bran selling at \$50, cocoanut meal practically unobtainable at \$60, alfalfa hay at \$39 (Redwood City prices), the feeder must exercise more than usual care in making up cow rations. If there ever was a time when scientific feeding should be practiced now is the time. The people in the irrigated sections of the State who can raise alfalfa are especially lucky, as are those who have corn land and the necessary silo equipment. However, there are many who for various reasons are denied these blessings. Sweet clover offers to the farmers of the

hills and arid regions a solution of the feeding problem. Sweet clover seed, scarified and inoculated with bacteria and properly planted, will grow practically anywhere without irrigation. Once seeded the plant lasts two years, thus making it a very economical plant to grow. If the seed is gotten into the ground as soon as there is sufficient moisture (about January in this section), two crops can be cut each year, or one crop and one pasturing. This is one of the beauties of the clover—it provides good pasture when everything is dry and gone. Some say cows won't take to the crop readily, and while they may be a little slow in getting to like it, they will eventually learn to eat it and do well.

The Ormondale Shorthorn Ranch near Redwood City has contracted for two hundred acres for the use of their herd of prize Shorthorns. The Redwoods Ayrshire Farm at La Honda is going to try out twenty acres for their purebred dairy stock, and if it proves a success will plant all their pastures or the greater portion to sweet clover.

PURE HAWAIIAN CANE MOLASSES

PORK PRODUCTION

By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

MILK PRODUCTION

One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars for shipment anywhere.

Attend the California International Livestock Show, San Francisco, November 1 to 8.

W. H. YOUNG COMPANY

Holbrook Bldg.,

San Francisco



ARE YOU A TOP-NOTCHER?



The first principle of the successful breeder—the top-notch—the one that breeds the "killer" kind—is a thorough knowledge of blood and blood lines, feeds and feeding, and a practical application of that knowledge.

It is the apparently little things that go to make the prominent hog breeder—brains and brain work that develop the big type that produces—that's why 90 per cent of the big breeders—the men with the reputation—feed Economy Stock Powder. They recognize through their years of experience a something in Economy Stock Powder that is dependable as a conditioner—and this recognition is based on the results obtained by a careful tryout.

Economy Stock Powder is not a cure-all—not a medicated salt—it contains no harmful drugs or opiates. It is a conditioner—a worm expeller and disease preventive, and is made up of the following ingredients:

Sulphate of Soda

Hypo-Sulphite of Soda

Poke Root

Bi-Carbonate of Soda

Charcoal

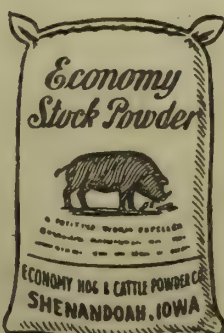
Blood Root

Carbonic Soda

Sulphur

Worm Seed Meal

These ingredients are so blended and so proportioned as to do the work intended for them.



SEND THIS COUPON

Today and

Get FREE This

Trial Sack of

ECONOMY

STOCK

POWDER

Economy Hog & Cattle Powder Co.

HEARST BUILDING, SAN FRANCISCO, CAL.

Send me your booklet, "Economy-ize Your Farm," also a free sack of Economy Stock Powder to try out on my stock.

Name R. F. D.

P. O. State.

I have hogs sheep cattle horses

THE MARKET REPORTS

Figures Given Are Independent and Reliable.
Prices Quoted as Paid to Producers.

SAN FRANCISCO.

San Francisco, October 22, 1919.

BARLEY.

Barley futures were somewhat more active this week with a stronger tendency. Spot barley continues to drag with small demand. Feed \$2.90 @ 2.95
Shipping \$3.15 @ 3.20

OATS.

While there were few sales of oats this week small lots of extra quality sold at \$3. While there is nothing to base it upon a better feeling seems to prevail in the grain markets. Red feed, per cbl. \$2.75 @ 2.85
Red for seed Nominal
Black for seed Nominal
Reclaimed Red or Black for seed Nominal

CORN.

Corn is unchanged at last week's quotations. California \$3.50 @ 3.60
Egyptian, choice \$3.20 @ 3.50

HAY.

Receipts of hay for the past week were 1913 tons compared with 1365 the previous week. These receipts were practically all by water, almost nothing coming in over the railroads. These shipments and those of the present week should about clear up most of the hay about the bay and smaller shipments may be looked for as the car shortage makes it practically impossible to ship that way. The difficulties in the way of future shipments, together with the fact that almost all hay from now on will have to be withdrawn from the warehouses, has caused the market to stiffen up in price. Alfalfa is unchanged, owing to the light inquiry.
No. 1 Wheat, or Wheat & Oat \$17.00 @ 20.00
No. 2 Wheat, or Wheat & Oat \$14.00 @ 17.00
Choice Tame Oat Hay \$17.00 @ 20.00
Wild Oat Hay \$12.00 @ 16.00
Barley Hay \$14.00 @ 18.00
No. 1 Alfalfa Hay \$17.00 @ 22.00
Stock Hay \$10.00 @ 14.00
No. 1 Barley Straw, per bale 50 @ 80

FEEDSTUFFS.

There were no changes in the feedstuff market this week, but it is predicted that if hay continues to advance it will react on the prices of most feedstuffs. There was a little coconut meal on the market this week, but no quotations are made as deliveries cannot be made in quantity for some time to come.
Rolled Oats \$61.00 @ 62.00
Rolled Barley \$61.00 @ 62.00
Cracked Corn \$78.00 @ 79.00
Alfalfa Products \$38.00 @ 45.00

POTATOES, ONIONS, ETC.

There were no changes in potatoes this week, but the price of onions was advanced and this market is very strong with good prospects of further advances. There were few changes in the general vegetable market, which was very quiet.
String Beans 7 @ 9c
Peas 9 @ 11c
Carrots, per sack \$1.00 @ 1.25
Cucumbers, box Nominal
Cauliflower, box 75c @ 1.00
Eggplant, box 75c @ 1.00
Lettuce, per crate 75c @ 1.25
Tomatoes, Early Anna 50 @ 75c
do, Steas 75c @ 1.00
Summer Squash, lug, Alameda \$1.00 @ 1.50
Green Corn, Alameda, sack \$1.50 @ 2.00
Potatoes, Garnets \$2.00 @ 2.35
do, local whites \$2.25 @ 2.50
do, Rivers \$2.00 @ 2.85
do, Sweet, new, lb. 3 @ 4c
Onions, new red Nominal
do, Browns \$2.75 @ 3.00
do, Yellow \$2.75 @ 3.00
do, Green, Alameda \$1.00 @ 1.25
Garlic 20 @ 22c

BEANS.

New crop prices were named this week on most varieties of beans, and as there are so many of the old crop still unsold it is necessary to quote both prices. The price on limas which was named by the Association last week

is being maintained by the Association, but outsiders have sold limas from a cent to two cents cheaper.

Variety	Old crop	New crop
Bayos	\$8.25 @ 8.50	
Blackeyes	\$5.75 @ 6.00	6.00 @ 6.15
Cranberry	\$6.50 @ 6.90	7.25 @ 7.60
Pinks	\$5.75 @ 5.90	6.00 @ 6.15
Red Mexican	\$5.00 @ 5.75	
Tapary	\$2.50 @ 2.75	
Garbanzos	\$5.75 @ 6.00	6.00 @ 6.25
Large Whites	\$6.50 @ 6.75	6.50 @ 6.75
Small Whites	\$6.50 @ 6.75	6.50 @ 6.75
Limas		\$14.50
do, Baby		13.00

POULTRY.

While the prices of poultry have been well maintained during the last week, lower prices are looked for next week on account of the fact that several carloads are scheduled to arrive during that period from the East. Lower prices are looked for especially on fliers and young roosters, which are likely to sell down to 30 cents. Turkeys were higher this week on account of purchases made for the Government account to ship to trans-Pacific posts for the Thanksgiving celebration. Lower prices on turkeys are looked for next week.

Broilers, 1 1/2 lbs. and under	37 @ 40c
do, 1 1/2 to 2 lbs.	32 @ 35c
Fliers, 2 to 3 lbs.	32 @ 33c
Hens, extra, per lb.	34 @ 38c
do, Leghorns	30 @ 33c
Smooth young roosters, per lb. (3 lbs. and over)	32 @ 34c
Old roosters, colored, per lb.	22 @ 23c
Turkeys, dressed, young spring, lb.	50 @ 55c
do, live	43 @ 45c
Geese, young, per lb.	20 @ 27c
do, old, per lb.	22 @ 23c
Squabs, per lb.	60 @ 65c
Ducks, young	25 @ 26c
do, old, per lb.	20 @ 23c
Belgian hares	15 @ 16c
Jack rabbits	2.50 @ 3.50

BUTTER.

In the face of more liberal supplies and in the absence of any pressing demand butter dropped off in price two cents this week. A considerable amount of storage butter is being used.

Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	62 1/2	62 1/2	62 1/2	61 1/2	60 1/2

EGGS.

All descriptions of eggs advanced this week on the overwhelming strength of the New York market. In New York today selected extra whites sold from 93 to 95c on the wholesale market and touched \$1.10 on the retail market. The price of extras in this market are the highest of the year, and it so happens are at exactly the same price as a year ago today. Ditties advanced rapidly under the impetus of the demand for extras. Last week they closed 8 1/2 cents below extras and this week only 5 cents. Pullets and undersized were dragged along the up-grade with extras and scored records in prices.

Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	70 1/2	71 1/2	72 1/2	73 1/2	74 1/2
Ditties, No. 1	63 1/4	64	64 1/2	66 1/2	69 1/2
Ex. pullets	54 1/4	54	54 1/2	56	58 1/2
Undersized	51	50	50 1/2	52	53

FRESH FRUITS.

The fresh fruit market was very quiet during the week, with few changes in prices from day to day. Grapes were somewhat higher, and apples were in good demand at current quotations.

Apples, Alexanders	\$1.25 @ 1.50
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DRIED FRUITS.

The dried fruit situation changed entirely during the week and a demand from Europe gave strength to the entire list. It is now believed that dried fruits have touched their low mark and any future change will be upward. The trade would not be greatly surprised if the prices prevailing a month or six weeks ago should be repeated.

Apples	16 @ 18c
Pears	16 @ 18 1/2 c

Apricots	21 @ 28c
Prunes	11 @ 13c
Figs, Adriatic	12 @ 18c
do, Calimyrna	15 @ 21c

CHEESE.

The cheese market was weak and dull during the week for the California varieties, although the price of Oregon triplet was somewhat higher.

California Flats, fancy	28 1/2 @
do, Firsts	27c
Y. A., Fancy	31 1/2 c
Oregon Triplet	30 1/2 c
do, Y. A.	32 1/2 c

RICE.

There were no changes in rice quotations either for spot or futures this week. The market is regarded as steady and little variation from present prices is expected before the crop is about ready to move.

LOS ANGELES.

Los Angeles, October 21, 1919.

BUTTER.

A good demand continues for all coming in. At the opening of our review week the market broke a cent a pound, extras selling down

to 64c in sympathy with weaker markets north. Monday it advanced a cent in sympathy with higher markets East and closed the same as last week. Receipts for the week 285,000 pounds.

Fresh California, extra creamery	65c
do, prime first	63c
do, first	62c

EGGS.

But few eggs coming in and market higher on extras and case count, while pullets are a cent lower. Demand good for all arriving. Receipts by rail for the week, 410 cases. Fresh ranch, extras 73c
do, case count 67c
do, pullets 57c

POULTRY.

More coming in the past week and the market not so strong. Broilers in fair demand but lower. Friers and roasters off and dull. Heavy hens scarce and in fair demand. Light hens dull. Turkeys and ducks coming in more freely and slow sale.

Broilers, 1 to 1 1/2 lbs.	38c
Broilers, 1 1/2 to 1 3/4 lbs.	38c
Friers, 2 to 3 lbs.	28c
Roosters (soft bone), 3 lbs. and up	26c

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., October 21, 1919.

Continued light supplies, brought about by the prevailing car shortage, has further stimulated the demand in all markets. There has been an upward tendency in prices of all varieties of fruit arriving sound; in fact, there seems to be no limit for prices paid for certain varieties. If weather conditions remain favorable in California, at least for the next three weeks, practically the entire crop will have been marketed without very serious loss to the growers. Some districts, naturally, have fared better than others, but we think

as a whole, the high prices that have prevailed for the past six weeks will more than compensate the growers for any loss in tonnage that may have been brought about by the car shortage. We look for a steady demand, barring unfavorable weather conditions, throughout the balance of the season.

Averages for the week:
CHICAGO: Malaga Grapes, \$2.22; Tokay, \$2.10; Comichon, \$2.58; Emperors, \$2.00; Alicante Bouschet, \$2.50; Mission, \$2.00; Zinfandel, \$1.65.

Classified Advertisements

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MISCELLANEOUS.

WANTED—Position as superintendent or foreman on ranch by married man thoroughly experienced in growing deciduous fruits, pruning, drying and irrigating, raising of alfalfa and general farming. Also willing to take place on shares. San Joaquin Valley or Santa Clara Valley preferred. Address answers to P. O. Box 271, Ileton, California.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weisbaum Pipe Works, 160 Eleventh street, San Francisco.

RAISE SILVER FOXES—Exceptional opportunity. Large profits. Easy to raise. New syndicate plan. Will not interfere with your regular occupation. Particulars free. Drya Silver Fox Syndicate, 5244-46 S. Maplewood Ave., Chicago, Ill.

WANTED BY STEADY YOUNG MAN with wife and three small children, position on up-to-date dairy or hog ranch. Considerable experience with dairy cows on small scale; some experience with hogs. Box 1720, Pacific Rural Press.

FOR SALE—Complete refrigerating plant; 6 H. P. gas engine, compressor, shafting, piping, milk cooler. Everything nearly new and in first-class condition. Reasonable terms. Write Coast Dairies & Land Co., Davenport, Cal.

FOR SALE—California Wonder Corn for seed. A new white dent. Has averaged as high as six good ears per stalk. The greatest yields of any corn known. Order now. Prices quoted. James McKee, Riverside, Calif.

RANCH FOREMAN, married, two children, will be open for engagement after November 15. Fourteen years' experience in citrus and general farming. Must be near school. References. G. R. Koenig, Berkeley, Cal.

BERRY PLANTS—Strawberries, Raspberries, Blackberries, Currants, Gooseberries, Dewberries and Loganberries. Order now to assure delivery. Write M. J. Monis, Berry Specialist, Sebastopol, California.

MADON OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shelter Pipe Works, 304 Howard St., San Francisco.

WANTED—From 2,000 to 10,000 Myroblan seedlings; also about 2,000 Japanese Pear seedlings. Send price and quantity on hand. B. B. Nursery, 27 Union St., Napa, Cal.

FOR SALE—Beeman tractor, full set implements, nearly new, fine condition, cheap. Joseph Moore, 1327 College Ave., Santa Rosa, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

FOR SALE—Bean Tractor, has latest improvements; in A-1 condition. Will sell cheap. Gibson Development Co., Oakland, Calif.

WANTED—Married dairyman, experienced in A. R. O. fitting for shows; calf raising, etc. Sunnybrook Ranch, Willits, Calif.

BOYS, YOU CAN MAKE MONEY saving Pumpkin seeds. Write for particulars. Bomberger Seed Co., Modesto, Cal.

A NEW ALFALFA—Investigate now. Our great "Hardy Hybrid" alfalfa. For facts, write J. L. Lawson, San Jose.

12-20 YUBA TRACTOR, used very little. P. M. Pederson, Oakdale, Cal.

MAMMOTH JERSEY KALE SEED—2 oz., 15c, by the pound, \$1.00. A. P. Ward & Son, Calistoga.

SUDAN—We want to buy Sudan grass seed. Send us samples. Bomberger Seed Co., Modesto, Cal.

COUNTRY LANDS.

FOR SALE—20 acre ranch, 5 miles from Oakdale, 1/4 mile from S. P. Flag Station, 1 1/2 mile from Valley Home Railroad Station, 1/2 mile from Highway; under Oakdale Irrigation System, plenty of water; property all checked for alfalfa with laterals for irrigating every part of ranch; land ready for re-seeding to alfalfa; good sandy soil of A-No. 1 quality; good barn; enclosed tank house; good tank and windmill; family orchard around the house; four-room house covered with vines. Price \$5,000 gross. If bought direct from owner real estate agents' commission will be thrown off. Owner, BERKELEY SECURITIES COMPANY, 218 First National Bank Bldg., Berkeley, California.

88 ACRE FARM—\$9,000 WITH 2 Producing Oil Wells
Netting owner \$20 per month for oil; 1/4-mile to school, mile to village, with electric cars, stores, church; 70 acres tillage, balance spring-watered pasture; wood house-ice; 50 apple trees, 2-story house, piazza, 120-foot basement barn, poultry and hog houses. To settle estate; part down and balance easy terms. When there's all on a farm one never knows what good luck the future may bring. Travelling instructions page 46 Street's Full Catalog 100 pages Bargains, 23 States, copy mailed free. STROUT FARM AGENCY, 831AF, N. Y. Life Bldg., Kansas City, Mo.

FOR SALE BY OWNER—Ten-acre apple orchard 3 miles south of Bishop, Cal., in Sunland District. Just coming into bearing. Lays under head of Mesa canal with ten inches of water—none better in America. Climatic conditions are unsurpassable. Orchard is in good location on main traveled road with ideal view of mountains and valley. Varieties of fruit are Winesaps and Jonathans, the leading varieties for Owens Valley. Phone 5F4. No trade. Clyde Hall.

WANTED TO BUY in Santa Clara county, in the hills, between Mayfield and Saratoga, about six productive acres and a house, or a good home-site, the same being part of a large modernized orchard or dairy farm. The seller to continue, by yearly agreement, to work the six acres, in addition to his own land. Trees, water and view necessary. No agents. Address, Room 324, Merchants Exchange Building, San Francisco.

FOR SALE—Eighty-acre alfalfa dairy ranch in heart of orchard district, two miles from Hollister, including forty milk cows, 28 heifers, four work horses, 150 tons alfalfa hay, 6-inch centrifugal motor-driven irrigation plant, 60x90 barn, modern house, machine shop and other buildings. Address, Owner, Geo. P. Merritt, Hollister, Calif.

120 ACRES IRRIGATED LAND—52 acres cleared, 35 acres in orchard, 17 acres hay land, balance timber. Price \$4,000; one-half cash; terms on balance. Abstract title water with the land. Located in Happy Valley, Shasta Co., Cal. Write Box 133, Cottonwood, Shasta county.

FOR SALE—15-acre improved and irrigated ranch one-half mile from Newman in Stanislaus county. Deep soil, no hardpan. Bargain at \$4,200. Good for dairy, chickens or variety farming. Ready for double crop this year. Owner, W. L. Bone, Bealton, Cal.

FOR SALE—450 acres—sediment soil; water on each five acres, 16-inch cement pipes. Will sell in tracts to suit. Raised over 200 sacks of onions per acre this year. Full particulars. Address R. H. Middleton, Lakeview, Cal.

FOR SALE—160 acres Modera County foothill ranch; 500 cords standing oak timber, abundance water. Six miles to railroad and P. O. Price, \$2500; one-third down. Address Farmer, Box 861, Fresno, Calif.

FOR SALE—188 acres fronting State Highway for over 1/4 mile near county seat, land laying in Iron Canyon irrigation district; will double in value. For particulars and terms, address Box 324, Proberta, Cal.

40 ACRES—Fine for berries, vegetables, poultry and cows; plenty water and wood; near town. H. Koenig, Fort Bragg, Cal.

Special Livestock Market Report

San Francisco, October 22, 1919.

CATTLE—Market little stronger, notable for large offerings and receipts of cow stuff. Calves very plentiful and lower in price; running mostly to heavy weights. No change from last week on mature stock.

Steers, No. 1, 950-1200 lbs.	10 @ 10 1/2 c
do, No. 1, 1100-1300 lbs.	9 1/2 @ 10c
do, 2nd quality	8 @ 8 1/2 c
do, this	0 @ 7c
Cows and Heifers, No. 1	8 @ 8 1/2 c
do, 2nd quality	6 1/2 @ 7 1/2 c
do, common to thin	4 @ 5c
Bulls and Stags, good	5 1/2 @ 6 1/2 c
do, fair	4 1/2 @ 5 1/2 c
do, thin	3 1/2 @ 4 1/2 c
Calves, under 225 pounds	12 1/2 c
do, 230 to 300 lbs.	12c
do, 300 to 375 lbs.	10c
SHEEP—Sheep and lambs steady to a shade stronger but no notable change in quotations.	
Lambs, Yearling	10c
do, Milk	12 @ 12 1/2 c
Sheep, wethers	8 1/2 c @ 9c
do, ewes	8 1/2 @ 7c

HOGS—Hogs are still declining largely in sympathy with the heavy decline in eastern markets. Indications of still lower market next week.

Hogs, hard, grain-fed, 100 to 150 lbs.	\$13.00
do, 150 to 225 pounds	\$13.50
do, 225 to 300 pounds	\$13.00
do, 300 to 400	\$14.00

Portland, Ore., October 20, 1919.

best, \$9.50 @ 10.50; good to choice, \$9 @ 9.50; medium to good, \$8 @ 9; fair to good, \$7 @ 8; common to fair, \$5.50 @ 6.50; good to choice cows and heifers, \$7.50 @ 8.25; medium to good, \$6.50 @ 7.50; fair to medium,

\$5.50 @ 6.50; canners, \$4.75 @ 5.75; bulls, \$5 @ 7; prime light calves, \$14 @ 16; heavy calves, \$8 @ 13; stockers and feeders, \$7.50 @ 9.25.

HOGS—Receipts, 800. Prime mixed, \$14.75 @ 15.25; medium, \$14.25 @ 14.75; rough heavies, \$12.25 @ 13.25; pigs, \$13 @ 14. **SHEEP**—Easy; receipts, 2900. Prime lamb, \$10.50 @ 11; fair to medium, \$10 @ 10.50; feeders, \$8 @ 9; yearlings, \$7.50 @ 9; wethers, \$7.50 @ 8.50; ewes, \$5 @ 7.

Los Angeles, Oct. 21, 1919.

CATTLE—A scarcity of steers continues. What coming in meet ready sale at steady and firm prices. Cows are still dull and weak. Coming in freely. Calves in good demand and firm.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 @ 1100 lbs. \$9.50 @ 11.00
Prime cows and heifers \$8.00 @ 9.00
Good cows and heifers \$7.50 @ 8.00
Canners \$5.00 @ 5.50

HOGS—In sympathy with a sharp break in the eastern markets prices went off again the past week \$1.00 per cwt. But at this reduction the demand was fair for what arrived.

Per cwt. f. o. b. Los Angeles:
Heavy averages 275 @ 350 lbs. \$10.50 @ 12.00
Heavy averages 225 @ 275 lbs. 12.50 @ 13.50
Light 13.50 @ 14.50
Rough docked 20 lbs. piggy sows 40 lbs. and stags, 40 per cent.
SHEEP—A fairly active market continues to be ad for lambs, and some movement in ewes, but yearlings and wethers dull.

Per cwt. f. o. b. Los Angeles:
Prime wethers \$8.50 @ 9.50
Yearlings \$8.50 @ 9.50
Prime ewes \$8.00 @ 8.50
Lambs \$12.50 @ 13.50

Stags and old roosters, per lb.	19c
Turkeys	40 @ 42c
Hens	30 @ 35c
Ducks	25 @ 27c
Geese	27c

FRESH VEGETABLES.

Lighter offerings. Market for most summer vegetables showed more strength the past week. Demand very good for most fresh stuff but poor and stale is hard to move. Lettuce in very good demand and a little higher. Cabbage coming in more freely, dull and lower. Potatoes and onions a little stronger under lighter offerings and demand fairly good. String beans a little higher and in fair demand. Limas a few sale and lower. Green peppers higher and in very good demand. Celery slow sale and lower. Cauliflower steady and in fair demand. Watermelons and Cabbages were in very good supply. Market steady and demand fair.	
Potatoes, Northern Burbanks	\$2.80 @ 2.65
do, Idaho Russets, cwt.	\$2.50 @ 2.60
Sweet Potatoes	\$1.75 @ 2.00
Onions, Stockton, yellows, cwt.	\$2.90 @ 3.00
do, White Globe, cwt.	\$2.75 @ 2.85
Cabbage, per 100 lbs.	.90 @ 1.00
Lettuce, crate	\$1.90 @ 1.15
Rhubarb, per 30-lb. box	.75 @ 1.25
Summer squash, lug	.60 @ .70c
Peas, per lb.	.10 @ .12c
Kentucky Wonders	6 1/2 @ 7 1/2c
String Beans, wax	.6 @ 7c
do, Green	6 1/2 @ 7 1/2c
Tomatoes, lug box	.25 @ .55c
Lima Beans, local, lb.	.6 @ 7c
Cucumbers, local, lug box	.60 @ .75c
Watermelons, 100 lbs.	.75 @ 1.00
Corn, lug box	.50 @ .65c
Peppers, Bell, lb.	.3 @ 4c
do, Chile, lb.	.3 @ 4c
Cabbages, lb.	1 1/4 @ 1 1/2c
Celery, crate	\$3.50 @ 3.75
Cauliflower, crate	\$1.75 @ 2.00

FRUITS.

Apples and grapes made up most of the offerings and continue to arrive quite freely. Demand very good for all choice and fancy stock. Poor hard to move. Peaches and plums now out of market. Pears still arriving from the country and meeting a fair demand at old prices. A few berries still coming in, but slow sale at quotations.	
Strawberries	
30 basket crates, fancy	\$5.00 @ 5.50
Poor to choice	\$3.00 @ 3.25
Blackberries, case 30 boxes	\$4.00 @ 5.00
Grapes, Malaga, lb.	.5 @ 6c
do, Carmichael, lbs.	.5 @ 6c
Crabapples	.5 @ 7c
Apples, White and Red Astrakhan, lb	4 @ 7c
Pears, Bartlett, lb.	6 @ 9c
Apples, Bellflower, 4 tier	\$1.35 @ 1.40

BEANS.

A fair demand continues for limas at last week's advance; some little movement in blackeyes. White and Pink continue dull as ever.	
Limas, per cwt	\$12.50 @ 13.50
Large white, per cwt.	\$6.25
Small white per cwt	\$6.50
Blackeyes, per cwt.	\$5.00 @ 5.25
Tepary, per cwt.	\$3.00 @ 3.25
Pink, per cwt.	\$6.25
do, Muscat	4 @ 5c
do, Tokays	6 @ 7c
do, Rose Peru, lb.	3 1/2 @ 4c
do, Hamburgers, lb.	3 1/2 @ 4c
do, 4 1/2 tier	\$1.30 @ 1.40

HAY—F. e. b. Los Angeles.

Steady market the past week. Receipts were good, the country rushing its exposed hay to market in anticipation of the rainy season. Alfalfa in fair demand and that not taken by the dairy people was put in store. Very little doing in grain hay, but prices held steady.

Barley hay, ton	\$18.50 @ 21.50
Oat hay, ton	\$22.50 @ 25.00
Alfalfa Northern, ton	\$24.00 @ 25.00
Alfalfa local, ton	\$25.00 @ 27.00
Straw	\$ 9.00 @ 10.00

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Young Berkshire Boars—Big-boned and smooth—By Mayfield Rookwood 2nd, sire of ALL Champion Berkshire Barrows shown this year. Our money-back guarantee makes mail ordering easy—and perfectly safe. Reasonable prices.

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ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

ANCHORAGE FARM, Orland, Calif.

A SOW THAT FARROWS

10-11-15-17-11-10-9-10

Is worth her weight in gold, particularly so if she is royally bred. This is the record of Symboler Belle. I have a boar pig from her last litter that is a dandy. If you act quickly you can have him for \$75.00. Sandercock Land Co., 23 Montgomery Street, San Francisco, in charge of Natomas Land Sales.

GRAPEWILD FARM BERKSHIRE-Guernsey.—Sire pig sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. E. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write me. Geo. A. Stingle, El Monte, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Koumas Registered Stock Farm, Modesto, Calif.

BERKSHIRES—Fair Oaks Ranch, Willits, California

WRITE FOR MY BERKSHIRE CATALOG, giving names, ages, breeding of service boars, bred gilts, specially selected trios. Frank B. Anderson, Sacramento, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

Poland-Chinas.

ELDERLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our 1/2-ton Black Big Bone Wonder and Jumbo Model. They have individuality, with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion Kiny's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA.

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

"SOLD OUT except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route G, Fresno, Cal.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superior breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

FOR SALE—Bargain—135 purebred, bred, brood sows, 4 purebred boars and 650 head weaned pigs. Price for the lot \$10,500. Or will sell in lots of 25 or more sows, and in lots of 100 or more pigs. Address, Box 128, Lancaster, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D. Box 180.

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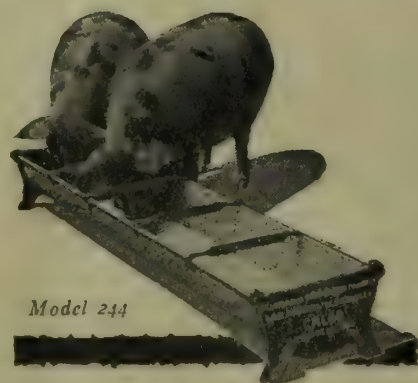
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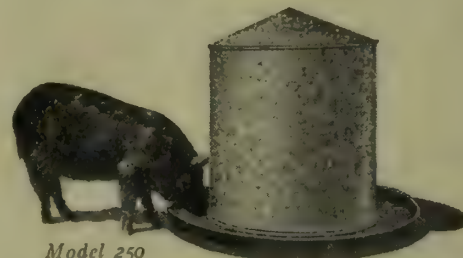
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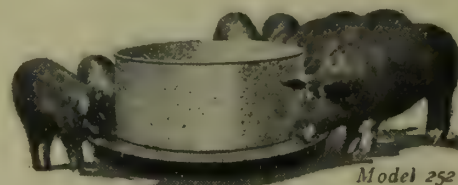
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THE PACIFIC RURAL PRESS

SAN FRANCISCO

OCTOBER 25, 1919

LOS ANGELES

New Forage Grasses to Help Cattlemen

Written for Pacific Rural Press by R. E. Hodges.

CATTLEMEN AND DAIRYMEN particularly are interested in any new forage crop which promises more or better feed under certain conditions than the kinds we already grow in quantity. By far the best exhibit of such new forage grasses we have seen anywhere was that of Aggeler & Musser at the recent tractor demonstration. We were told that H. L. Musser of this firm has for years made forage plants his hobby, and that he has a demonstration plot showing many varieties in Los Angeles. We found the plot a wonder-ground; and we found Mr. Musser enthusiastic but more conservative than we had expected.

Though the exhibit and the demonstration plot contained dozens of varieties of little known and more or less promising forage plants, space forbids mention in this article of many of them.

Of the new ones discussed, the variety which has been tried out most thoroughly in California and has found the most general enthusiasm is Napier fodder or elephant grass. We published a six-column article, written by Prof. P. B. Kennedy, about this in our issue of March 29, 1919. The greatly extended practical experiments this summer with Napier grass in various parts of the State have not dampened the ardor of its older friends.

This forage grows wild throughout the southern half of Africa under many varying conditions and produces immense tonnage of green feed. It is only in the past twelve or fourteen years that it has attracted public notice as a cultivated plant and only about five or six years since it came to California. The U. S. Plant Introduction Gardens at Chico were probably the first to try it out in this State. We believe that a major part of the real introduction of this plant here has been due to the efforts of Mrs. Herta Curme Davis of Lakeside, San Diego county. Mrs. Davis has kept in close touch with dozens of ranchers who have tried it out this season throughout southern California, also some in Arizona and northern California.

The Napier grass we saw on the demonstration plot in Los Angeles late in September had been planted in the spring. It stood about 12 feet tall except where it had been cut during the summer. The few seed stems looked like thin-haired cat tails, and we were informed that whereas Aggeler & Musser had sold some seed last spring they were sorry of it, because the seed germinates only two or three per cent. The only object in letting the canes grow so tall is to obtain hardened joints for propagation by the sure method of planting such joints under three or four inches of moist dirt. This may well be done wherever the soil remains warm through October, and wherever enough moisture can be supplied to give the plants a start. After they are well started, frost may kill the tops but not the roots, which are perennial. The roots unprotected have stood temperatures as low as 18 degrees F. and even 13 degrees at Chico.

Mr. Musser's twelve-foot Napier stood in stools averaging 18 or 20 stalks, all of which had developed from one joint. Though planted three or four feet apart, they made an all but impenetrable growth. The stalks averaged perhaps three-quarters inch in diameter at the base. Joints were eight or ten inches long, each with a leaf three or four feet long, looking like a corn leaf. The leaves on the lower four feet seemed to have been killed by shade. Where the clumps had been cut back during the summer the new grass was as tall as a man and much finer, more suitable for hay and full of leaves. It would have to be mowed high from the ground in order to get a mower through it. The plants have high feeding value, as shown in Prof. Kennedy's article, and are greatly relished, as testified by many growers this summer. Mr. Musser does not recommend it for silage on account of its lack of concentrate grain or seed, but he does recommend it as a browsing plant for cattle ranges, provided it can be protected from rabbits, cattle, etc. "Give it six months' start," says he, "and turn cattle in. They won't eat it within three feet of the ground. After browsing down to the bare stalks, if the plants are left alone three weeks, every joint would

have two feet of new growth. I broke off a plant on September 10, and now, less than three weeks later, it has several feet of new growth. The plant is drouth-resistant, but it makes good use of all the water it gets, and it will thrive with water closer to the surface than alfalfa can endure. On the cattle ranges, the crowns live through winter and make six feet of growth on average rainfall before drouth checks it. Then, after fall rains start, it would probably make a couple of feet of growth in many places before frost kills it back. It is not a sorghum, and its second-growth has no poisonous qualities like that of the grain sorghums. On the valley meadows of mountain ranges it could be cut several times during summer for hay to keep cattle in good condition when grass is gone. One joint planted on my irrigated plot the first of April produced 33 stems, which were cut the first of July at eight feet tall. The new growth is taller than that now. The roots make a compound crown which may be subdivided for

new planting, but they have no underground runners and cannot become a pest."

Miss Annie Wheeler of Glendale planted Napier or Elephant grass on the range for goats. This might be inadvisable unless the goats were watched, because they would eat it to the ground. Such close browsing would restrict the possible growth of foliage but would not kill the plants unless long-continued. H. W. Bressler of Gardena had a patch last summer, and because his cow ate it enthusiastically, he is planting two acres this season. Eugene Spencer of Los Angeles has roots at least four years old at home and an extensive younger planting in Antelope Valley. Mrs. Galbreath of Pixley, Tulare county, has been growing Napier grass four or five years and has a fine stand now. Ernest Bucher of El Centro writes that canes planted last April have made a wonderful growth. R. W. McIntyre of Kelvin, Arizona, is increasing his acreage this fall.

H. L. Wagner of Descanso, San Diego county, is one of the pioneers with Napier grass in California, and he has a considerable acreage this year. One plant, reserved for repeated cutting to see how much it would yield, had been planted in July, 1918, and cut three times the first season. Last spring it was allowed to grow until July 1, when it was cut for hay. It grew five or six feet tall during July and was cut August 1 with 157 full-length stems and many shorter shoots and leafage, which was neither counted nor measured, but was weighed. The green fodder weighed 43 pounds. On September 2, at a height between four and five feet, the plant yielded 160 leafy stems, weighing 25 pounds green. This plant is on rather rich garden soil with occasional irrigations. Two more cuttings were expected this season. If plants were three feet apart each way, it would take 4,800 plants per acre, which would yield quite a lot of forage even at a lower amount per plant than that



Napier grass grown by H. L. Wagner in San Diego county. Upper: Planted July, 1918, cut three times in 1918 and twice in 1919. Lower: Planted April, 1919, on hillside. No irrigation after June 10, except a July thundershower. Both pictures taken August 15, 1919.

shown in this case.

Drouth-Resistance Experiment.

A drouth-resistance experiment with several hundred plants set out last spring on a hillside near Descanso seems very encouraging. These plants had no irrigation after June 10, except a thunderstorm about July 15, and no cultivation except hoeing out the weeds after the July rain. Early in August they were five to six feet tall and had 20 to 40 stems each. New shoots were appearing from the crowns, the stems remained succulent, and the leaves a deep green when all native grasses were already dry.

Australian Experience.

Extensive ranch experiments under Government supervision, through two years in Australia, whose climate is similar to ours, have shown Napier grass to be a high yielder, very palatable to livestock, frost-resistant (as to its roots) and drouth-resistant.

Merker Grass.

Merker grass, grown in the same demonstration plot by Mr. Musser but planted later than the Napier, made a growth not so tall nor so leafy,

(Continued on page 553.)

Poultry, Two Acres, and a Tractor

Written for Pacific Rural Press by R. E. Hodges.

Many a poultryman would be getting dozens of eggs more every day from his flock if he fed them plenty of greens. But green feed is a nuisance to maintain throughout the summer. It requires frequent cultivation and furrowing for irrigation. A poultryman with only an acre or two cannot raise feed for a horse to do the cultivating; and in poultry districts land is too valuable to raise horse feed anyway. We have seen many poultry ranches otherwise well maintained, but losing money every day for lack of the effort required to raise greens.

Such is not the case with H. J. and A. J. Hennings of Los Angeles County. Our story of the mechanical facilities used by these poultrymen, which appeared in the Pacific Rural Press of May 6, 1916, has continued to call forth occasional comment even to this day. In that article we declared that if the Hennings place were big enough to turn an ordinary tractor on, they would have one.

Well, tractors have improved since then, and the Hennings', father and son, have been watching them. At one of the southern tractor demonstrations they saw one with a four-horsepower engine delivering 1½ horsepower on the drawbar.

"That's just what we want, if it will work," said they. It was not worked at the demonstration, but the Hennings' looked up the agent at his home and asked to see it do something. The agent did a sorry job of plowing on very rocky ground, but it was evident that the tractor was all right.

So they bought the machine fourteen months ago and sold their horses. Their ranch is no bigger now than it was at the time of our first story, but their tractor gets into all the corners and goes through poultry yard gates too small for a horse. Implements are hitched within 30 inches of the tractor which itself is only about 30 inches long and not much over half as wide.

Two Acres of Solid Productiveness.

The ranch comprises two acres, on which are more than a dozen poultry yards, several strips of alfalfa, some berries, the home, fruit trees in every poultry yard and all over the place except in a half-acre corn patch that is being grown for greens. About 1800 hens are kept healthy, vigorous, red-combed, and full of eggs, for greens are grown a plenty by use of the tractor.

We found Mr. Hennings recently sitting on a box reading a farm paper while the irrigation water ran through a furrow along a row of corn a little over knee high. Several rows had been furrowed ahead of the water and the tractor stood ready for the little kick that would start it down another row when water should have filled the near furrows. Water here and at this season is scarce and expensive, so only one furrow per row was being used. It was a simple matter to set the single furrower over to one side of the drawbar iron so that it made a trench close to the corn without running the tractor too close. It kept a man humping to follow the tractor, though this a matter of regulating its speed. And when the ground is too warm or soft to walk on with comfort, a two-wheel affair with a seat is hitched on so the driver can ride with the tractor implements under or in front of himself.

Later in the season when the corn is bigger, more water is required and an extra furrower is attached at the other end of the drawbar to make two at once. The furrows were six inches deep.

There were five-foot spaces between the ends of the rows and the chicken fence, so green corn could be hauled out by the tractor and chopped by engine power for daily feed as described in our previous article. The tractor in turning at the ends of rows never stamps down a stalk.

Tractor Cultivated and Dug Potatoes.

The corn patch had produced a crop of potatoes last summer. The tractor plowed in the spring good and deep with an eight-inch plow. It cultivated the potatoes and dug them. Mr. Hennings devised a special potato digger, which worked very satisfactorily. He obtained a "wing-furrower" of about two feet spread and had the blacksmith fasten an iron behind its center line so the furrower could be substituted on the plowbeam in place of the moldboard.

Tractor Hauls Crops.

After the potatoes were picked up, they were hauled to the house, eight or ten sacks per load, on a common two-wheel auto trailer to which a long tongue was fastened to the tractor by use of two bolts. Last year beans were hauled in the same way to a small threshing machine which was then operated by belt power from the tractor. The machine exerts four horsepower very steadily on the belt.

The trailer and tractor turn around in a sixteen-foot circle. A smaller trailer is used to haul chicken ma-

the tractor and the eight-inch plow. Alfalfa roots over a foot long and nearly an inch in diameter were pulled out by the plow. This patch will be reseeded or used for garden stuff or poultry greens, for every bit of the two acres serves a productive purpose.

Tractor Plows Alone.

Last winter some of the poultry yards got muddy in large spots. They needed plowing to put the soil in shape to absorb the water. But 'twas disagreeable for the plowman to wade through the muck. So the tractor was started through the mud holes and the driver would turn it loose, hurry around, and catch it on the dry ground on the other side. Mr. Hennings declares the tractor alone will plow a straighter furrow than with a man driving it. Just get the back furrow started straight and run one wheel in the furrow. It will steer itself across the field by feeling along the landside. This requires a firm soil to keep the wheel from climbing out and plowing not over eight inches deep to keep the tractor from tipping over. Two acres have

the hose on his tractor found the centrifugal cleaner cap full of dust after an hour's use. He put on a hose and ran half a day. He was astonished to find practically no dust then.

"Dust also gets into the crank case through the breather pipe. The cap to this pipe has an extension designed to catch the dust by making air zig-zag several times before it gets into the crank case. This extension, however, in cultivating a fine, dusty mulch collects so much dust that it drips with oil-made mud. We prevent this by covering the breather cap with flannel, which is tied tightly around the pipe.

"When grease cups are screwed down to the limit, several threads are exposed inside the caps. These collect dust, and when they are unscrewed the threads are injured. The dust also mingles with grease afterward applied and makes a good grinding compound on the bearings.

"This tractor pulls a disk harrow made of eight twelve-inch disks, working a strip about 3½ feet wide. It was hooked close to the tractor and a two-wheel riding seat was attached to follow. The disk and the riding-seat wheels frequently got tangled up on short turns, so we put a longer tongue on the disk and put the riding wheels in front. That fixed the trouble.

"Frequently we found spots on the place that were so low that they got too much water in irrigation, or made mud holes in winter. Some spots were so high that they didn't get enough water. We had a piece of ¼-inch iron plate eight inches wide and about four feet long made into a land leveler. About six inches of each end were bent forward to act as wings to hold the dirt, and the plate was fastened onto two of the standards of an ordinary cultivator which is built for the tractor.

"We wouldn't be without a tractor if we had only one acre. It does more work in a day than a horse; it does better work; it does work that a horse could not do; it runs any kind of a small belt-driven machine; and it does the work at less expense."

Every man works better with encouragement than with carking criticism. The man that has to be nagged at all the time is not very valuable to anybody.



The difference between eggs and lots more eggs from a flock of hens in summertime is frequently a matter of green feed, which the poultryman thinks is too much bother to grow. The difference between bother and delight in growing greens for poultry is a matter of animal or motor power. A little tractor which pulls more than a horse but takes less care per day than a horse, runs between or a straddle of closely set rows and provides thrifty green feed with least man power.

nure from the various houses to the berries, garden, alfalfa, corn, etc.

Better Than Horse in Small Yards.

It is within the chicken yards that the tractor shines. Three fruit trees in each yard must not be barked. Corners are there in which the soil needs turning periodically to keep it sweet and to keep the fowls healthy.

One hundred to 200 hens are kept in each house, though one colony is much bigger. A yard for each house is partitioned so the hens can be turned into either half as desired. While the fowls are kept on one side, barley is growing on the other side; for "greens make eggs," as Mr. Hennings would say.

After two or three weeks on one side, it has become bare and a bit foul. The barley on the other side is cut by hand and chopped to supply the chickens two or three days. Then the chickens are turned onto the stubble. The bare ground is sprinkled and plowed by the tractor much more conveniently and closer to the trees than was formerly done by a horse. Then barley is seeded and is up three inches within nine days.

Plowed Alfalfa.

The alfalfa patch included five strips of convenient width for cutting. Enough would be cut each day to fill out the green ration for the flock, and by the time the whole patch was cut, the first part was ready again. Part of this got too weedy, so two strips were plowed by

been plowed in 9½ or 10 hours.

Outside Work Paid Well.

Formerly considerable work was done with the tractor for neighbors. It might be laughable to speak of plowing a lawn 30x40 feet in area with a tractor; but one of the neighbors despaired of getting a horse to do it, so the Hennings turned that sod with their tractor. It was Bermuda, four years old, and with eight inches of top growth. It broke the plow once, and several times they had to chop the plow loose from the sod. That was a year ago. The lawn was planted to barley and plowed again this summer by the tractor. Two acres were plowed for one neighbor and one acre for another. The charge was 75 cents per hour.

Experience Develops Good Ideas.

Some suggestions developed from experience will prove valuable to other users of similar tractors. "It is not the tractor alone that gives long service," says Mr. Hennings. "If the man gives it attention according to directions, it is a long-lived machine. That applies particularly to adequate lubrication. But there are other ideas that have been suggested by our experience. The tractor is small and low. It has a centrifugal air-cleaner whose intake opens behind the machine. There is a lot of dust flying behind the machine, so we have put a hose on the intake and turned it so it opens in front where the air is clean. A neighbor who did not use

Place Your Order Now for Nitrate of Lime

Guaranteed not less than 13 per cent Nitrogen—almost 100 per cent Pure. Nitrate of Lime supplies Nitrogen in the most available form. Packed in solid wooden casks about 240 pounds.

Ask for prices delivery from warehouse, Los Angeles and San Francisco, or ex-steamer November.

C. HENRY SMITH

General Agent
Pacific Coast and Hawaiian Islands.
311 CALIFORNIA ST., SAN FRANCISCO

HAUSER'S ORGANIC FERTILIZERS

BUILT FOR CALIFORNIA CONDITIONS
Send for Booklet, "Fertilizer Efficiency"
—Tells You Why

HAUSER PACKING CO.
Los Angeles, California

Farmers Have Become Prosperous

Written for Pacific Rural Press by John J. Fox.

"Some things are more puzzling than others. To illustrate: More raisins are now consumed than when they were cheap. Is it possible that combinations in restraint of trade have the effect of increasing consumption?"

This is a very pertinent remark appearing on the editorial page of one of our great dailies on October 6th. It is, of course, impossible that combinations in restraint of trade increase consumption, but it is easy to explain why more raisins, prunes, apricots, peaches, pears and other dried fruits find a ready market now than the market wanted when these fruits sold at starvation prices—when only half our present tonnage was produced.

Why Are Our Growers Flourishing?

Chiefly because we are advertising our wares. And this can only be accomplished on such a large scale by united effort.

Some years ago, before the dried fruit organizations were formed, the writer asked a friend of his—a packer—why the dried fruit packers did not get together, assess themselves \$25 or \$50 a car and go in for a campaign of advertising so as to create new markets for the thousands of acres of

ous quest for new markets and pushing and extending old ones.

It is by organization of the farmers, each in their own industries, that has at last made farming and fruit-growing a glowing, throbbing industry, instinct with life, energy and hope. The success of the farmer is reflected throughout the State, contributing to the income of every single individual who uses his hands or his brains. Every dollar that comes to the farmer finds its way to town sooner or later—in the pockets of the laborer, to the merchant, the manufacturer and the artisan for improvements—in short, the whole State is enriched by creative effort and constructive investment. What would have happened had not the farmers organized to conduct their own business. Country life would continue to be languishing in nine cases out of ten and the business of the State in every branch would suffer.

There is no undertaking in this State that goes out and pushes business more thoroughly than do our farmers' organizations, from oranges to nuts, from raisins, prunes and peaches to beans.

valry exists in their marketing. The time is rapidly approaching when the production of our dried and processed fruits will be so vast that the same fierce competition in sales will ensue as now exists in any other business. The farmers are organized to create and extend new markets for their ever-increasing production, dividing the expense of administration among themselves, as well as keeping the money in their own pockets that would otherwise go to the speculator.

Those Who Benefit Should Contribute.

At present the money spent by the organizations for advertising gives the packer who doesn't advertise an advantage. For that packer is equally benefited by the new markets created by associations and by "independent" growers, who sell to him. However, the grower doesn't worry about that. His organization is growing as fast as the farmers realize its importance to their industry. As fast as this is recognized the "outside" men "chip in," to shoulder their small share of the expenses as they become conscious of sharing the benefits of the organization.

When 100,000 tons of raisins once

\$100,000,000, the returns to California being about \$75,600,000. And the markets gorged the lot and looked round for more!

How Was This Achieved?

It was accomplished by advertising. The Exchange ranks among the large advertising food products of America, spending now, in normal years, about \$500,000 in national publicity. The annual investment in advertising represents an assessment of less than 2½ cents a box on the shipments of oranges and grape-fruit and less than 4 cents a box on lemons. This great organization utilizes all the major mediums of advertising—magazines, newspapers, trade periodicals, bill boards, car signs, moving pictures, window displays and literature. About 75 per cent of the advertising appropriation is spent this way. Then there are orange, lemon and marmalade recipes distributed, orange calendars sent out, window display material for the retail trade, theatre slides and electrotypes for retail ads in every nook and corner of the Union. Nearly 5,000,000 pieces of window display material, lithographed on light cardboard, were sent out. The weight of this last little bunch alone was about 175 tons.

Other Combinations to Promote Trade.

The Associated Raisin Company is doing advertising on just as extensive a scale as the citrus men, and so are the other selling organizations—according to their magnitude. Could the wealthiest packer in the world advertise on such a scale? Not unless he had cornered the whole business on a 70 per cent basis. For the 30 per cent outsiders would have the edge on him.

But in the organizations we have mentioned, even those men remaining outside do not want to see the organizations suffer because it would injure themselves. It is only by combination that these gigantic advertising campaigns become possible. And every individual in the State is warmed in the glow of prosperity resulting.



Perhaps 8,000 private prune-drying yards like the above—larger or smaller—go to make up the California Prune Growers' Association. The raisin growers represent an even greater tonnage in their Association.

prunes coming into bearing. The base price then was around three cents, I think. On 9,000 cars this would have provided on the lower figure \$225,000 for an advertising fund.

He said: "It has been talked of several times, but we can't get everybody to agree. Now, supposing half of us put up \$140,000 for advertising and the other half nothing. You can see that all would benefit, but one-half would be advertising for their competitors just as much as for themselves. It can't be done. I wish it could, for we could double our markets." It is a matter of grievous history that dried fruits went down in price below the cost of production and broke the hearts of innumerable farmers and their families in their perennial fight for existence.

How the Grower Took Hold.

It was not until the farmers organized to market their own wares that the marketing of the rapidly increasing production of all fruits became possible. Every member of each of these organizations contributes his small quota towards the advertising campaign of his association and his whole industry profits thereby. Our raisins, prunes, and other dried fruits are now carried to every corner of the globe, no matter how remote. Paid agents are thrusting out in a continu-

What Is the Value of Our Creative Effort?

Dean Hunt of the University of California in a recent address at the opening of the Farmers' Short Courses at Davis, said that California's field products might reach \$700,000,000 for the year 1919, divided roughly into \$250,000,000 for field crops, \$250,000,000 for fruits and \$200,000,000 for livestock and animal products. All this mighty sum practically comes out of the ground. Wouldn't it be a plum to hand over to the commission man or the speculator? The commission man, the world over, doesn't leave his stall. Broadly speaking, he makes as much as he can with the least possible effort and expenditure. The individual packer sees a chance and captures the business just as you and I would have done, given the opportunity and the enterprise. He is busy and pushing, but he also has to keep down his overhead and cannot afford individual agents the world over nor can he advertise to benefit his competitor.

Competition of the future.

Now as to prices. Apples and oranges, also apples and prunes, strange to say, are competitors.

All dried fruits are more or less in competition. Already a friendly ri-

surfeited the market to such an extent that the price became mere salvage, the growers, by uniting and advertising, can now sell a 200,000-ton crop at a remunerative price and will, in a few years, be called upon to sell one 50 per cent greater than this, if plantings continue at their present rate.

Our Oldest Farmers' Selling Organization.

Let us take just one of our growers' organizations—the "California Fruit Growers' Exchange" (that sells citrus fruit only), with its 10,000 members. We choose it because it is the oldest. Twenty-five years ago, with the small production we then had, conditions for the grower were hopeless. About 1893 at a public meeting in San Diego, one man said in effect: "Gentlemen, we are in a parlous state, we orange growers. In a few years we may be raising as much as 10,000 carloads of oranges. Who's going to eat them? Overproduction is staring us in the face." When he sat down—gloom! You could feel it pressing you all around.

The California Fruit Growers' Exchange shipped last year 33,174 carloads, slightly over 72 per cent of the State's total shipment of citrus fruits which was 45,896 carloads. The delivered value of this crop was about

ARCADIAN Sulphate of Ammonia

Don't delay in making arrangements for your next year's ARCADIAN Sulphate of Ammonia that is to be used on grain.

ARCADIAN Sulphate of Ammonia is for sale by: CALIFORNIA: San Francisco: Hawaiian Fertilizer Co., Pacific Bone Coal & Fertilizing Co., Pacific Guano & Fertilizer Co., Western Meat Co., California Fertilizer Works. Los Angeles: Pacific Guano & Fertilizer Co., Pacific Bone Coal & Fertilizing Co., Agricultural Chemical Works, Hauser Packing Co. OREGON: North Portland: Union Meat Co.

For information as to application, write

The *Barrett* Company

Agricultural Department

510 First National Bank Bldg.
BERKELEY, CAL.

Get Citrus Trees Now for Next Year

	Age	Size	Price	Per 100	Per 1000
Wash. Navel	2-3	¾	.85	.75	.65
Eureka Lemon	2-3	¾	.85	.75	.65
Valencia-Late	2-3	¾	.85	.75	.65

Send for complete list.

We raise only first-class trees.

SENTO CITRUS NURSERY

R. F. D., Box 421, EL MONTE, CALIF.

Dealers
in
BLAKE, MOFFITT & TOWNE
37-45 First St., San Francisco
PAPER BLAKE, MOFFITT & TOWNE, Los Angeles
Blake, McFall Co., Portland, Ore.

California Walnut Assn. Sold the Crop

The following matter is taken from the report of C. Thorpe, General Manager of the California Walnut Growers' Association, to the Board of Directors, submitted October 1. Opening prices were adopted in line with Mr. Thorpe's recommendations and were well received by dealers all over the country. So unanimous was the approval of these figures that within 36 hours after they were wired out, the Association was completely sold up on its total estimated shipments.

California will, in all probability, produce this year 46 million pounds of walnuts as against 38 million pounds last year. The demand for our product, however, is increasing faster than the production. I attribute this increase in demand to the splendid advertising the Association has been doing for the last few seasons, to the thorough method of distribution which the Association has developed, and to the quality of the product we are now delivering. The American public has learned more about the value of California walnuts, and is eating them to an increasing extent in a great variety of ways. The Association has been fully booked up to its estimated output, with the possible exception of No. 2 grade, for several months, and we have had to refuse additional business offered us, totaling perhaps 100,000 bags. The strongest demand is on No. 1's and I feel confident in stating that regardless of what price you gentlemen establish on No. 1's, the demand will exceed the supply.

We have recently been exerting considerable efforts in popularizing the budded variety, and are well sold up on buds also, with a wider distribution on budded this year than ever before—a matter of salesmanship. We have induced the trade generally to take on a percentage of budded on our recommendation, and we will only continue to popularize this grade and keep the demand in harmony with the increasing supply by greatly reducing the former differential price over No. 1's. As the budded variety will continue to show the heaviest percentage of annual increase, the time has now arrived when we must make this variety popular by offering it to the public at a reasonable price. In my opinion the differential this season should not be over 2½c above No. 1's.

It is my opinion that an opening price of 33c on No. 1's would move them into consumption readily, but this would be what the trade calls an odd price, that is, with freight added neither the jobber nor the retailer could make a reasonable profit and sell the nuts to the consumer at 50c a pound, and in many instances our goods would retail at between 50c and 55c a pound. In my opinion a 31 to 32c price would prove much more satisfactory all around, would particularly satisfy the trade, would allow them a reasonable profit, would put the goods into consumption very promptly, and permit us to go onto a bare market in 1920 as we are going this year—and there is certainly a tremendous advantage in offering new crop goods on a bare market. For instance, I have found that all over the country the last sales of No. 1's, old crop, have been made by jobbers at from 38c to 42c a pound. This seems like a tremendous price, but it simply shows that a limited quantity of walnuts will move at almost any figure on a bare market. The trade have been recently paying much higher prices for old crop goods than they will for new. Consequently the new prices will seem reasonable, whereas had the trade been carrying over old crop goods the market on the old crop would have been low and sluggish and the new crop goods would not have gone on a receptive market.

"No. 1 California walnuts usually sell at about a 3c premium over Italian Sorrentos. It has also been true that No. 1 Soft Shells have always heretofore sold at from 1c to 2c a pound above the price of Nonpareil almonds. Notwithstanding the fact that the almond crop this year is double what it was last, the Exchange's opening price on Nonpareils was 32c, which was considered very reasonable by the trade. The Ex-

change's business being entirely booked on an SAP basis, it was necessary for them to receive confirmations which we understand came in to the extent of almost 100 per cent.

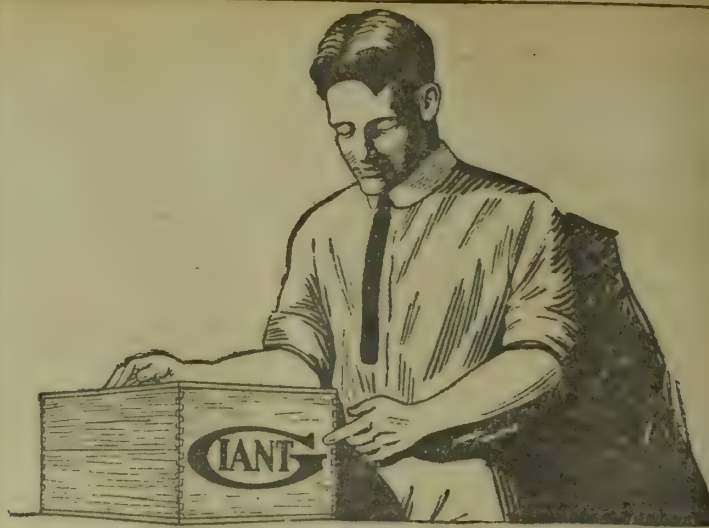
"The crop of Italian walnuts, we understand, is about normal, and the quality normal. Thus we may expect that a maximum of 2,500 tons may be imported to America. The crop of Grenoble walnuts is reported very light, and maturity three weeks later than normal. Transportation in France is still in a very chaotic condition and no one really expects arrivals of new crop French nuts before the middle of December, which is too late for the holiday trade."

"The crops of the poorer varieties of French walnuts, Marbots and Cornes, are also reported light, of poorer than usual quality, and those sections have recently experienced some considerable hot weather which has caused further damage to the nuts."

"I feel that it is an even more serious mistake to name the price materially too low than too high. As an illustration: Hawaiian pineapple people this year opened prices approximately the same as prevailed last season. All of their orders were confirmed. Their price was comparatively too low by perhaps 15 to 20 per cent. The result was that every jobber and every retailer found that he could use more pineapple than he had bought. All were in the market for more. The result was that within a month after opening prices were named, pineapple had advanced over 100 per cent. Contracts changed hands at between 100 and 125 per cent over opening. Some jobbers who bought at the opening immediately advanced their prices in accordance with the prevailing market. As a result the consumer will pay this year nearly twice as much for a can of pineapple as she would have paid had opening prices been based on supply and demand. If they had been named, say 15 to 20 per cent higher than they were, everybody would have had the pineapple they needed, would not have wanted more, the market would have remained comparatively stationary, and the goods gone into consumption with only a reasonable profit to both jobber and retailer. Do we want to lay ourselves open to a similar situation on walnuts?"

While the prices I am recommending may seem rather high, in the last analysis I don't think they will average much above last season's prices, because the crop will probably average 17 per cent No. 2's, and it is going to be necessary, in order to move these, to place a differential on them of between 5c and 6c. If a 31½c price is established on No. 1's, I think a differential of 5½c should be established, or a 26c price should be placed on No. 2's. Whenever, in previous seasons the crop has developed a large percentage of No. 2's, there has been a large carryover of this grade. In order to prevent a repetition of this condition, it is going to be necessary this year to name a differential that will make No. 2's attractive to the trade, and that differential must be a large one. It is certain that without at least a 5c differential on No. 2's a large carryover will result, and I am not too sure that even a 5c differential will promptly move this grade.

In conclusion, let me state that it is my opinion that a 31½c price on No. 1's will be well received, that criticism, if any, will be favorable. This price is below opening prices of the principal independent packers and below their present prices. It is a lower one than the trade is expecting, and when the season is over we will stand better with the trade than we ever have before.



The **DEALER** says—
"the **GIANT** mark
protects you from
imitations"

"It pays me to give my customers what they ask for," says the retailer who knows what's what. "When they ask for 'Giant Powders' I give them GIANT Powders—the real Giant, made by The Giant Powder Co., Con. I don't tell them that 'I have the same thing, only under another brand name,' because it is not true.

"The name 'Giant' on a case or a stick of powder is evidence that the powder is made by the company that originated Giant Powders. Remember this: You can't get Giant results when you use ordinary dynamite that look like Giant but aren't marked Giant."

Look into the new, money-saving methods of clearing land, blasting tree beds, ditches, boulders, etc. They are all described in our up-to-the-minute book, "Better Farming with Giant Farm Powders." A post card will bring it by the first mail.

THE GIANT POWDER CO., CON.

"Everything for Blasting"

216 First National Bank Bldg., San Francisco

Branch Offices: Denver, Portland, Salt Lake City, Seattle, Spokane



STUMPING

EUREKA

"All About
Roeding's True
TREES"



SENT FREE

For 35 years we have been growing nursery stock. We have made it our business to study and watch every detail in order that we might be of the greatest help to the man or woman engaged in fruit growing.

How well we have succeeded, is evidenced each year by the ever-increasing patronage accorded us.

"Fancher Creek" Trees Grow and Bear. "Fancher Creek" Trees are vigorous, well rooted, and true to name.

You will, of course, want our new illustrated catalog again this year—better than ever. A real guide to successful fruit growing. SENT FREE. Better get your name in early, so as to receive one of the first copies of the press.

Fancher Creek Nurseries

401 Holland Building, FRESNO, CALIFORNIA

H. A. HYDE CO.

WATSONVILLE,

CALIFORNIA

Desires your business for gilt-edge orchard stock.
Strawberry, Logan and other Berry Plants.

Certified and Hill Selected Strains of Seed Potatoes.

\$1000 TRAPPERS CONTEST
Abraham Fur Co.



Greatest trappers' contest ever offered—costs nothing to enter—write today for particulars.

Abraham "Smoke Pump" is the greatest device for "smoking-em-out" ever invented. One can of Abraham Improved "Smoke Powder" goes with every Smoke Pump. Instructions how to use our Smoke Pump and reasons why ordinary smokers are not successful sent with every order. Price \$2.00 postpaid.

Free Fur Facts and Trappers' Supply Catalog

You must have this new book "Fur Facts." Contains good trapping stories by Geo. J. Theisen and others and valuable information. You get our new catalog free also. Best hunters' and trappers' guide published. Not a penny to pay for it. Gives you lowest prices on supplies—Traps, Guns, Knives, Hunting Coats, Heavy Coats, Suits for all weather, Fox Horns, Turkey and Duck Calls—everything you want for trapping.

Weekly Reports—Also Free

We will put your name on our mailing list for Abraham's Weekly Reports. They keep you posted—right up-to-date on prices, etc.

Just a post card—that's all you need to get all this—FREE—Fur Facts, the Catalog and the Weekly Reports. And don't forget the Pump. Ask for offer on Price \$2 that. Now get your post card into the Postpaid mail—quick.

Abraham Fur Co.
 213-215 N. Main St. Dept. 314
 St. Louis, U.S.A.
 "Ship your furs to Abraham"

FRUIT EATING WAYS WITH LINNETS.

To the Editor: In regard to red-headed linnets, why not treat them as the wise old lady advised the woman who was troubled as to how to handle her husband. "Feed the brute," she said. Why not feed the linnets by planting mulberry trees in convenient places. I have been told this will greatly minimize the damage to cherries, berries, apricots, etc. Would you advise the large black variety of mulberry, or the small white kind? A boy friend of mine complained that the birds ate all their large black mulberries so that he got none himself.—L. D. B. Yuba City.

[The Persian mulberry is especially commended as a linnet distractor. It has much fruit ripening continuously.—Editor.]

Linnets and Sparrows.

To the Editor: If the small boy is given a bounty for dead birds and eggs of the red-headed linnet, it might help to get rid of them. As the linnets are very fond of the sorghum known as "Egyptian wheat," it might be possible to poison a lot of these pests and the English sparrow also by spraying a small patch with Paris green. We had an acre of this grain three years ago, and the linnets and sparrows destroyed more than half of it. In England the sparrow hawk keeps them thinned out, as the farmers have sense enough to know that these hawks are their friends.—Samuel Haigh, San Jose.

Poisoning Linnets.

To the Editor: I have three or four peach trees that ripen two or three weeks before my main crop of 20 acres. After the birds have eaten three-quarters of the early peaches, I remove the rest of the fruit and select four or five of the best ones which are still firm and juicy, for each of the early trees. I place these fruits on short spurs or stubs on the main leaders about four feet from the ground, and remove leaves near by so they can be plainly seen. Then smear powdered sulphate of strychnine lightly every three-quarters of an hour whenever the peaches are eaten. A hot day is best. All other ripe fruit within flying distance (say one-quarter to one-half mile) must be protected. We have some one under those trees to drive the birds away. We have killed 400 in a day, all except a dozen or so which get scared. They don't come again that year and there are fewer the next year. Pick up the birds as cats will eat them; also rattlesnakes. It kills them.—I. A. Butchers, Santa Margarita.

Thinning the Birds in Advance.

To the Editor: I noted in Press some time ago a number of queries for the best method of getting rid of a large number of linnets. Here in Pleasants Valley we have not only linnets, but a number of other species of "fruit birds." My observation regarding the bird pest is, we don't think of taking any action till the fruit is being destroyed and then it is too late, or we do not have much spare time. It has been demonstrated that concerted action during the winter and spring months will thin out surplus birds and get them back to proper proportions. Particularly at nesting time the work could be carried on with good results, but don't overdo it. I am liable to be scalped for advising a crusade on birds at nesting time, and will state in advance why I advocate so cold-blooded a plan. Legislation has been enacted and societies formed for the protection of bird life, but the natural enemies of said birds—hawks, owls, etc., are not protected. Therefore the fruit-eating birds have increased abnormally, with the result that we are out of balance.

To kill birds get a small bore shotgun so the ammunition will be cheaper, a 22 calibre rifle and several sling-shots using small shot, and go to it whenever you have a spare half hour. Commence on November 1st if you are home from vacation by that time, and by the time fruit is ripe you can have the birds as scarce as you wish.—A. C. Sullivan, Winters.



"Set 'em Snug"

"It's the little things that count, son, when you're blasting for tree planting—tamping, for instance. It takes about three minutes and it's just as quick and easy to do it *right* as to do it *wrong*. The Hercules Powder Co.'s book, 'Progressive Cultivation' tells you all about it. If you follow the directions in this book you'll always get the best results with

HERCULES DYNAMITE

"I tell you—there's nothing like it. Hercules Dynamite gave me my start in the fruit growing business—and I owe a big part of a good sized balance in the bank to the knowledge I got from 'Progressive Cultivation'. This book tells you all about the uses of explosives on the farm and in the orchard. And it tells you *how* to use dynamite to get the best results—gives you full directions illustrated by photographs and diagrams.

"Every orchardist in this township should have this book—and he can have it, *free*, if he'll sign the coupon and send it to the Hercules Powder Co."



HERCULES POWDER CO.

1025 Chronicle Building

San Francisco

California



Hercules Powder Company, 1025 Chronicle Building, San Francisco, Cal.



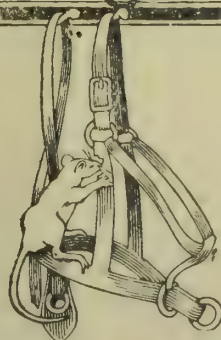
Gentlemen: Please send me acopy of "Progressive Cultivation."

I am interested in dynamite for.....

Name.....

Address.....

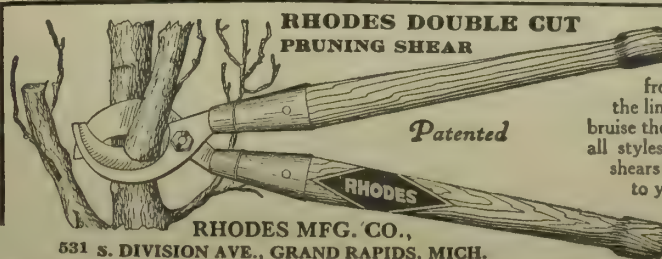
Hungry rats and idle harness



RATS and mice eat and destroy valuable harness. Dip your harness in Eureka Harness Oil—rats dislike it and will not gnaw harness oiled with it. Eureka protects harness from rodents, dust, sweat and moisture—keeps leather flexible. *Eureka saves harness for longer service.*

EUREKA HARNESS OIL

STANDARD OIL COMPANY (CALIFORNIA)



RHODES DOUBLE CUT PRUNING SHEAR

Patented

RHODES MFG. CO.,

531 S. DIVISION AVE., GRAND RAPIDS, MICH.

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. All shears delivered free to your door. Write for circular and prices.

TWIN CITY

12-20 Kerosene Tractor with 16-valve engine

Pays Big Dividends

For the first time in the history of the tractor industry, the 4-cylinder, 16-valve engine (valve in head type) is now applied to a tractor. The TWIN CITY 12-20 with its 16-valve motor actually develops 25 per cent more than its rated horsepower.

This new 12-20 is a light weight tractor that will out-pull, out-last, and out-dividend other tractors of equal rating.

Not built down to a price, but built up to a fixed ideal—to do the work assigned to it better than it has ever been done before.

The highest grade tractor will unfailingly prove the least expensive and pay the biggest dividends.

Frank Penstrom & Co.
 DISTRIBUTORS

Van Ness at Golden Gate,
 San Francisco, Cal.
 Los Angeles. Stockton.

Figs for Sale

25 tons White Adriatic Figs.
 GOOD QUALITY—CONDITION
 ORCHARD RUN

OSCAR WARNER
 Oroville, California

HUMBOLDT COUNTY APPLES ARE UNSURPASSED.

[Written for the Pacific Rural Press.]

Humboldt County apples have not been surpassed in quality, texture and color in the experience of the three judges who represented the State University Farm at Davis, the State Department of Agriculture, and the Pacific Rural Press. The quality was excellent, the display attractive and resplendent with color, the pack alone showing inexperience with the demands of commerce and the new laws governing standardization.

Almost all were late apples and included Kings, Newtown Pippins, Canadian Red, Blue Pearmain, Spitzenberg, Belleflower, Jonathan, Rome Beauty, Ben Davis, Minkler, Northern Greenings, Rhode Island Greenings, Delicious, Bismarck, Wealthy and Seek no Further.

It is impossible to recommend extended plantings of apples or pears in this county until transportation facilities are improved, both from ranch to shipping point and from shipping point to market (at present it costs 40 cents a box to send apples from Eureka to San Francisco); until good roads are provided that shall be negotiable for an auto truck the year round, until commodity rates are obtainable from the railroad and leadership and co-operation are effected among the growers as it now is among Humboldt dairymen.

In the rich dairying sections of Ferndale, Fortuna and Arcata, good roads and unity of action prevail. Here everyone has money and business men prosper. Except for lumber and stock, the rest of the county seems likely to lie fallow till it is made accessible by good roads. Because nobody with money enough to spend on improvements is going into isolation for several months in the year.

It is really up to the business men of the large towns to get together and carry out these improvements unless they are content to sit around and wait for what drops from the lumber pile. The business men of Fresno County voted an additional six and a half millions this year for a bond issue for a system of better roads, and they already had a pretty good one. The interest alone on that will bulge their tax list from new settlers before the money is half spent.

Wherever the business men of any county get together and back the farmer in his great enterprises and undertakings something has to move. Witness Los Angeles, Fresno, Sacramento, Yolo, Santa Clara or any other rich center where they have discarded the "peanut-stand." They are getting in settlers with money in their pockets—settlers who know how to work to make more. And all they make finds its way to the town sooner or later.

Why, if Los Angeles had that little redwood park at the mouth of Bull Creek they would spend millions in advertising it and keep a bunch of "bulls" there to see that no small boy sharpened his knife on the bark!

Humboldt County can grow the stuff. She is the richest county, perhaps, in the State in natural resources and productive possibilities, and it is a joy to be within her splendid borders. Millions will be needed to make her vast empire accessible throughout the year, and then she will be a leader. Nobody knows California who has never visited Humboldt County.

52ND STATE FRUIT GROWERS' CONVENTION.

This convention which takes place at Chico (Butte County) from November 12-15 is preceded by two days' convention of Horticultural Commissioners, meetings that add value to the service and uniform action on the part of the county men.

The Fruit Growers' and Farmers' Convention this year in dealing with the important problems that confront us have left room for discussions by growers whereby valuable suggestions may be offered. The tentative program provides the following themes for discussion: "California Agriculture—the things that threaten it and the need for protection"; "The Accomplishments and Possibilities of Co-operation," in which representatives of all our great growers' associations will take part; "The Standard Packs and Fruit Packing Demonstrations."

On Thursday (Nov. 13) it is proposed to spend the entire day at Oroville considering oranges and olives, with inspection trips through the groves of this district as well as the canneries and olive-packing plants. Maturity standards and orange packing; ripe olives, cultural methods and pruning, and following discussions will provide a meaty session.

On Friday (Nov. 14) "The Effects of Irrigation, Pruning and Spraying as Factors in Frost Control" will be discussed, also "Evaporators for Fruit Drying."

"Standardization and the Consumer," "Community Canneries" and Reports of Committees will wind up this day, to be followed on Saturday by a popular meeting at the Durham State Land Settlement, seven miles south of Chico.

The highway is in good shape and probably a very large proportion of the visiting assembly will arrive in automobiles. Harvest is completed and no rush of work being on hand, everybody has an opportunity to attend the convention, now only three weeks away.

POINTERS ON MARKETING ALMONDS.

[Written for Pacific Rural Press.]

The price obtainable for your almonds depends largely on the ability of the Almond Growers' Exchange to get them into the market early. Almonds are perishable so far as market value is concerned. Almonds will shrink in value if they have to be sold after holiday demand.

September sales are Thanksgiving sales.

October sales are Christmas sales. Almonds should be delivered just as soon as they are thoroughly dry.

Stained almonds must be kept separate. Last year the cost of handling stained almonds was 3½ cents a pound. This year with the equipment and knowledge acquired, they can be handled for about one cent a pound.

If stained almonds are mixed with clean ones, the whole have to be processed.



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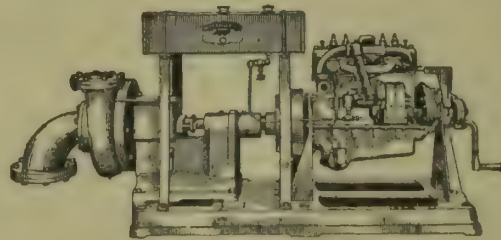
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Bean product
makes good*

If a canvass were made of California farmers a certain percentage of them would give it as their opinion that, as a rule, no direct connected gas engine pumping unit could be expected to give any great degree of service.

And they would be honest in their opinion, based, however, entirely on their own or their neighbor's experience with a rig put together on the ranch in a more or less hit-or-miss manner—probably utilizing an engine unfitted for the work.

There is real danger to the manufacturer putting out a unit of this type that might not give continuous service for years to come.

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Distance to water below surface of ground

Probable distance to water when pumping

If water is to be raised above surface of ground, how high? (Length and size of pipe line)

Volume of water desired (Gals. per min.)

(Inches)

If you have pit, give width

depth

If P. of motor or engine if you have that equipment

Give total depth of well

Inside diameter of well

Is well straight and true?

Is electric power available?

Name

Address

Rural Route No.

111. Box

Here and There in the Fruit Business

Dried Apricots Nearly Sold Out.

The dried apricot crop has pretty well moved off, according to the California Prune and Apricot Growers' Association, and there is a probability of a final clean-up shortly. Settlement with growers on the basis of opening prices net to them on the several grades seems pretty well assured. Of late the market has slumped seriously and is very dull, says H. C. Dunlap, due largely to government investigation of high cost of living and some export difficulties. But Association prices, as such, have served to maintain a stability in the market that might not otherwise have been enjoyed.

Prune Growers to Affix Signs.

The Prune and Apricot Growers' Association have placed orders for attractive signs to post on all orchards of members of the association—a fine badge to show the owner is an active member of the fraternity, and a good ad. to the visitor of the unity and activity of the industry. The Associated Raisin Growers, Citrus Growers and Walnut Growers, all have their own respective orchard signs. The Prune and Apricot Growers will already need over 10,000 of them. These will be in baked enamel colors and will reproduce the labels on packages and magazine advertising. A small growers' badge for members to wear at public meetings would add weight to their remarks.

Better Transportation Promotes Improvement.

There is a revival of interest in fruit growing in the Camptonville section of Yuba County, due to the building of a State Highway, which

will permit transportation of perishable crops to market without injury. There are many other sections of the State where things are looking up for the same reason.

Eastern Farmers Recommend 10 Hours.

The recent recommendation by a federation of Eastern Farm Bureaus that a 10-hour day for all be adopted, shows how many workers realize the gravity of conditions regarding the nation's welfare. It signifies a desire to sacrifice personal indulgence for the good of the nation, and is a full recognition of the absolute importance of production to better living conditions and to hold our foreign trade.

Japanese in Kern County.

Fifteen hundred and fifty acres of land in Kern County are owned and controlled by forty-six Japanese, according to a report by T. F. Burke, County Assessor. Senator Phelan had sent to the office for these figures, which show an average of about 33 1-3 acres to each Japanese owner. In Japan a foreigner cannot acquire land, it is said, and if he did it would not do him much good. As one farmer said, "It is better to fence a mouse out of the cheese dish than it is to shut him in along with the cheese."

Where the Apples Go.

About one-half the total apple shipment or from 25,000 to 33,000 carloads were unloaded at 18 leading cities in the past three years, says the U. S. Department of Agriculture. New York City had about one-third of these per season, Chicago used less than one-half as many as New York, Philadelphia and Pittsburgh one-third as many as New York. Six other cities took in the neighborhood of 1,000 cars each, while five other cities used from 400 to 900 cars each. We must send these an appetizer.

This Season's Hops.

The demand for California hops continues strong and the immediate outlook most promising for growers. This year's crop was harvested without loss and without trouble, and the condition of the cured hops is excellent everywhere. The yield was well up to early estimates, the total production for the State will exceed last year's crop by about five million pounds, according to E. E. Kaufman, of the Bureau of Crop Estimates. Some late sales have been reported at 85 cents a pound and a few growers are still banking on dollar hops.

Recognition of Good Service.
The University of California, the State Department of Agriculture and other specialized institutions find that large commercial undertakings are making a continual bid for the services of their trained men in horticulture and agriculture. Chas. F. Collins, Horticultural Commissioner of Tulare County, has recently received a substantial and gratuitous increase of salary in recognition of his service, a step that has been commended by the fruit growers. The manifold duties of a County Commissioner and his value to the fruit growing industry of the State is now getting a belated recognition.

Collecting Parasites for Insect Pests.

E. W. Rust, parasite collector for the State Department of Agriculture, has arrived in South Africa, where he

will be engaged for some time, locating, rearing and packing beneficial insects to be sent to California for the control of black scale and mealy bug.

Mr. Mally, the Cape Town Entomologist, has furnished Mr. Rust with all facilities at his command, including a well-equipped laboratory.

[This is one of a series]

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All who read this probably know
That there are good and bad mortgages,
But because there are bad mortgages does not
Condemn the mortgage—which is the
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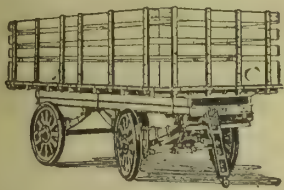
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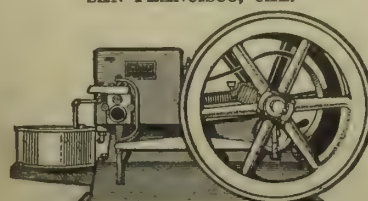
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Tomato Marketing Troubles Disappear.

One of the Los Angeles city newspapers succeeded in its effort to create a stir by accusing Southern California tomato growers of plowing under their tomatoes and dumping tons of them in order to hold up the price. The persistent publicity led to a Grand Jury investigation, which was recently completed to the great advantage of the growers, who needed the proper sort of publicity. The stimulus of this publicity was seen even before the end of the investigation in the large quantities of tomatoes which resumed their proper course to the public markets and the canneries. No indictments were returned.

The facts, as explained by Secretary J. M. Rittigstein of the Vegetable Growers of California, Inc., are told below.

Peaches Excluded Tomatoes.

The peach crop of Southern California was the largest in history, and was unusually late. Each day also brought carloads of San Joaquin Valley peaches to southern canners. To show one phase of the big business in canned peaches this fall, over \$500,000 worth were exported to the English trade alone from Los Angeles ports during six weeks. The canners were pestered with buyers for export to foreign countries. But the exporters did not want tomatoes very much.

With such a demand, not only abroad but also in American markets, and with profits which you can guess at if you can scrape up money enough to buy a can of peaches, and with heavy supplies to work on, it was no wonder that canners handled peaches to the exclusion of tomatoes, for which the market was comparatively uncertain.

Canned-Tomato Market Uncertain.

One of the chief reasons for uncertainty in the tomato market was the fact as stated by Mr. Rittigstein that the Government threw onto the market 5,000,000 cases of canned tomatoes in July and August. These were sold to the public at about nine cents per

can. Some of the canners asked to be released from their contracts with the growers' association because they could buy from the Government the tomatoes they themselves had canned in 1918 and store them in warehouses cheaper than they could buy and pack the 1919 crop!

Couldn't Ship East.

Eastern markets were well supplied with eastern tomatoes. One Los Angeles firm, which usually ships one to three carloads per day in the early fall, found the carlot demand so weak that the added difficulty of getting cars led them to shut down their plant. The Association itself tried shipping carlots to San Francisco without success. As neither the canneries nor shippers wanted the crop, which was fast ripening, a flood of tomatoes poured into Los Angeles public markets. Prices went down to 25 cents per 30-pound lug box, then to 15 cents, then to ten cents; and produce dealers refused to handle them at all. Twenty cents a lug box would scarce pay the hauling charges plus commissions, shrinkage, repacking, and risk of loss while awaiting sale.

"Help Yourselves."

So growers in certain districts actually posted signs along their fields: "Canneries are closed; it doesn't pay to ship—help yourselves."

At the time of the railroad strike, peaches ceased coming from the north and the Association hoped to get tomatoes packed in their places. But most of the canners found themselves without a can and no way to get any.

Members of the Association who could find markets for themselves were temporarily released from their contracts. Several canneries have been operating exclusively on Association tomatoes, the eastern demand has picked up since the frosts, the Railroad Administration claims that it is now easier to get cars, and pressure has thus been removed from produce markets, which can therefore obtain paying prices.

Orange County Lima Bean Situation

Of the 500,000 to 525,000 bags of lima beans recently estimated by Manager R. L. Churchill of the Cal. Lima Bean Growers' Ass'n to have been grown in the State this year, something like 125,000 were produced in Orange County, according to President W. C. Jerome of the San Joaquin Lima Bean Growers' Ass'n. Yields varied from around 200 pounds per acre on a majority of the acreage (which is high and unirrigated) to 700 pounds on the low, damp, unirrigated lands, and to an average about 1250 pounds on the better irrigated lands, with 2500 pounds as a maximum. Best results were obtained where water was applied plenty and correctly on the sandy and adobe soils both in the uplands and the lowlands.

Irrigation water has been scarce. Mr. Jerome estimates the total gravity water available at about 1500 miner's inches during the driest part of the season. The Santa Ana Valley and the Anaheim Union divide the Santa Ana River between themselves. Most of the water used was produced by pumps, but the water table lowered so much that many centrifugals were left dry in their pits. This is not likely to occur soon again. It is estimated that the average cost of pumping is a cent per inch per hour including wear on the plant. Though many new pumps have been installed, the irrigated bean acreage is probably not much increased if at all, due to the fact that formerly beans were grown in irrigated orchards where the trees are now too large.

Not a great deal of troubles have visited the beans this year aside from drouth. Worms which have bothered

other lima districts in previous years and were rather bad in Orange County for the first time last year have done some damage again this season. They bore holes into the pods and eat along the margins of the beans, sometimes injuring all in a pod or eating some of the beans entirely. They seemed to be worse on the heavy lands. There was two inches of rain in some of the bean districts and some of the beans molded and discolored.

Harvest Cost Lowered.

Harvesting has been cheapened in many localities this season by the multiplication of side delivery rakes. Next season it is hoped that the threshing also may be cheapened and the beans kept more free from dirt. A few pick-up bean threshers have been tried out very successfully this season in Ventura County. It is said that their threshing cost is 15 to 25 cents per hundredweight as against 50 cents to a dollar paid by Orange County growers this fall. Side delivery rakes put the beans in windrows freer from dirt than when raked and bunched by hand, especially on sandy soils. Then the pick-up harvester runs along the windrows and avoids pitching the vines onto a wagon, then off into the thresher. It saves labor, and it is claimed that less beans shatter out. Improvements needed in the side-delivery rakes are a twelve-foot reel instead of ten, and slower rotation of the reel.

Bean Grade Standards Strict.

It is important that less dirt be mixed in the beans, since a great amount (such as the 8 to 15 per cent found in some limas this year) really

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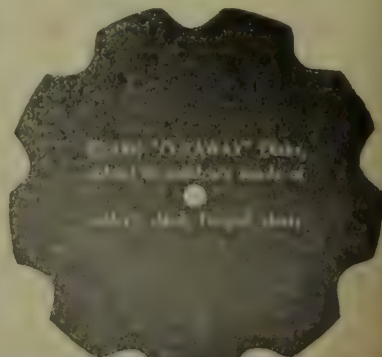
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constitutes adulteration. The desirability of holding down the dirt content has been recognized by both the Cal. Bean Dealers' Ass'n and by the Cal. Lima Bean Growers' Ass'n in their requirements for the high grades. The cost of handpicking to remove dirt, worm-eaten, and discolored beans runs from one to three dollars a ton where the crop contains more than 1½ percent of discolored or one per cent of worm-eaten beans, or one per cent of dirt.

TRUCK CROP NOTES.

(Written for Pacific Rural Press.)

October sees the beginning of California celery shipment which will last until March. There are about 4,200 acres in the State, according to R. G. Risser, of the California Vegetable Union. The northern crop, largely from Contra Costa County, moves first; and the southern crop follows when the former has been frosted.

Lettuce planting is well along in Imperial Valley. Estimates are for four or five thousand acres as against 2,600 last year. Quite a few white men are planting, and many lots are not contracted to marketers.

Cabbage is being planted in most all districts and the indications are for a pretty good acreage, especially of the early cabbage. There is a great deal in the San Fernando Valley and considerable acreage will again be planted on the Irvine ranch in Orange County. G. H. Peters is planting 60 acres of the Cannon-ball variety in Kern County. A great deal is being grown in San Mateo County.

"Early" cauliflower will begin to go east this month. The "half-early" and most of the "late" crop has been transplanted to the fields. Cauliflower grown in New York competes with the California early crop, but New York shipments will be lighter than usual, according to Mr. Risser.

NEW FORAGE GRASSES TO HELP CATTLEMEN.

(Continued from 1st page.)

and with stems considerably greater in diameter but succulent. The stems spread out more. Otherwise it is quite similar to Napier grass and may be simply a variation of the same plant due to having grown for many generations in a different part of South Africa.

Wonder Forage.

Wonder Forage is most favored by Mr. Musser though not much tried out in this State. On the demonstration grounds it was well headed out the last of September with seed panicles more compact than sudan grass and with seeds considerably heavier. It, too, was planted about three feet apart each way and was thickly stooled with erect growing stems, six or eight feet tall, round, and about the diameter of Napier that had been cut back once. It was full of long green leaves, which were green to the ground though the lower ones were densely shaded. Birds had been feasting on the seeds. Wonder Forage is a semi-sweet sorghum, an annual, and it gives more summer forage than Napier. A Wonder plant without the seeds was analyzed by a commercial firm. The stems and leaves showed 62 per cent of moisture, 5.72 per cent sugar, 7.63 per cent crude protein, and 0.98 per cent fats. Its advantage over the other grasses for silage lies in its seeds, which are similar to those of the grain sorghums, high in carbohydrates and adding considerable concentrated nutriment to the silage.

Guinea Grass.

Guinea grass looks like it is the most completely eatable green, though its wide, flattened stems are hairy and the edges of the leaves are saw-toothed. This last feature seems not to hurt it for green forage, but prevents its use for hay. Single blades grow six feet from the ground. They may be cut back and will make growth several times repeated in a season. It is claimed to be as hardy as Napier, the plants having survived considerable cold last winter. Mr. Musser believes it would make fine permanent pasture on moist land, for it has a high feed value.



Where the Titan Comes In

IT PAYS to do farm work at the right time. There are only a few days when plowing, seeding, haymaking, harvesting, threshing and other essential jobs can be done to best advantage. To be able to take care of these operations at just the right time often means the difference between success and failure with a crop; between a big profit and, perhaps, no profit at all.

The uncertain factor in most cases is the amount and kind of power the farmer has at his disposal. That is where the Titan kerosene tractor comes in. You can depend upon it to furnish ten horsepower of drawbar power, or twenty of belt power, any time you need it. Many a farmer has told us that even if his Titan cost him twice as much as horses he would use the tractor by preference because of this one advantage of being able to get his work done at the right time.

Instead of costing twice as much as horses, the Titan operates at considerably lower cost than horses or any other kind of farm power. Besides being more dependable and more generally useful for field and belt work, it is also cheaper.

After harvest most of your power needs will be for belt work. The Titan makes it easy. It has a large pulley, high enough to keep belts from dragging, giving the proper belt speed, easy to line up, to start and to stop.

The Titan is our 10-20-H. P. tractor. There are two other sizes of International tractors, 8-16 and 15-30-H. P., all operating on kerosene and other cheap fuels. Write us for catalogues and full information.

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works by leverage—same principle as a jack—one man can lift or pull 48 tons alone. Works easy as rowing a boat. Works on hillsides or marshes where horses cannot operate. Has 2 speeds and weighs 171 pounds. Made of the best steel. Absolutely guaranteed against breakage. Endorsed by U. S. Government officials. Highest bank references.

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Box 12, 99 John St., New York Pac. Coast Office 182 Fifth St. San Francisco, Cal.



No stump
too big
for the
"K"

Weight, without cable, 171 pounds

HORTICULTURAL JOTTINGS.

Prune markets remain firm at opening prices.

China appears to be the most promising future market for raisins and prunes.

A company of citrus growers have organized and established a bank at Lemon Cove (Tulare County).

Owing to the large new acreage coming into bearing, this year's fig yield will outstrip all previous ones in this State.

The Oakdale district fair will have a balance of about \$3500 to the good after paying all bills in connection with this year's fair.

An average of \$3.56 a box was paid to Tulare County Fruit Exchange members for oranges in 1918, doubling the average for 1916-17.

California fruit shippers claim that the car shortage has already involved a loss to them of over \$10,000,000, and substantial relief is not yet in sight.

1100 boxes of grape fruit were shipped last week from the George Roop orchards at Porterville. \$5 a box f. o. b. makes a record price for this fruit.

Extensive plantings of figs, grapes and citrus fruits are planned for the coming season in Terra Bella (Tulare County). Thompson Seedless and Emperors do well in that locality.

Latest reports place this year's walnut crop at 24,000 tons, or 20 per cent greater than last year. This creates a record for the State and the sale of it created another record.

Lemon picking is proceeding at Porterville (Tulare County). The yield exceeds the past five-year average and is of high quality. About 10,000 boxes will go into the curing houses. Prices range about \$5 a box f. o. b. for first grade fruit.

The Government measure appropriating money to cut the high cost of living specifically exempts labor and

farm and horticultural associations from being prosecuted with funds provided in the act.

This year's yield of Thompson's Seedless in the Dinuba district is said to be a record. The quality is top notch.

A Sutter County peach orchard has just been sold for \$1500 an acre for which \$250 an acre was paid only five years ago.

Some wine grapes in Sonoma and Napa Counties will not be picked it is said owing to the difficulty of marketing, and the hogs will be turned into the vineyard to salvage the crop.

The Merriman olive grove in Tulare County is said to have over two tons to the acre on it this year. The chief varieties grown here are the Mission and Manzanillo.

Amelia Vernazza honors the California Packing Co., who employ her, by ringing and pitting 75 boxes of Phillips' Cling Peaches of average size and quality in 11 hours, thus carrying off the belt.

The process by which grapes can be converted into a non-intoxicating wine while still retaining its bouquet, color and flavor is a trade secret. The wineries at Cucamonga and Etiwanda are producing it.

H. A. Hyde Co., florists and nurserymen of Watsonville, have just issued their new season's catalogue of fruit trees, ornamentals, shrubbery, bulbs and house plants, containing a very full list for all requirements.

Up to Oct. 2 of this year 32,803 cars of oranges had been shipped from Southern California this season and 9,217 carloads of lemons. The total shipments to the same date last season were 13,893 cars of oranges and 5,578 carloads of lemons.

September receipts of prunes at the warehouses of the California Prune and Apricot Growers' Association amounted to 60,000,000 pounds—more than double the receipts of 1917 and many times the receipts of last year.

NURSERYMEN OF STATE TO MEET AT CHICO.

(Written for Pacific Rural Press.)

The California Association of Nurserymen will hold their ninth annual meeting at Chico from November 13 to 15, it is announced by William T. Kirkman, President of the Association.

The selection of these dates has been made so that the nurserymen and seedsmen may meet the fruit growers and farmers at the Fruit Growers' and Farmers' Convention for their mutual benefit. The growers' demands and requirements will be made known and discussed so that they may be adequately met and provided for by the trade. Programs will be ready for distribution about Nov. 5.

There are now some 150 nurserymen members of the association. "Collective Action is the Slogan of Modern Business" has been adopted as their motto. One afternoon (Nov. 12) is to be devoted to the possibilities of marketing in co-operation with representatives of the California Associated Raisin Company, the Peach Growers' Association, Walnut Growers' Association, the Almond Growers' Exchange, the Prune and Apricot Growers' Association and others.

By the nurserymen and farmers getting together in this way it's felt that stock may be improved and standardized, poor varieties gradually discarded and the provisions of the nurserymen with regard to each year's demands reduced from guesswork to a more definite market. A number of growers who are interested in this matter of selection have signified their intention to be present for this very purpose and arrangements of great importance to the industry are likely to ensue.

It will therefore pay every nurseryman, whether he is a member or not, to show up and find out what is going to be done. The growers who will be present mean business and will be a representative body from the great growing industries. Whatever certification of stock is arranged for by the associations and leading growers, if any, is likely to constitute the bulk of the business. Show up and learn what is going to be done.



Chassis Prices
1st ton \$1965
2nd ton \$2365
3rd ton \$3465
F.O.B. Allentown



The Motor Truck bought to-day without Electric Starting and Lighting will be out of date to-morrow

Farm Profits and Farm Transportation

Make a husky, enduring Bethlehem the connecting link between your Farm and your Market. Increase your profits by adding to your farm equipment a husky, enduring transportation system.

The economically powerful engine has a pull that will take any load over any road. Electric Starting and Lighting means economy of operation and makes night work easy and practicable.

The Internal Gear Drive is the answer to the bad roads problem. Bethlehem Design and Bethlehem Construction have proved themselves to thousands of farm owners. The nearest Bethlehem Dealer will demonstrate a Bethlehem your way.

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— INTERNAL GEAR DRIVE —
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BETHLEHEM MOTORS CORP. ALLENTOWN, PA.

FALL PLANTING OF

ALFALFA

Fall
Planting
of
Alfalfa

BOMBERGER
SEED COMPANY
MODесто

Under certain conditions fall sowing of alfalfa pays BIG. The next season's growth is nearly as heavy as two-year-old alfalfa.

Send for Booklet.

—which tells when fall sowing should be done, method of seeding, etc.

Sent free, together with our price list, and booklet describing Bomberger's Seven Kinds of Alfalfa (a kind for every soil and moisture condition).

BOMBERGER **GREEN BRAND GOLD** **SEED CO.**
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YOUR SOIL NEEDS

Humus and Nitrogen Bacteria

MELILOTUS INDICA Supplies Both

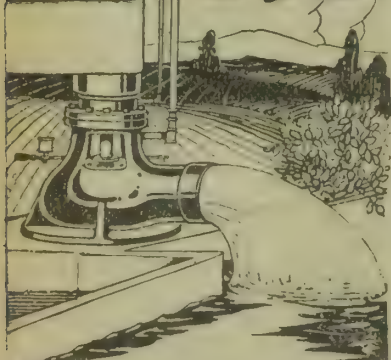
Now is the time to plant it. Buy your seed from

Aggeler & Musser Seed Co.

620 S. Spring St., Los Angeles, California

Buy only Melilotus seed that has a quality tag on each sack. It protects you against the low germination seed so general on the market this season. This seed is above 99 per cent pure and above 90 per cent germination.

LAYNE & BOWLER PUMPS



BANISH THE DANGEROUS PIT.

These pumps require no pit. Can be installed in wells 10 inches in diameter or larger. No packing glands. No bearings to overheat. Capacities 180 to 4500 gallons per minute.

Ask for Folder No. 25.

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RHUBARB WAGNER'S IMPROVED

PLANT NOW Growers making \$1000 and over per acre annually. Splendid results in six months. Special prices for immediate planting. Also berries and small fruit, etc. Write to the originator, J. B. WAGNER, Rhubarb and Berry Specialist, Pasadena, Calif.

GET A WITTE

At Reduced Price. Buy on your own terms. Save \$15 to \$20. Catalog FREE. WITTE ENGINE WORKS. 2840 Oakland Ave., Kansas City, Mo. 2840 Empire Bldg., Pittsburgh, Pa.

AGRICULTURAL POINTERS.**To Increase Weight of Baled Alfalfa.**

An effective way to increase the weight of baled alfalfa hay at relatively small cost is to disk the field in spring after the rains. This flakes the dirt into chunks so the haymakers can't keep it out. But beware of the law that went into effect last July. If you want to play safe, harrow well after disking or disk and harrow after the last crop is off in the fall.

Sowed Cabbage on Dry Sand.

Half a pound of cabbage seed broadcast and raked into dry sandy land did not sprout, so the irate planter returned to the seedsman claiming they were no good. As the seedsman keeps two men constantly testing, he knew they were all right. So he advised a little water on the sand. Not long afterward the planter had manhood enough to return and say that his cabbage had sprouted beautifully.

Keep Birds from Garden.

Where birds bother vegetable gardens it may be well to work the scheme practiced by Japanese vegetable gardeners in Los Angeles County. Stakes about two feet long are set up across the gardens every few yards apart and connected by strings. Rags or pieces of paper are tied to the strings so they flap in the wind and scare birds away.

Rotations with Sugar Beets.

A leading potato dealer of the Salinas Valley makes the point emphatically that sugar beets and potatoes cannot be rotated profitably—the sugar beets take out something

that potatoes need. But beans or barley go well in rotation with beets. In fact such a rotation brings greater production to both the beans and barley, which have too long been suffering from old grain farming methods of shallow culture.

Fall Plowing for Beans.

Fall plowing gives best results in bean growing in Lompoc Valley in Santa Barbara County as told by one of the best known growers. It is best to leave the land rough all winter to catch and hold the rain and prevent soil washing. Weeds can be kept down as evidenced by this man's experience. One year one hoeing cost \$3 per acre. Six years later it cost only \$1. No more weeds than possible have been allowed to seed on the ranch during that time. They would not only choke beans and waste moisture, but are a serious hindrance in harvesting and threshing if not kept from seeding at all times of the year.

Better Hay Depends on Seeding.

Early-planted grain hay is best, has more substance, and yields more tonnage, according to a successful hay grower of San Benito County. More seed is required on worn land than where rotation is practiced. Generally this man has planted 100 pounds of barley or wheat per acre on worn land. Eighty pounds is enough on land that had a cultivated crop the year before, because it stools more.

Breed a cow under ordinary circumstances from ten to fourteen weeks after she drops her calf. This will cause her to freshen regularly once a year.

"By-Products of the Packing Industry" is the title of a booklet issued by Armour & Co. that is worthy the perusal of everyone interested in the growth of animals for human food, those dealing in fresh and cured meats

and all those who eat meats and also many others in various walks of life. In fact, it is a booklet full of information for the general public carefully written and plentifully illustrated.

8-foot Extra Heavy Tractor Chisel



KILLEFER
QUALITY



Now is the time to commence deep chiseling and subsoiling. Do it in time to prepare the ground thoroughly to receive the benefit of the winter rains. Break away from the old habit or mistaken idea of scratching the ground and expecting to harvest a crop.

Plow pan, although frequently referred to as mechanical hard pan, should not be confused with natural hard pan. However, so far as crop production is concerned, the effects of plow sole and hard pan are the same. Both must be destroyed before proper cultivation can be had, and the only difference here is in the method required for their destruction.

Plow sole offers less resistance to the available methods of breaking it up than hard pan, and, with the tractor and tool of sufficient

strength now available for tractor use, it can be broken up and subdued, bringing the land back to the point where a full yield may be expected.

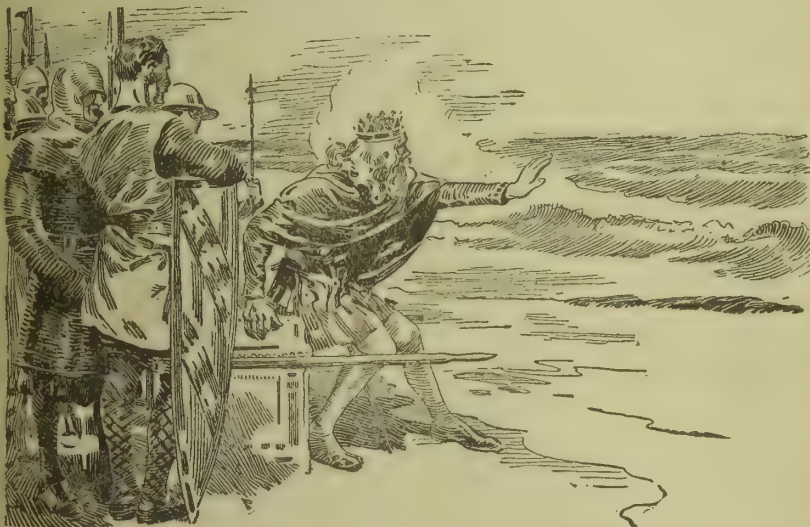
Plow sole offers less resistance to tillage implements than does hard pan; both are in many cases impervious to horse teams and ordinary plows, and in some instances are difficult of handling with tractors and modern implements. Yet before a full yield may be expected this condition must be subdued, and to date the only satisfactory means is by use of the chisel or subsoiler.

Send for Catalog and Prices.

The Killefer Manufacturing Co.

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LOS ANGELES, CAL.



A Modern King Canute

The people who lived in the good days of the wise King Canute thought he had the power to make the ocean recede at a mere word of command. Today the Bell Telephone Company finds itself in a position not unlike that of the ancient king. Its mere word will not hold back an ocean of expense.

Rigid economy and the most modern methods of operation have made it possible for the Bell Company to keep its rates at a far lower level than that of the commodities which it must use in construction and upkeep. But it has felt the

rising tide of costs just as certainly as has every business and every family.

The one source of revenue of the Bell Company is the price you pay for service. If this price fails to cover fair wages and necessary materials, then both you and your telephone company must suffer.

For one year the Bell Company was under Government control. The Government analyzed methods and costs; and established the present rates as just. All the Bell Company asks is a rate sufficient to provide satisfactory service to every subscriber.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
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One Policy

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Any height you desire

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We Manufacture Levelers for Any Power from 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresno to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners' time, labor and money.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

A GREAT ROAD MACHINE

Every road district should own one of these machines for constructing roads. They will cut down the high places and make fills quicker and cheaper than by any other known method.

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send for our latest catalog, J-600, which is full of interesting information on Labor Saving Devices and machines for moving the earth.

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Today's Dream— Tomorrow's Reality

Electricity offers to the farmer of the present the means of eliminating the monotonous grind from the day's routine.

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You can free yourself from the physical exhaustion resulting from farm drudgery if you use G-E motor-driven machinery to milk your cows, separate cream, churn butter, cut feed and ensilage, saw wood, thresh grain, pump water and perform the many other tasks which make up the necessary activities of the working day. The cost for power is less than the wages of one farm hand. Ask your lighting company or our nearest office for full particulars.

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6771

What Can We Do about Calif. Potatoes?

(Written for Pacific Rural Press by W. V. Shear, State Department of Agriculture.)

Good Heredity for Potatoes.

Having decided that you have a piece of ground adapted to potatoes and are willing to use it for this purpose, the next thing is the preparation of the soil. If the soil is anything but a light sand or a very loose peat, it should be plowed deeply. The roots of the potato must have aeration and mellow surroundings that can be penetrated easily by the delicate rootlets, and the tubers must have room to develop easily and uniformly. Remember, this is the object of the whole season's work, the development of the tubers in the soil, and, if the soil is hard or cloddy, the development must necessarily be uneven and very difficult.

The Seed.

While in conversation with a potato grower at the State Fair recently, regarding the principles underlying potato production, the gentlemen remarked, "Why, that is just like using good dairy stock to build up a productive herd." It must certainly have been brought home to the readers of the Pacific Rural Press that it, without doubt, requires a strong, healthy, productive potato plant to produce a good seed potato as it requires dairy stock of high producing qualities to build up a profitable dairy.

We have almost ceased to wonder at the prices paid for high-grade stock—prices, which a few years ago we would have ridiculed as being beyond reason. It was thought not long ago that no cow could be worth \$1,000, and many of us have yet to learn that, if we wish to succeed with the production of plant products, we must have high-grade seed stocks.

The successful potato growers of today are awake to the necessity of using registered seed and to the fact that the laws of heredity apply with equal force in both plant and animal life. One might as well expect to get four pounds of butter per day from a scrub cow as to expect a two hundred sack yield per acre of potatoes from scrub seed. The problem with the up-to-date potato growers is how to obtain this good seed. Good seed must be produced before it can be sold and there is such unlimited supply that it is by no means possible for all to get even a small portion of it.

Fortunately the California State Legislature at its last session has made it possible for California potato growers to produce good seed. A small appropriation was made from State funds for the use of the new State Department of Agriculture to help establish this industry, and it is now possible for every potato grower in the State to receive assistance in the production of good seed stocks.

Each Season Develops New and More Subtle Diseases.

No doubt, when growers become familiar with the methods of producing good seed potatoes and when the other growers see the necessity for the use of such a seed, they will be willing to pay for it in proportion to its real value. The potato inspection service is now available for all who wish to make use of it. Not only is it still necessary to combat the common diseases, with which most potato growers are now familiar, namely, the wilts, rhizoctonia, blights, etc., but, nearly every season new and more subtle ones are being found. These new diseases we are learning are responsible for great reduction in the yields, sometimes 50 per cent to 80 per cent. They are also carried in the seed, but are of such a character as not to be recognizable from an examination of the tubers themselves. They must be caught in the fields during the growth of the parent plants. These are the physiological diseases, such as curly dwarf, leaf-roll, spindly sprout and mosaic. The only method we have of fighting these diseases is by the elimination of affected plants in the fields, wherever this is practicable, and by discarding for seed purposes fields which are badly affected with these diseases.

Inspection of Plants Necessary.

An inspection system, then, is absolutely necessary for the determination of good seed potato stocks. If you grow your own seed potatoes, you should rogue your fields of the diseased plants; and if you buy seed, you want to know that it comes from inspected fields. Your only insurance in this respect is the inspection tag to be found on every sack of inspected and certified seed. The cost of the inspection is slight, and the demand for this seed should be great, but no doubt the supply for a number of years will be very limited. It requires faith in what you are doing to take out of your fields a considerable percentage of the plants which may be unhealthy, but it is the only road to success.

Value of Inspection Depends on Support Given.

The success of the seed potato inspection work will depend upon the potato growers of the State. If you support it by making use of it, it will mean much for the potato industry, but if you neglect to take advantage of the opportunity offered, then the opportunity will soon cease to exist.

The seed potato is the most important factor for good or evil in the production of profitable crops. It is not uncommon for the writer to hear it remarked, "I have doubled my yield by the use of certified seed." A grower recently said, "If I had used certified seed for all my field instead of only a portion of it, I would have been better off by \$1,000.00." Your potato yields will increase or diminish with the character of your seed. Good seed imparts the vigor to your crop, which nothing else will, and this vigor will make itself felt in spite of unfavorable conditions, over which you may not have control. In the chain of factors which go to make a successful crop, the link of good seed magnetizes all the others.

CARROT AND ONION YIELD YIELDS.

To the Editor: In your paper of Sept. 27th, page 423, we notice an article relative to the yield of onion and carrot this year. We grew this year several hundred acres each of both carrot and onion, and our average yield of onion was scarcely 300 lbs. to the acre, and carrot about 600 lbs.

We also have had the opportunity to go over fields of both onion and carrot belonging to other seed houses; in fact we cleaned large quantities of carrot and onion for fellow seed growers, and are therefore, quite familiar with yields of these items generally in California.

The price for onion seed to the farmer where the bulbs were given him, ran from 40c for the heavy yielding sorts to 75c for light yielding varieties. Therefore, at this rate a grower would have to get considerably over 1,000 lbs. of seed to the acre to make the gross returns \$750. There have been phenomenal yields of close to 1,000 lbs of onion per acre some years, but very, very rarely. The average good yield is 400 lbs. to the acre; on carrot the average good yield is 1,000 lbs. per acre, although carrot has gone as high as 1,500 lbs. to the acre.—Valley Seed Company.

TURKEYS PAID FOR PERRIS HOME.

Five or six years in Perris Valley of Riverside County have enabled Mrs. Fannie Oesterle and her nephew to plant fruit trees, pay for their ten acres, and put money in the bank. They had practically nothing when they bought the place on easy payments. They put up a temporary house which is to be replaced next year by one that will help advertise the valley as a home place. The fruits are apricots, peaches, apples, walnuts, and figs. They are bearing some now; but the chief cash crop has been Mrs. Oesterle's bunch of fine bronze turkeys, of which she has raised several hundred per year.

More than 13,000 men are building your Maxwell

IMAGINE 13,000 men devoting themselves to a single Maxwell. Yet that is the picture which a little journey through the eight great Maxwell plants supplies.

If they built but that one car in a day its cost to you would represent a king's ransom.

But they are so well organized, their work so very definite, they are so expert in the special one thing they do, and they are aided by so many thousands of uncanny and superhuman machines, whose accuracy is down to 1/1000 of an inch, that you pay but a small price for a Maxwell.

A great aid to the economy of manufacture is the use of many, many millions of dollars so that a 10-cent piece saved on a bit of material often runs into amazing figures.

Thus the big staff of purchasing experts for Maxwell become your purchasing experts and the saving goes on to you in the price.

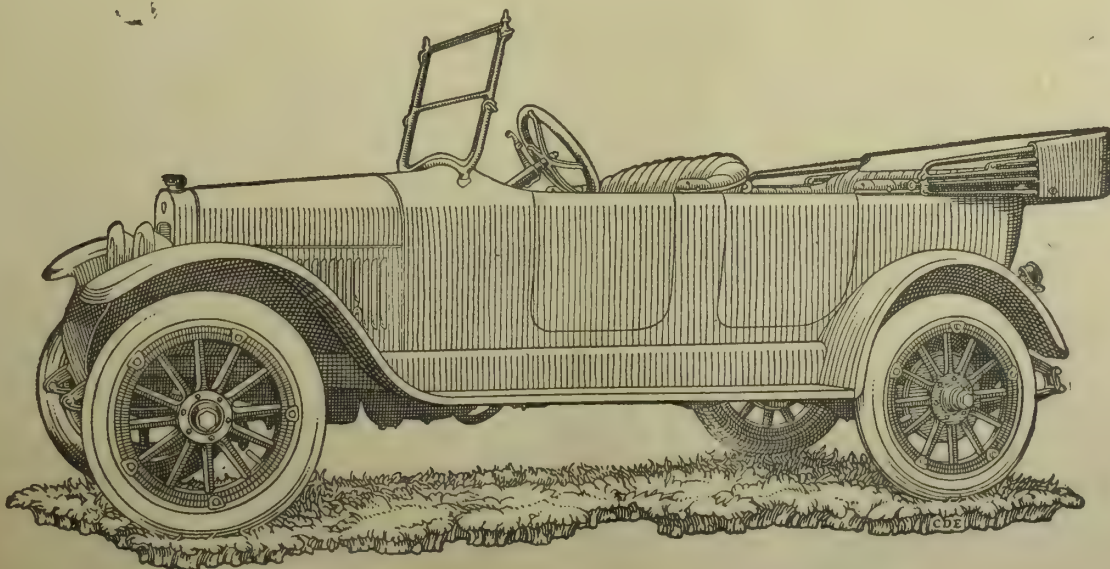
\$985 is indeed a small sum to pay for a great value in a great car like Maxwell.



More miles per gallon
More miles on tires

MAXWELL MOTOR COMPANY, Inc.

DETROIT, MICHIGAN



What a Tractor Buyer Wants to Know

To the Editor: Having been a subscriber and reader of your valued paper for about twenty years I have learned a few things and also have observed that you are nearly always right or else very silent on subjects pertaining to new things for the good of the farmer. One instance in point was when several years ago people were pulling up their peach trees you told us that you would as soon take a chance on planting peaches as anything else, and time has proved your wisdom. You also told us to go slow on spineless cactus, which proved such a good thing for the selling agents. Now what do you know about the usefulness and economy of tractors? A great many papers are boosting them and a lot of smart agents are laying their plans for getting some of the money that will be paid to the farmers and fruit growers. They will demonstrate them pulling and turning and pumping and doing all the things you want them to do, and they are certainly great. They will tell you how many acres you can plow in a week without expense except for oil and gas. But the thing we want to know is, what will the tractor look like after one year's use and how much will it be worth? How much have you paid out for extras and new parts? How many days have you lost waiting for a part to come from the factory? How many times have you been held up by exorbitant prices for the simplest repair part; how many gears and bearings will have to be replaced and how many cylinders and pistons you have worn out before you got the proper dust strainer? (And that one is only an experiment.) How long will the chains and sprockets last in your kind of soil and what is the price of new ones, also wheel bearings; or if you have a tracklayer how long will the tracks last and how much do new ones cost?

It seems to me that tractors are expensive experiments, and that the farmer does the experimenting and expending while the dealers receive the rewards of good advertising. I believe that over half the tractors that run one year in fruit land and summer dust are worth less than half the price paid for them new, that they depreciate fifty per cent in value in one year and that fifty per cent of the price of any tractor would more than hire the same work done. The time used in making repairs must be taken into account. The dealer may tell you "it only takes a few minutes," but when you are in the further end of the field and everything an inch deep in dust, and you have to go into her insides, it will take all day and maybe the next one to get going again.

One thing that should be emphasized is the prices charged for new parts; that is the fattest good thing the dealer has and he knows he has you over a barrel and you've got to pay it. You are not buying Ford parts nor

anything common, but a very valuable and necessary part made expressly for your kind of tractor.

In closing I will say that dust is the great enemy of the tractor and if we can get one that will keep out the dust or if we can farm land that is not dusty we may beat the mules, but "I dunno."—S. E. Nill, Sanger.

Articles that have appeared in our columns during the past five years have given many instances of ranchers who have used tractors a year or more and we have told how much they have paid for new parts. We have not dwelt much in print on the long time required to get parts from some of the factories and sales agents, but we may do so at any time. That is altogether too common an evil. It has been corrected in a number of cases under our observation. We cannot recommend our readers to buy any machine for which repair parts are not promptly available at reasonable prices. There are too many cases yet where the price of repair parts need not be so high. We have spoken more than once of the need for prospective tractor purchasers to look into these matters before ordering. In regard to air-cleaners, we have recently remarked on the superiority of those which require the air to pass through water and you will notice an article soon to be published which mentions this point among others.

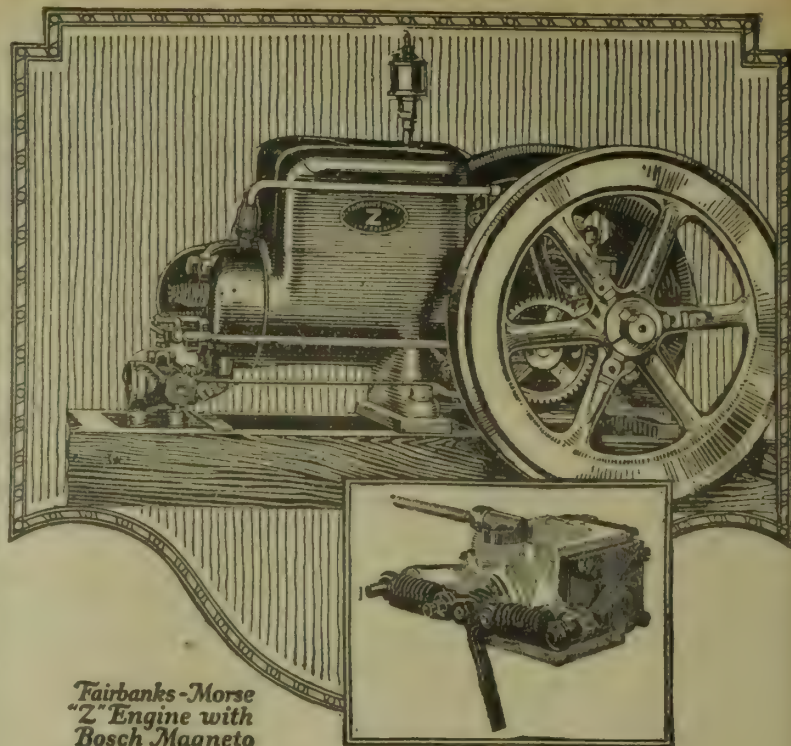
You ask what we think of tractors, and you characterize them as "expensive experiments." Having been studying the tractors available in California for several years we are convinced that however expensive they may be within reason, they are less expensive than horses; and when the writer gets onto a ranch, however large or small and whatever crop is to be grown, or whatever kind of soil, he will do most if not all of the work on it by tractor power. The particular kind of a tractor will depend on the conditions mentioned. We believe that in a large proportion of cases, ranchers of California who are waiting until the time when tractors have become standardized will lose much more than they would by possible difficulties with a machine which has not reached perfection. We have found so many California ranchers who, by reasonable care, have obtained highly profitable results, that we have no doubt that most tractor troubles are due to carelessness of the drivers, or else to their ignorance. We have seen many evidences of this also. There is no need for a tractor to depreciate more than 10 per cent in the first year. We suggest that you look into the dust-proof qualities of the tractors at some of the Fresno demonstrations.

The buttercups out in the glade

Will presently be seen.

This year's, they tell us, may be made Of oleomargarine.

—From the Dallas News.



Fairbanks-Morse
"Z" Engine with
Bosch Magneto

Greater Engine Value

OVER 250,000 farmers bought the "Z" engine. ¶ They know it is powerful, dependable, and practically fool-proof—truly a great engine. ¶ But now we announce the one addition which could possibly improve the "Z" performance—Bosch high tension, oscillating magneto ignition. ¶ So let the "Z" dealer near you show you in detail this greater engine value. ¶ Over 200 Bosch Service Stations combine with "Z" dealers to give every farmer buyer a remarkably complete engine service. ¶ Prices—1½ H. P. \$75.00—3 H. P. \$125.00—6 H. P. \$200.00—All F.O.B. Factory.

Fairbanks, Morse & Co.
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Tractors for Sale

We offer, at the prices shown, the following

Second Hand Tractors

located in various parts of California:

Avery 5-10	\$ 550.00
Avery 5-10 and John Deere Plow	550.00
Avery 8-16 and Extra Set of Sand Lugs	875.00
Avery 8-16 and Beaumont Lugs and Air Cleaner	875.00
Avery 8-16 and John Deere Engine Gang Plow	1080.00
Avery 8-16 and Power Lift Cassidy Plow, Steel Shears and Self Guide	1080.00
Avery 18-36	1550.00
Avery 18-36 and Lugs	2000.00
Avery 25-50	3150.00
Avery 25-50 and 2 P. & O. Plows, 3 Western Pulverizers, 3 Thomas Drills, 6-30 Tooth V-Bar Harrows	2400.00
Avery 40-80 and Beaumont Lugs, Sanders Engine Gang Disc Plow, Extra Belts and 3-28 in. Discs	4700.00
Monarch 20-12 and John Deere Plow	1475.00
Monarch 30-18	1000.00
Monarch 30-18	2400.00
Samson S-25 and Sand Wheel Equipment	800.00
Samson S-25 and One P. & O. Little-Genius Disc and one pair Sand Wheels	2000.00
Samson S-25	1000.00
Samson S-25 and One Set Extension Rims and One P. & O. 4 Disk Tractor Plow	1600.00
Russell 15-30 and Electric Light Generator and Curved Draw Bar	1950.00

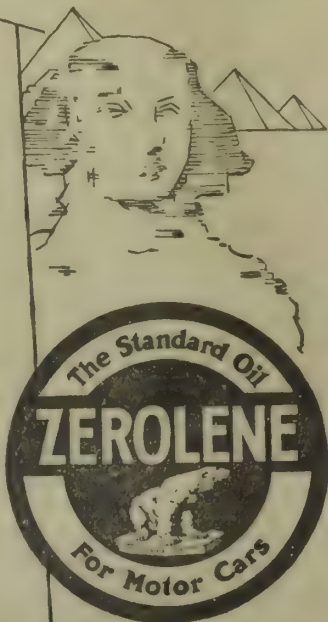
Write for information concerning the location of these tractors and after inspection

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DEFEATING TIME

Correct lubrication with Zerolene, scientifically refined from selected California crude oil, means longer life for your car. Gives better lubrication, least carbon deposit. Get a Correct Lubrication Chart for your car.

STANDARD OIL COMPANY
(California)



TO SAVE TRAMPLED RICE.

We described in detail about a year ago a contrivance by which a binder was mounted on a tractor to cut rice on the borders where it is usually trampled down. The man who used the machine points out several faults which made it fail but which can be remedied. Meanwhile another tractor manufacturer tried a similar stunt and his machine also failed to keep up with horses. Neither of them had power enough, and one had only half of the two-miles-per-hour speed required for good binding. Still another tractor man has a push binder riding in front of his machine for this season's harvest and the results will be noted later.

The trouble which all are designed to overcome is that the first round in each check knocks down a lot of rice which is never recovered. This is conservatively estimated at 5 per cent of the entire crop, which means an awful waste at this time of scarcity and high prices. A device noted by H. O. Jacobsen, an experienced rice grower of Butte county, was designed to pick up lodged barley in Louisiana, but it worked well in picking up our trampled rice with horse binders last year. It consists in fastening an auxiliary guard every 18 to 24 inches on the sickle-bar. This slides on the ground and extends both above and forward from the sickle, but is the same width as ordinary guards.

LOOK OUT FOR THE SPEED COP!

There is one little joke that is practiced over the whole state by the city fathers of every little berg. It used to amuse us up to the time we broke the tenth spring and lost the fifth front tooth. This is the joke: a large sign bears the legend "Business district; slow down to fifteen miles an hour." This sign is placed just when you drop off a nice smooth highway and hit a good long half acre of chuck holes and warts that would shake a five-dollar gold piece out of a Shyllock. Sometimes you strike the same sign with this addition, "Drive slow—congested traffic," and presently you see maybe a blacksmith shop, a garage, an ice-cream parlor and a shack labeled post-office. These are very bad places as they expect you to slow down to five miles an hour. You could cheer up and go through them at 40 miles, probably, without seeing anybody if it were not for those confounded hogwallows they call the street of the business section.

We hear mutterings from fellow travelers on whom this ghastly joke is beginning to pall. We asked one man what it was really done for, and he said: "Civic pride, my boy, civic pride. They like you to slow down enough anyway so you can admire the new municipal 'hitching post.'" But I don't know—what do you think?

SKIDDING SEASON IS DUE.

Pretty soon we shall be able to watch a circus on slippery pavements newly wet by fogs and rain. Ambitious motorists will try to make fast speed and quick stops. They will occasionally feel as foolish and fortunate as one recently observed on a mountain grade. He dug the nose of his machine into the bank with no apparent reason and he looked silly as we passed.

Do not disengage the clutch when you are driving on wet pavements and want to slow up or stop quickly. Brake with the engine engaged. The differential acts as an excellent equalizer and helps the tires make use of any spots which are not so slippery as the rest. Drive carefully enough so you do not have to stop abruptly, for you can't do it.

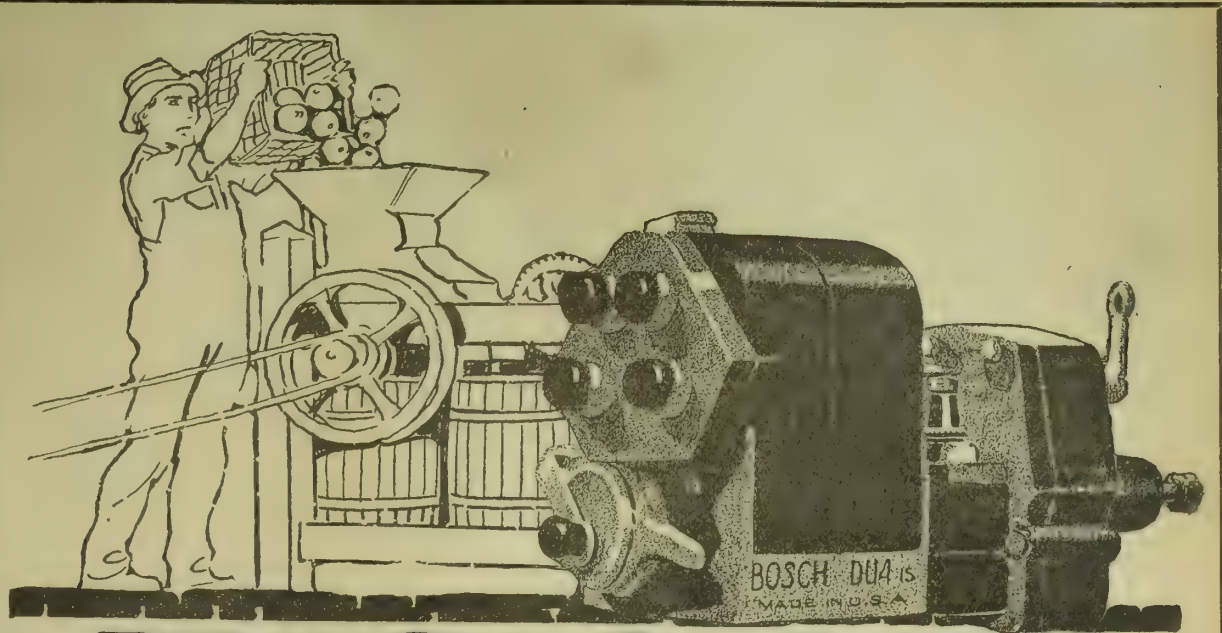
PULLEY COVERING.

A decoration in the Los Angeles tractor demonstration accessories tent was an iron pulley suspended in mid-air by the end of a canvas pulley covering, which had been stripped back an inch or two so pliers could get hold of it. This was simply to show how tightly the canvas clings. It was applied by warming patented rubber-like cement in a double boiler, applying it to the surface of the pul-

ley, then applying a coat to the canvas and wrapping the latter around the pulley when the cement is nearly dry.

The La Verne Orange and Lemon Association has a Nash Quad motor truck with which they haul fruit for

members, loading up in the orchards and unloading shortly thereafter at the packing house.



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BOSCH Magneto Ignition has proved its supremacy through years of supreme service.

NO Farm Engine is better than its ignition system, and Bosch High Tension Magneto Ignition means absolute Ignition Surety.

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Especially adapted to hard ground and difficult plowing. No shares to sharpen—no spring beams. If you want a real plow, see our agents or write for full information. Plows ready for immediate delivery.

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This is the day and age when you should make every foot of land produce profits for you. If you have any size tract ranging from 80 to 5,000 acres in the Western States that need development you should send for this book at once. It tells you the way to develop your property through the use of Hydro-Electric plants, gravity irrigation systems, pumping plants, grading, and buildings; in fact, it points out the various essentials that are necessary to make your ranch a producing property. Now is the time to act, so that you can get a crop from your land next year. It is a certainty that crops will bring good prices next year, so take advantage of this condition and get your land under cultivation now. Write today, stating location of land and number of acres.



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LOS ANGELES

Selecting an Irrigation Pump.

[Written for the Pacific Rural Press by D. J. Whitney.]

There are pumps consisting of a chain of buckets working like the track of a tracklaying tractor, and dipping water out of a pit; there are plunger pumps, operated in underlying principle like the old-fashioned hand pump, or windmill pump, but costing up to thousands of dollars; there are centrifugal pumps, consisting of a rapidly turning runner or wheel in a shell and sending the water upward by the same force that causes mud to fly from a rapid turning wheel; there are rotary pumps, with one or more wheels in a shell, but forcing the water up by actual pressure, not by centrifugal force; there are turbine pumps related in a way to the centrifugal pumps, but sending water up through the rapidly with which a turbine, or screw, revolves in the water. Water is also forced up from wells by compressed air, and in certain other ways.

The commonest pump of all in the average district where the distance the water has to be lifted only a moderate distance is the centrifugal pump. If the lift up to the surface is over 50 feet people get interested in the turbine pumps. Deep well plunger pumps are needed for the greatest lifts.

Centrifugal Pumps.

The commonest pump is the horizontal centrifugal; the kind you see displayed in most pump advertisements.

Cheapness and simplicity are first in its favor. On the other hand, considerable power is lost with it. Ten horsepower applied directly upon the water in forcing it upward, say on a chain of buckets, a plunger pump, or a rotary, would give more water than on a centrifugal pump, but all of these pumps also have disadvantages, and what a man loses on his power bill with a centrifugal pump, he is supposed to more than make up on first cost and simplicity of action.

This Cost Proposition.

Here are some things against the centrifugal pump in cost. They have to be put in a pit and pits cost money, far more than they used to. A shallow pit is a small matter and centrifugal pumps shine in easy pumping locations; but when a pit has to be sunk 40 feet, its cost will go a long distance toward buying and operating a different type of pump.

A centrifugal pump should rest close to the water if it is to give the best service. Say you are in a district of deep pits and there are series of dry years, then each year you may have to dismantle your pump, get it out of the way, lower your pit, and replace the whole equipment. The expense for material is small, the labor expense very great. Then, if a wet winter comes and the water rises, the pump has to be pulled up in a hurry to keep the water from ruining the electric motor, and a platform built for it a little above the place where the water finally rises to. That costs money, too; so, if water rises and falls a great deal in any district and the pump has to rise and fall with it, a centrifugal pump is a very great expense and trouble. In such cases the turbine type of pump becomes quite popular. This requires no pit and can be fixed easily to pump properly if the level of the ground water falls considerably. It is quite a bit more expensive than the centrifugal pump and will not give quite as much water for the power required, but otherwise gives such satisfaction that in the places where the need for one is felt this type is about as satisfactory as anything that can be found. However, when the water is naturally close to the surface, and usually where the change in level of the ground water is not large, the centrifugal pump is the thing.

Power for the Pump.

For continuous operation, nothing can beat a direct connected electric motor for a centrifugal pump. Electricity and a belt are not very satisfactory, though used more or less, for there is a waste of power and a belt is a nuisance.

If the pump is only to be used

occasionally, as, for example, where irrigation is supplied by canal and the pump is to be used only when ditch water plays out, it usually will not pay to stand the expense of electric installation for a short running period, and an engine and pump is to be preferred. So also if electric rates are high. Even in electrically operated districts some people prefer a gas engine to drive a pump. As a rule electricity is favored for its simplicity, and engines are thought to be too troublesome.

If you have a centrifugal pump and the water falls so much in the ground that the lift is a little too much for it, there are two ways to reduce the power required. If, for example, the electric motor can only pull the pump for a certain lift, but through the lowering of the water table has to lift the water five or ten feet more, the flow can be checked, either close to the pump or anywhere up to the point of discharge, so that less water will be pumped. A person would think that to block up the opening from a pump would make more work for the pump. It would for other pumps, but not for the centrifugal (or turbine). The water is simply churned around in the pump a little longer than it otherwise would be and less of it goes out. Similarly, if a man increased the opening in the discharge of a centrifugal pump, it would let more water go off from the runner, more water would be pumped, and more power used. Checking a centrifugal pump can be done at either inlet or outlet of same. The other way to reduce the power used in a centrifugal pump is to trim down the runner, that is, to reduce its diameter.

Naturally any change is likely to result in a waste of power; for each pump is supposed to be designed for a certain lift above the runner and a certain pull up to the runner, also for a certain flow. To increase or decrease that flow by changing diameter of runner (a runner can be built up as well as cut down) or by changing size of inlet or outlet, or by decreasing or increasing speed of runner, will mean that the operation is different from what the experts designing that pump desired, and the efficiency will be decreased.

Likewise if a pump is made for a lift of, say, 30 feet, and the water lowers until the lift is 50 feet, the pump will not be as efficient as a pump designed for a 50-foot lift. So, a man buying a second-hand plant to install under different conditions from those the pump was designed for, is not going to get perfect service.

Put Pump Near Water.

Also, a centrifugal pump gives better service when placed close to the water than when many feet above the water. The greater the suction, the less water pumped and the greater the strain on packing and runner. Theoretically a centrifugal pump will suck water 28 to 30 feet, measuring from center of runner. Actually 25 feet is about the limit. It is clear also that nobody could work a pump standing 25 feet above the natural water level, for the water would draw down below limit of suction provided any stream at all was secured. Also, if the water stood 15 feet below the surface, far better work would be done and much more water secured per horsepower used, if pump was placed within two or three feet of the water than if it were six, eight, or ten feet above the water. All of these points are as a rule well known. Everybody installing a centrifugal pump should know them.

A HANDY COUPLER.

A handy coupler for motor truck trailers was shown in the Brown-truck exhibit at the State Fair. It is simply a hook which is left open when not in use. The trailer tongue has a heavy iron eye on its forward end which is held at the right height by a stick. To hitch on, the truck is backed up so the hook comes against the eye, when the hook automatically closes.



RU-BER-OID and MALTHOID READY ROOFINGS *Built-in Quality*

The only way to know the quality of ready roofing is to put it on your house, barn, or other building and wait for two or three years. You can't tell the good from the poor merely by looking at it or feeling of it. It is the hidden qualities that count. Ready roofing must be carefully made from the best materials if it is to stand the test of time and weather.

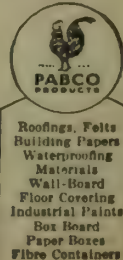
Ru-ber-oid and Malthoid have attained their position as the standards of ready roofing because quality has been built into them. With our complete organization, we scour the world for the best materials. We make our own felt from carefully selected rags. We maintain our own refineries in order to get the highest grade of asphalt and similar products. The manufacture of Ru-ber-oid and Malthoid is carried on from beginning to end within the one organization.

No effort or cost is spared in manufacturing Ru-ber-oid and Malthoid. Experts constantly supervise every process. Tests are made continually to see that all material is kept up to the high standard which has been set.

As a result, Ru-ber-oid and Malthoid have those hidden qualities which give them an exceptionally long life. They will not dry out or rot. They are the best quality roofings that can be made. If painted regularly, they will last for years.

When you think of building, remember Ru-ber-oid and Malthoid.

THE PARAFFINE COMPANIES, INC.
San Francisco



EACH THE STANDARD OF ITS KIND

LOS ANGELES TRACTOR DEMONSTRATION NOTES.

The Bean Spray Pump Co. had planted real trees for their 6-10 Track-pull orchard tractors. They pulled double disks, double corrugated rollers, two-gang mold boards and other implements.

The Beeman garden-orchard tractor of 1½-4 horsepower was shown working here as it has never been shown before. Various Beeman tractors were hitched to various implements, including a four-foot mower, an eight-inch plow, a three-foot single disk, etc. Stakes set in orchard form had been well cultivated.

A Bates Steel Mule was running a moving picture machine, which showed its mates doing everything in the way of hauling, refining seedbeds, harvesting, etc. This show was free to all comers, and proved a good place to rest tired feet.

The only tractor on the grounds which was not working was that built and exhibited by C. L. Green of San Bernardino county to show his hingeless track on a garden tractor fitted with a six-horse motor. The track is a succession of blocks with beveled edges to fit the curvature of the drive sprocket, which is located in front instead of the rear as in most tracks. This construction puts the strain of the tractor's pull on the blocks themselves, pushing one against the next one on the ground, and therefore putting no strain on the four cables which hold the blocks in line. The blocks seem entirely necessary. The tractor has been tried out in Mr. Green's garden, but is not yet commercially on the market.

A map of Southern California had pins stuck in at various towns to indicate owners of Lambert Chain Tread tractors. Threads from the pins led to cards around the map, showing names of owners and roads to take from the towns to their ranches.

The La Crosse tractor has front wheels steered automobile fashion, but designed not to run quite parallel in turning, because the radius of the circle followed by the outer wheel is greater than that of the inner wheel. These tractors were plowing and cultivating business-fashion at the Demonstration.

Explanation of the kerosene gassifiers on I. H. C. tractors held interested audiences. All three sizes were on the job and doing business, and others were on show labeled with their best characteristics.

The new 60 h. p. Best tractors are off the market until the factory catches up with orders which were taken at the State Fair. All that they can make until February have been sold in advance.

An Avery 5-10 fitted with a mower under its engine circled merrily to the tune of its knives.

Toro and Avery motor cultivators were the only kinds demonstrated at the Los Angeles show. These machines deserve more consideration.

A Caterpillar 75 pulled three ten-foot Roderick-Lean automatic double disks hitched to a 24-foot timber resting on wheels.

Yuba tractors of all three sizes plowed and worked their seedbeds and operated various machinery by belt power.

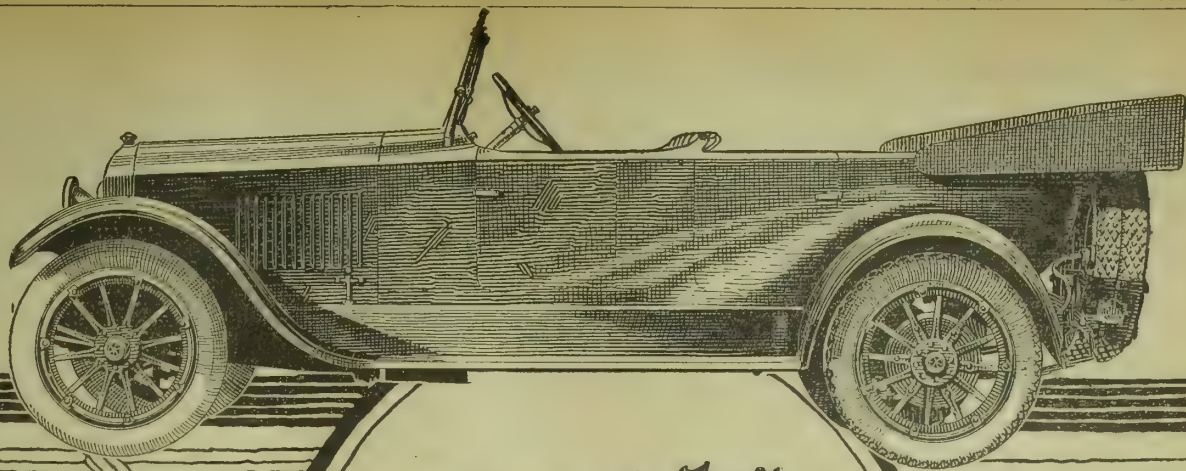
Moline tractors did their customary diversified work with various implements.

The Toro tractor built for vineyardists and owners of small orchards was working down a soft mulch with a 5½-foot double disk. It has a Bennett water clarifier to clean dust out of the air before it goes into the carburetor.

The Wallis 15-25 tractors were run at various speeds from 2½ to more than four miles per hour, depending on the work they were doing. It took one man an hour and 40 minutes to lift the top of one tractor clear from its frame, exposing the transmission and crank for easy adjustment.

Fordsons were hitched to all sorts of implements by drawbar or belt to show their versatility.

The California hop crop went through the season in fine condition. The harvest is finished and the total production will exceed last year's crop by about five million pounds.



Studebaker

THE BIG-SIX

A CAR of attractive and artistic design, with a 60-horsepower motor always within your control; perfectly balanced chassis of remarkable solidity; 126-inch wheelbase insuring generous body proportions; genuine hand-buffed leather upholstery; outside and inside door handles; Gypsy-type top with plate glass windows; curtains opening with doors; compartment in back of front seat for small packages, gloves, etc., and extension light in tonneau. Silver-faced jeweled 8-day clock, and magnetic speedometer, are mounted on a circassian walnut-finished instrument board. 33 x 4½ cord tires.

See it—ride in it—and you will understand why it is probably the most talked of motor car in America today.

THE LIGHT-SIX

\$1685

THE BIG-SIX

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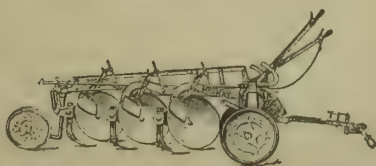
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Studebaker quality, dominant for 68 years, is reflected in this BIG-SIX

McKay Disc Plow and Subsoiler



Here is the plow that does just what is necessary to get good crops in California. It plows deep in the hardest ground.

Send for catalog right away.

H. V. CARTER MOTOR CO.

Distributors

724 Van Ness Ave., San Francisco

Resists wear and pressure

Mica Axle Grease contains powdered mica, which fills up all roughness in spindles and bearings, makes the grease work better and last twice as long. The grease forms a cool, slippery coating. No hot boxes. Ask your dealer. Buy by the pail.

Standard Oil Company (California)

MICA AXLE GREASE

CA REASE IL COMPANY

New Activities of Alfalfa Association

(Written for Pacific Rural Press by Manager G. H. Emery of Alfalfa Growers of Calif., Inc.)

At a meeting of the Board of Directors of the Alfalfa Growers' of California, Inc., in Los Angeles, October 10, it was unanimously decided to make certain changes in the working plans of the association to meet local conditions in the different communities.

Local Warehousing Companies.

For the past two months the officers of the association have been quietly holding meetings in the different districts of the State, with their individual members, and discussing the past and future workings of the association, and in their opinion, concurred in by the individual members, the time is ripe for the formation of local warehousing companies to be located in the different alfalfa and corn centers, where we have a sufficient number of members to warrant same.

These warehouses will be under the control, and will be owned by the local members of the association, in the district in which they are located. They will be points of concentration to which can be brought all the products grown by our members. Many of our members are without proper storage facilities on their ranches and, in the past, have been compelled to sell their hay before the rains commenced in the fall, in order to save themselves from certain loss that would be incurred by the winter storms, and which also forced them, at times to sell when the market was low in order to avoid this loss. By having warehouses of their own they will be enabled to hold their crops for the advance in price which naturally comes with the winter months.

We have some warehouses already established, and are planning to open many more in all parts of the State before the next season is on. These warehouses will be operated and controlled by the local branches of the association, under the supervision and advice of the home office, located in Los Angeles. The same policies, so successfully carried out by other co-operative associations, will be closely followed.

Great Demand for Alfalfa Meal.

There is a subject which is of great importance to our members, and in which they are very much interested at the present time, and that is the meal of alfalfa hay in certain districts of the State. There is a considerable foreign demand for California alfalfa meal, and this demand is capable of almost unlimited extension. At the present time the association has a mill in operation in the Bakersfield district which is proving very successful and turning out a high quality of meal. The operations of this mill are being very closely watched by our members in other districts, and we are laying our plans at the present time to have several in operation when the grinding season commences in 1920. Our members realize that this can be made a means of removing a certain surplus of hay from the market at times, and will tend to stabilize the market price of hay, as it is only the desire of the association to obtain for our members such a price for their products as will net them a fair return on their investment. We believe that the farmer is entitled to this as well as the manufacturer of any product which is produced. We look upon the raising of alfalfa and Milo maize the same as the economist does and class it as a branch of manufacturing. When a manufacturer places the product of his factory on the market he knows what the product has cost him to produce in dollars and cents, and to this cost he adds a certain percentage for profit. We believe that the rancher who, through the assistance of nature, manufactures an article, is entitled to figure along the same lines.

Grain Sorghums of Association Members.

The association, through its members, represents a considerable acreage of Milo maize in the State, which is receiving careful attention at the

present time as the season opens. The crop this year will be somewhat lighter than usual, and the feeling is that prices will materially advance in the near future.

The early corn crop in the Imperial Valley was very light, and was quickly absorbed by the market, which is now anxiously waiting for the harvest of the main crop, which will commence to move about the first of November. In the Fresno district the harvest of the White Egyptian corn, which is the variety mostly grown in that district, is now in full swing. We have just returned from this district and yesterday completed the formation of a local branch of the association in what is known as the "Island," located near Le-moore, about thirty-five miles south of Fresno. In the past ten days local growers of corn in this district, representing approximately 3,000 acres, have joined the association, and are already warehousing corn in their own warehouses. They are very enthusiastic over what the association has been able to assist them in doing, more so from the fact that this has actually been accomplished within ten days after the first meeting was held. This places the corn growers in that section in the best position they have ever been, inasmuch as they now have their corn in their own warehouses and, if necessary, can secure advances from their banks on it, en-

abling them to hold it for the advance in price that they feel sure will come. This is something which they have always desired, but until the association stepped in with its organization to assist them, they never could get. What the association is doing for its members in the Fresno district is also being accomplished in the Imperial Valley and other corn centers.

AUSTRALIANS VISIT SACRAMENTO VALLEY.

Nearly a hundred Australian and New Zealand soldiers of the European war are studying agriculture as taught and practiced in California. About 65 of them were recently taken on a trip around that part of the Sacramento Valley between Davis and Chico on both sides of the river. Mem-

bers of the University faculty and farm advisers piloted the eighteen or twenty automobiles which showed the Australians something of the developed and undeveloped resources of this State, which is so similar in many ways to their home country. Stops were made at the Durham State Land Settlement, the U. S. Plant Introduction Gardens near Chico, the James Mills Orchards at Hamilton City, the Anchorage Berkshire Farm at Orland, and various places of interest to the men as they passed on the road. A more complete report of the trip will appear next week on account of lack of space in this issue.

California's hop crop is estimated at 65,000 bales; Oregon, at 30,000; Washington, 10,000 bales, and New York, 4,000 bales.



THE PREMIER BURNER

Is no ordinary burner; it is unlike any other burner in design and results.

We make the positive and unqualified claim that the Premier is the ONE scientific burner in the world.

The Premier concentrates the tremendous heat units of Kerosene in a clean gas fire, without smoke, soot or fumes.

Kerosene is saved because every atom is converted into gas and burned.

The Premier works in a smooth, quiet manner.

\$12.50—complete outfit for No. 6 and smaller stoves.

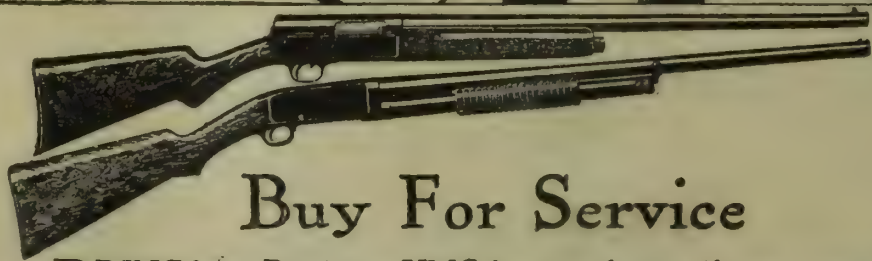
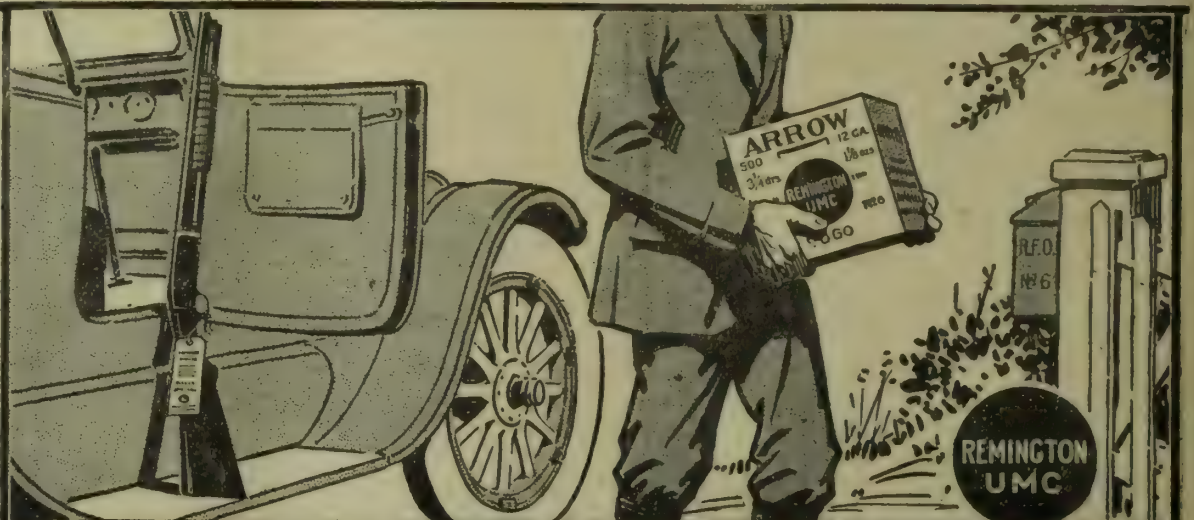
\$22.50—complete outfit for No. 7 to No. 9 stoves.

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225 Market Street,

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Buy For Service

BRING home Remington UMC for your shooting if you are modern minded. Your first leisurely and critical examination of your purchases will convince you that you have bought wisely. And use will prove it.

No other equipment the up-to-date farmer or ranchman buys is more typical of modern efficiency than the Remington UMC products he uses to get some game for his table. And in the long list of important Remington UMC inventions underlying this, none has been of greater value to him than the wonderful Wetproof improvement in shot shells.

Wet shot shells will never again bother you if you buy Remington UMC Wetproof "Arrow" or "Nitro Club" smokeless or "New Club" black powder shells. The hardest rain or longest soaking in a leaky boat will not affect them.

In body, crimp (or turn-over) and top wad they will remain hard and smooth as if fresh from the loading machine, and they will work freely through your modern Remington UMC autoloading or pump gun, without a hitch, firing as surely and with the same top speed, best pattern and penetration.

Remington UMC can now be obtained in more than 82,700 leading sporting goods and hardware stores in the United States—another detail of best service.

For Sale in Your Nearest Town

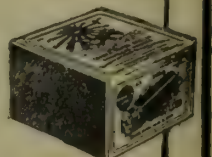
Clean and oil your gun with Rem Oil—the combination Lubricant, Powder Solvent and Rust Preventive.

THE REMINGTON ARMS UNION METALLIC CARTRIDGE COMPANY, Inc.

Largest Manufacturers of Firearms and Ammunition in the World

Woolworth Building

New York



MY STAR.

I have a gold star on my breast,
A star of strife, a star of rest;
It marks a sword thrust through my heart,
It tells of glory and of pain,
Of bitter loss and wondrous gain,
Of youth that played the hero's part.

O star of gold upon my breast,
Tell of those stars that he loved best;
He bore the stripes, he suffered all
To keep our banner free from stain;
He hath not given all in gain
In answering his nation's call.

O star of hope upon my breast,
Strengthen the faith I have professed!
He died that nations might be free;
Help me to live for truth and right,
And with my woman's soul to fight
Nerved by his immortality.
—Caroline Ticknor, in Boston Transcript.

COURTESY AND CONSIDERATION.

"The greater man, the greater courtesy."

In every home opportunities should be made for the little children to practice consideration and care for something weaker than themselves. The cherishing instinct, both in the individual and the family, needs cultivation and direction. It is manifested in the love of little girls for their dolls and in the devotion of boys to their pets. If this quality of nurture is not exercised or properly directed, it withers; for affections must be exercised if they are to develop. We often see spoiled children in American families, where all their desires are gratified without effort on their own part and they are given no opportunity to serve. Many a mother virtually makes a slave of herself for her children, humoring every whim, and relieving them of all care, trouble and responsibility, only to find when they are grown that they are utterly selfish and inconsiderate.

Unfortunate, too, is the only child or the youngest member of the family, who is overindulged, with no more dependent member of the household to call forth his tender feelings. Herein lies one great value of the kindergarten, where children are given opportunities to help those younger than themselves.

For the child without companions in the home, the parent should provide occasions that require service or sacrifice for others. Arrange to have his friends come frequently to play with your little one, and share his toys, suggesting that the little guests must have the best.

Adaptability is gained through companionship with one's equals. From association with boys, little girls learn something of fair play, and become acquainted with the sturdier virtues; while, from girls, the boys learn to have a chivalrous attitude toward womankind.

The instinct of nurture is developed through the care of a garden or pets, for a child must exercise thought and put it into practice, in order to obtain results. Then, too, generosity and respect are stimulated by sharing the fruits of his care, a little bouquet for mother, a head of lettuce for a neighbor, an extra kitten for a playmate.

If pets have young, the child's mother should call attention to the care of the mother for her little ones, and her courage and self-sacrifice whenever the young are endangered. A child should be taught to take entire charge of his pets, to weed and care for his garden, if he is to receive the full benefit in character-development, and achieve the self-respect which comes from responsibilities accepted.

Then, too, good manners which spring from consideration are as essential to the happiness of the world as are good morals, and parents should be examples of both to their children. How often virtuous people make us unhappy by their lack of tact! Courtesy and graciousness smooth out the rough places of life. A tiny boy of 3 can raise his hat and one of 5 can rise at the table and push mother's chair into place. When older people enter a room, children should rise; in fact, they should be taught to practice all the little daily civilities. But

courteous manners are taught slowly, "for precept must be upon precept, precept upon precept; line upon line, line upon line; here a little and there a little." Many a man of good character has greatly limited his usefulness by his lack of "polish," because his mother, either from stupidity or over-indulgence, neglected his social training!

At this momentous time, it is especially important that all means possible be employed to foster the instinct of caring for the weak and dependent.

It would be well if more children were made to feel responsible for some child of less favored circumstances. It is astonishing how boys and girls will rise to the occasion when responsibility is placed upon them. In 1913 my 11-year-old niece who lived in London, had a "godchild" in another city, to whom she wrote a monthly letter, and sent little gifts at Christmas-time and other holidays.

At the present time the millions of little Allied orphans should make a strong appeal to the childhood of America. Correspondence between them would not only teach our children consideration for others and develop their familiarity with a foreign language, but it would also help cement the friendship of America with her Allies and greatly promote the cause of Internationalism. —Bertha Johnston.

TIMELY TOMATO RECIPES.

Tomato Relish.—Skin 15 ripe tomatoes. Pare and cut into small pieces 6 sour apples. Peel 5 medium sized onions. Put all this through a food chopper and add 2 level tablespoons salt, 3 green peppers, 1-3 teaspoon cayenne pepper, ½ pint vinegar. Boil slowly for 1½ hours, put relish in scalded jars or bottles and seal while hot. This is mild and delicious when served with meats, oysters, or vegetables.

Chopped Green Pickles.—Chop 1 gallon of green tomatoes, 1 gallon of cabbage, ½ gallon of onions, 24 large green peppers, 12 large red peppers. Put in a vessel and cover with water, add 1 pint of salt and let stand overnight. In the morning place in a bag and drain for 24 hours. After draining add 1 pint white mustard seed. In a separate vessel, boil 1 gallon of vinegar with 1¾ pounds of brown sugar. When boiling hot, pour over the chopped vegetables and cook for 15 minutes. Put in jars and seal while hot.

Green Tomato Sweet Pickle.—Slice 1 peck (8 quarts) of green tomatoes and 6 large onions. Sprinkle 1 cup of salt over them and let stand overnight. Drain in the morning, add 2 quarts of water and 1 of vinegar, boil 15 minutes, then drain again and throw away the vinegar and water. Add to the tomatoes and onions 2 pounds of sugar, 2 quarts of vinegar, 2 level tablespoons each of cloves, allspice, ginger, mustard and cinnamon, 1 teaspoon of cayenne. Boil for five minutes. The allspice and cloves should be tied up in a piece of thin cloth and should be removed when through cooking. Put in jars while hot and seal, although this pickle will keep without being sealed.

Ripe Tomato Marmalade.—Two dozen medium-sized tomatoes, 3 lemons, 3½ cups of sugar. Peel and slice the tomatoes thin, removing as many seeds as possible; peel, quarter and cut the lemons in thin slices. Cook the lemons, tomatoes and sugar together slowly until thick. Do not stir, except to keep from burning. Pack in hot sterilized jars.

FASHION NOTES.

Hats this fall are small, medium and large, as you wish, or as the occasion demands. The new line is length across the brim, from side to side. Smart trimming on the tailored hats is well to the front and simple. A half wreath at the base of the crown is becoming on a slightly drooping model, and a single feather, rose or fancy decorates the turned-up brim. Leather is very popular, both for soft sport hats and for trimming on the semi-tailored chapeau.

Suits are long coated and conservative in style. The sleeves and

shoulders are snug and the skirts still adhere to the straight silhouette although wide enough for comfort. Homespuns and serges are still favorites for the strictly tailored suits, while many new soft materials are shown in dressier garments trimmed with a fur collar, buttons or socket flaps. Browns are the favorite although blues are shown.

Coats tend toward the full skirt, many of the models flaring from the shoulders. The straight-lined polo coat with patch pockets and straight belt is popular and always so practical. Luxurious fur coats cling to the dolman style, while short jersey cloth jackets are pinched-backed or



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No wicks to trim — No globes to wash. No dirt or grease, no glare or flicker. Absolutely safe. Fuel can't spill — no danger if tipped over. Will last a lifetime. Write our office for Catalog 21-B. P.

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If you can eliminate the discomfort and have greater comfort, cut the cost and avoid all the loss, doesn't it appeal to your better business judgment? It is not a case of investing in a new stove—the same stove is used, not even any changes made in it, but it becomes a real gas stove, clean, cheap and fast, simply by installing a Dreadnaught Burner and using common coal oil as a gas-making fuel. Investigate—write for circular. Get everything good and "comfy" before the cold weather sets in.

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CALIFORNIA

THE POEM OF THE TREE.

I think that I shall never see
A poem lovely as a tree.

A tree whose hungry mouth is prest
Against the earth's most flowing
breast.

A tree that looks at God all day
And lifts her leafy arms to pray;

A tree that may in summer wear
A nest of robins in her hair;

Upon whose bosom snow has lain;
Who intimately lives with rain.

Poems are made by fools like me,
But only God can make a tree.

—Joyce Kilmer.

OCTOBER GARDEN WORK.

October is a continuation of the autumn planting season and is much like September, except that light and heat are slightly less and light frosts are nearer. Consequently, in places where fall frosts are expected, the interval may be too short for tender plants to advance from seed to service. But plants which must be rated as tender are few in California, and with these in strictly frostless situations, and with all the multitude of others in places of medium elevation, the month, which is counted late in the fall at the East, is early in the growing season in California. In fact, generally in the valleys and on the mesas, October is one of the best planting months of the year, although many are too slow to realize it, and fail of the best results with sweet peas, pansies and many other flowers because they try to follow eastern seed catalogues and eastern garden literature. California is different from the rest of the country, and October work in the garden affords one of the most striking demonstrations of this fact.

Those who have waited for the rains may now enter quickly upon the operations presented a month ago for the irrigated garden. It is the best time of year for soil enrichment with the ordinary materials, because the ample moisture will induce their speedy decay and assimilation. Make generous application in October so that the rains may carry the soluble richness down to the roots and leave the coarser parts to make mellow the surface soil which may be worn and weary by tillage.

Begin the pruning of deciduous shrubs and trees—do not wait until the leaves fall; when they become

limp and lose their natural pose, their work is practically done for the season.

Continue planting bulbs for winter and spring blooming. Dig up and replant singly such bulbs when they have become massed in too large clumps, else they will pinch each other into inferiority. Fertilize the borders where the rains will awaken the violets to new growth and keep the fall blooming roses and chrysanthemums well fed and watered, so that your garden will be glorious at Thanksgiving. Keep the lawns and walks free of falling leaves, but do not burn anything which can be dug into the soils of the borders. Leaf mold is naturally scant in California, therefore husband carefully the contributions which the plants make for their future thrift. Be active in garden effort.

Scatter seeds of California poppy and the whole range of native wild flowers. The rains will start them. It is nature's way.

Continue dis-budding and care and watering of chrysanthemums if rains are slack—not forgetting cloth shelters from too hot sun and too free dust, if rains are late.

Continue sowing sweet peas, deeply in light soil and finish sowing of stocks and pansies for late winter blooming. Marigolds will also give you warm winter color-masses.

Plant out seedlings and perennials still standing in seed boxes. Pansies, stocks and the whole throng of their associates will bloom for the holidays if now set in places of warm autumn sunshine.—California Garden Flowers.

SOME TIMELY AND EFFECTIVE MOSQUITO REPELLENTS.

Certain agricultural sections may gain undesirable notoriety through the presence of mosquitoes to the extent that it may cause trouble in securing or holding laborers on the farm. As a result of a year spent in New Orleans, where mosquitoes are very bad, the writer evolved the following receipt, which he used with success as a mosquito repellent:

Oil of pennyroyal (or citronella)20 drops
Alcohol or white vaseline½ ounce

Oil of cedar or oil of tar may be substituted for citronella or pennyroyal, "those are objectionable to the user. The mosquito will "feed" twice usually during the night—once about midnight and again about daybreak, when one is sleeping heaviest. In combining the oil used alone, while repellent, would lose their virtue shortly after the alcohol is given off.

THE CHILD'S HANDICAP.

Ten per cent of American children have adenoids, according to a recent extensive survey in population centers conducted by the United States Public Health Service. Excluding defective teeth, experience throughout the country shows that adenoids are among the most frequent of the physical defects in children.

Adenoids may be prevented or cured after development. As one of its contributions to improve the nation's health and strengthen its manhood, the Public Health Service has prepared a booklet on adenoids for distribution to parents and school authorities.

It tells the parents how the first appearance of adenoids may be detected by the labored mouth breathing of the child, particularly while sleeping. Since nature intended that we should breathe through the nose, a provision by which the air thus breathed is purified and warmed be-

fore entering the lungs, it is evident that mouth breathing results in impurities getting into the air passages. The dangers of this alone are many, but there are others, often grave ones. The child with adenoids is almost invariably underweight, hollow-chested and stoop-shouldered, due to the labored breathing. Facial deformity is another result. The upper teeth protrude, are crowded out of shape, and become a fertile field for disease. The children suffer from frequent colds, develop chronic nasal catarrh and sometimes lose the sense of smell and hearing.

Following adequate treatment, improvement is marked. The child regains the lost weight, acquires a healthy color and very soon is the normal person nature intended it to be. Prevention is better than cure, however, and where parents are intelligent and attend carefully to the hygiene of their children, the formation of adenoids will be avoided.

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These sensational victories are not only a wonderful endorsement of Braender Tires but likewise Braender Tubes.

The terrific grind, the smashing strains of racing speed, not only called for a tire of thoroughbred quality but demanded that the tube which it enclosed be of equally high grade. Braender Tubes—gray and red—are built up of multiple layers of purest rubber and vulcanized into a perfect air-retaining unit. This method gives the greatest possible strength and a uniform thickness.

Buy Braender Bull Dog Non-Skid Tires if you want the best at a fair price, but see to it that they enclose Braender Tubes if you would be without trouble on the road and secure extra mileage.



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who are the wholesale distributors and they will tell you where you may procure them. Dealers send for proposition.



Next time you buy tea, don't think of "a pound of tea." Think of the cups of tea you are going to drink.

Think of the pleasure you are going to get. Think of the real tea-flavor.

Then think of tannin—
ugh!

Now do you want common tea or Schilling Tea, the fine economical practical tea?

There are four flavors of Schilling Tea—Japan, Ceylon-India, Oolong, English Breakfast. All one quality. In parchment-lined moisture-proof packages. At grocers everywhere.

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TRY COOKED CUCUMBERS.

Cucumbers, when in season, are usually cheap—much cheaper than corn, beans, or peas—but the average family grows tired of them served raw and so by early fall comparatively few are being eaten in American homes. Not many American housekeepers know their possibilities as a cooked vegetable, but in other countries they are used in the same way as are eggplant, squash, and corn. They have a flavor all their own and afford a pleasant change in the diet.

The following recipes have been taken largely from foreign cookbooks and are favorites of housewives of other countries. You may find that your family will like them baked, boiled, or fried as well as do the Swiss or the French.

Garnish for Fish and Meats.—Peel and cut a large cucumber in pieces about 2 inches long. Scoop out one end. Fill with meat or fish sauce and use as garnish and serve one with each portion of meat. The sauce and cucumber, eaten with the meat, makes a good relish.

Baked Cucumbers.—Use solid cucumbers of the same size. Peel and cut lengthwise, scooping out the inside carefully and leaving the shell one-quarter to one-half inch in thickness. To four cucumbers use: 1 cup bread crumbs, 1 tablespoon butter, 2 teaspoons salt, 2 teaspoons onion, finely chopped, pepper, and the part of the cucumber scooped out. If seeds are large, do not use the seedy part. Fill cucumbers, sprinkle some buttered bread crumbs on top. Bake until tender—about 30 minutes in a moderate oven.

Stewed Cucumbers with Sauce.—Slice cucumbers into pieces an inch long and cook until tender in salted water. Serve hot with sauce made as follows: 1 tablespoon butter, 1 tablespoon flour, $\frac{1}{2}$ cup rich milk, yolks of 2 eggs, well beaten, 1 teaspoon vinegar, salt and pepper. Mix butter and flour in frying pan. When well blended, add milk and cook until rather thick. Pour over eggs and vinegar.

Fried Cucumbers.—Peel and cut cucumbers in lengthwise slices. Roll in flour and fry in deep fat until golden brown. Serve very hot.

Sautéed Cucumbers and Onions.—1 tablespoon butter or drippings, 2 cucumbers, 1 small onion, $\frac{1}{2}$ cup milk or cream, salt and pepper. Fry onion in butter until golden brown, then add sliced cucumbers and cook until tender. Add cream or milk and season well with salt and pepper.

HOUSEHOLD HINTS.

Iron-colored linens on the wrong side.

Peroxide of hydrogen will remove starch.

Hot drinks are better than cold for old people.

Never soak clothes in hot water; it will set the stains.

Prunes should be soaked for six or eight hours before cooking.

Nothing ruins a hard wood as quickly as scrubbing.

BAKED STUFFED ONIONS.

Boil large white onions for half an hour in boiling, salted water. Drain, cool and scoop out the centers. Mix together two tablespoons of chopped walnuts, $\frac{1}{2}$ cup chopped apple, 4 tablespoons grated bread crumbs and 2 tablespoons of melted fat. This amount will fill half a dozen onions. Set the filled onions in a baking pan and bake for twenty minutes, basting with a little pork fat diluted with water.

WHY ALWAYS MAYONNAISE?

The present-day American cook seems to feel content if she knows how to produce two salad dressings—mayonnaise and French. These are the two most useful of dressings, but for the sake of variety, one should know how to make some other sorts. Here are some well-tried recipes that may add a charm to the menu.

With Pineapple Juice.—Beat two eggs until frothy and add a quarter of a cup of pineapple juice and one-fourth of a cup of lemon juice. Put

in a double boiler and stir constantly until it thickens. Season with a little salt and set away to cool. This is delicious with any fruit salad, but especially so with one made of apples, nuts and celery.

For Potatoes or Cabbage.—Beat slightly two eggs in a double boiler and add a rounded tablespoon of slightly melted butter. Add a half-cup of sour cream, season with mustard, pepper and salt. Cook until it thickens.

For Plain Lettuce.—To a cup of mayonnaise dressing, add a cup of whipped cream. Stir in a little paprika and chili sauce to make it a light pink, also a little sugar.

With Boiled Eggs.—Mash the cooked yolks of three eggs until smooth and then the yolk of one raw egg and work in a half-teaspoon of salt and a dash of mayonnaise. Add a gill of olive oil, drop by drop, mixing in gradually three tablespoons of vinegar. This is good with any sort of salad.

RECOMMENDED BY A READER.

Editor Home Circle: When you have tried all the standard remedies for corns and failed, touch them up with iodine a few times. That's the end of that trouble.

Some one says, keep rice flour to thicken your gravies—it refuses to lump. It's too good to forget. I have tried it with success.—S. J. K., Porterville.

FRUIT TASTE.

Take 1 pound of seeded dates, 1 pound of seeded raisins, $\frac{1}{2}$ pound candied cherries, 1 pound figs, two cups nut meats. Put all of these through the meat chopper twice, spread pulverized sugar on the board, knead the mixture well with the sugar. Roll out $\frac{1}{2}$ inch thick; cut in squares; roll in granulated sugar; pack away in oiled paper.

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It Helps Nature to Heal and Cure. Penetrates, acts quickly, yet is perfectly harmless. Kills all Germs and prevents Blood Poison. Nothing so good known as an application for Sores, Wounds, Felons, Exterior Cancers, Burns, Carbuncles and Swellings.

"I had a bad hand with four running sores on it. The more I doctored the worse it got. I used Caustic Balsam and never needed a doctor after that."—Ed. Rosenberg, St. Ansgat, Ia.

Mrs. James McKenzie, Edina, Mo., says: "Just ten applications of Caustic Balsam relieved me of goitre. My husband also cured eczema with it, and we use it for corns, bunions, colds, sore throat and pain in the chest."

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Dr. Higley, Whitewater, Wis., writes: "I have been using Caustic Balsam for ten years for different ailments. It has never failed me yet."

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Styleplus for this fall include a wide choice in belters. Suits and overcoats both. Every man of every age and every physique can find the Styleplus that will make him look his best.

Styleplus are smart clothes for smart men. They have the style and they give the service. They sell at known prices. We attach a sleeve ticket to each garment which tells the price.

Always see and try on clothes before you buy them. Buy at a store. And then you know what you are getting for your good money.

Clothes will be more expensive later on. Conditions are forcing prices up. Buy liberally for fall. Buy Styleplus now.

Sold by one leading clothing-merchant in most cities and towns. Write us (Dept. AA) for name of local dealer.

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Founded 1849

Baltimore, Md. The big name in clothes

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Poultry and Rabbits for Profit

POULTRY AND RABBITS AT INTERNATIONAL.

(By Frederick W. D'Evelyn, Superintendent Poultry and Pet Stock Show.)

There is no substitute for sweat, except perspiration. The world is five years behind time in production. This is a deficiency that must be overtaken. Our sin has not been that of entangling alliances, but of entangling limitations. The malady is admitted. The remedy is—"make good." No Californian, not to mention San Franciscan, would willingly be listed—"not of this world." So to make good is a responsibility which has a demand as personal as it is universal.

San Francisco has innate and specific qualities that constitute it a logical center for a world exhibition. All things come to them that wait. We admit a long waiting for just such a demonstration as the forth coming C. I. L. S. Corporation renders possible.

Livestock products are a dominant factor in the balancing up of this five years rear-end slump in the necessities of life. No integer in that classification, be "it ever so humble," can afford to be overlooked or set aside. And as complementary to that claim, the small producer, he of the limited number, or of the backyard lot, must recognize that his share is relatively as necessary and catered for as the exhibit of the carload lots or broad-acre stockman. The success of this show will be a direct output of this recognition and blending of duty and co-operation.

In the small stock, poultry, pigeons and rabbits, it is no exaggeration of prediction based upon evidences of fact, but these will be assembled not merely in numbers, but in quality and variety in all three groups, a display that will outclass any record hitherto reported from any section of the United States.

The show is a necessity independent of viewpoint. Its initial effort must be so endorsed and appreciated, commercially, socially and educationally, that its annual repetition will become an established reality in this great western domain of mighty resources and unlimited responsibilities.

RAISING CHICKENS ON SHARES.

To the Editor: A land owner wishes me to raise chickens for him. He is to get 500 day-old chicks, furnish all feed and equipments. I am to furnish the labor. What salary per month should I receive, or what share of the chickens?—Mrs. E. G. F. Perkins.

It is practically impossible to anticipate what division of profits would be nearly equitable, or what would be a proper salary, until after records of at least one year are established. In order to be able to reply to similar requests, B. F. Kaupp, poultry investigator at North Carolina Experimental Station, summarizes the result of a twelve-month account of 88 hens-run as a profit test at that station as follows: To the supplier of the feed should be awarded 51 per cent of the total receipts; to the owner of land and equipment, including interest and depreciation on same, 24 per cent; and for all labor in handling the flock, including interest on the value of the flock and depreciation of same from death and other causes, 25 per cent. For the reason that labor is much higher on the Pacific Coast, in order to provide a proper share for our correspondent it is possible that labor should be awarded more than 25 per cent.

EGGS HAVE BLOOD SPOTS.

To the Editor: Some of my hens frequently lay eggs with blood spots in them. Have you any idea what causes this, and is there any remedy?—Mrs. A. K. Lincoln.

Frequently the first eggs laid by pullets will have blood-clots in them; but at times the eggs from mature hens will be similarly affected, in which cases it is due to a slight hemorrhage that occurs in the upper por-

tion of the oviduct. This may be caused by feeding large amounts of very rich feed or spice and drugs to stimulate egg production. To correct the trouble feed an abundance of green feed and for a short time feed less meat and other concentrated feeds.

SANTA CRUZ SENDS OUT A CHALLENGE.

Who has a flock of ten pullets which will average 200 eggs per hen or better the coming season? To such we would say, let us see, let us meet you in the arena and take up the challenge. Such an arena is being prepared at Santa Cruz. It will be modern, new, under the advisory supervision of the University of California, all hens will be trapnested, fed a carefully prepared ration, and in every way it will be an up-to-date contest.

And why should you accept such challenge if you have the pullets? First, because if you have such a pen of pullets, unless you advertise the fact your fame will be a candle light under a bushel measure. Second, you yourself want to have the satisfaction of knowing how much better you are than the average man when it comes to raising chickens. But third, and most important of all, you will want these hens trapnested.

It will cost you two dollars per hen to make an entry; it will be worth all of that to you to have these ten hens trapnested.

So, if you are that lucky person, again we would urge you to take some action at once. The contest begins November 1. You can get all the detailed information by writing to the Santa Cruz County Farm Bureau, Santa Cruz, Calif., or by asking your local Farm Advisor.

TURKEY MOPES.

To the Editor: I have a sick turkey; she won't eat, but drinks all the time and just mopes around. The droppings are of a greenish color. What is the trouble and remedy?—Subscriber, Martinez.

The trouble probably originated through indigestion, and the liver, and possibly other organs, have now become seriously affected. Most likely the indigestion was caused by overeating of grains, or other rich feed, and lack of green and bulky feed. A large dose of castor oil and plenty of green feed will help to cure the trouble if the fowl is not too far gone.

ATTENTION, RED BREEDERS!

On Sunday, November 2, at 2:30 p. m., at the California International Livestock Show, San Francisco, in Red Alley, The Rhode Island Red Club of Northern California will meet for a very important meeting. All members are urgently requested to be present and all Red Breeders, whether members or not, are cordially invited. At this meeting we will decide where to place the silver cup offered to our Association by the Oakland Poultry Show, the official show of the Rhode Island Red Club of Northern California this year. Everybody present, please.

REPEATED BY REQUEST.

They all do it, and why not us? This yarn is not original, but it is worth repeating, and inasmuch as a friend sent it in with a request that it be printed, here goes:

The dyspeptic friend was dining with the parents of Bobby, aged 8. Daddy was carving the duck.

"What part of the duck do you prefer?" asked Daddy.

"None at all," was the reply. "I never eat duck."

Whereupon Mother sent the servant to the kitchen for some cold chicken. "Thanks, you're very kind, but I never eat chicken."

Host and hostess were in despair, when the latter remembered there

was some very fine cold roast beef left, so she sent for that.

"No, many thanks," said the visitor; "I never eat roast beef."

Meanwhile Bobby had been growing more and more nervous. At the third refusal he piped up:

"Say, Daddy, maybe the old duffer would like to suck an egg."

"I Hear You Ca-a-aling Me," warbled daughter from the parlor.

"Yes," sang the mother from the kitchen. "I want you to help me with the dis-s-shes."

And then a profound silence reigned.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

YOU'VE OFTEN THOUGHT—How can I get hens to clear \$5 yearly? Easy. Twenty generations selecting, trapnesting, breeding best, has developed 200-300-egg hens that reproduce their kind. Let our circular reveal the secret of \$2 hens clearing \$3.00; \$3.50 hens clearing \$5. Leghorns, Anconas, Belds, Rocks, Minorcas, Chicks, Turkeys, CHICKS, EGGS, hundreds. LAYING, YOUNGER PULLETS, BREEDERS, near price ordinary stock. Well booked into Spring, yet most weeks open for thousands chicks. 140,000 hatching capacity. Half so to former customers. Returned thousands dollars for chicks we couldn't supply. Learn why. J. Beeson, Pasadena, Calif.

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P. O. Box 597,
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offers

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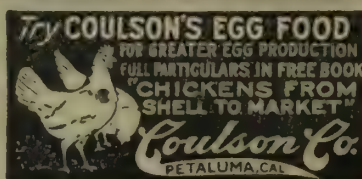
NEW ZEALAND RED BUCKS and does. Start right with does bred to registered bucks. Dixolano Rabbitry, Box 521, Dixon.

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SAN FRANCISCO, CAL.

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AGRICULTURAL NOTES.

Milo maize is an important new crop in Perris Valley this year.

Scott Valley, Siskiyou county, had an exceptionally fine apple crop this year.

Many 1919 lima beans have been sold in Orange County at \$11.50 to \$12.05 per cental.

The flouring mill at Ft. Jones, Scott Valley, Siskiyou county, is running night and day, grinding the abundant harvest.

A buyer of Napier grass joints for planting complained that they did not grow. It was because he had planted them in dry ground. They need moisture for the young roots.

Eastern soup manufacturers are buying considerable tomato puree in California at fair prices. This relieves an overburdened supply of canned tomatoes held over from 1918.

Martin Kuster, who has 3,200 acres of rice in the Wheatland district, expects 128,000 sacks, which, at prospective market prices, will bring him \$700,000. Not all of that is profit!

The Colusa Rice mill, one of the eight large mills in the Sacramento Valley, commenced operation October 20. It is expected to mill nearly 200,000 bags of rice during its eight months' run.

A big cauliflower acreage in the Compton district of Los Angeles county is signed up for delivery to the Vegetable Growers of California, Inc., who will pack carlots in their own sheds adjacent to the fields for shipment to eastern markets.

Madera county has been busy fighting squirrels. Eleven and a half tons of poisoned barley have been distributed to ranchers through the County Horticultural Commissioner's office, and many ranchers have mixed their own or bought commercial poisoned barley. The county has a carload of carbon bisulphide ordered for use when the rainy season sets in.

The weed war is being carried on vigorously in Yuba county. A beginning infestation of Johnson grass was promptly dug out by the railroad near Wheatland on request of the County Horticultural Commissioner. Officials of the Hallwood Ditch Co. have been notified that water grass, Canadian thistle and other weeds are fouling their ditch banks, and it has been suggested that they fence in and let sheep clean up the weeds.

F. W. Read of the U. S. Bureau of Markets and E. W. Stillwell of the U. S. Bureau of Crop Estimates recently arrived in Los Angeles to report market and crop conditions of commercial vegetables and field crops. Mr. Stillwell succeeds R. G. Risser, who resigned some time ago to do similar work for the California Vegetable Union. Mr. Read succeeds H. H. Warner, who resigned to take up field work for the California Walnut Growers' Association.

The 160-acre ranch of Wm. Jahde on the Klamath River, below Hamburg, Siskiyou county, besides producing hay, grain and stock, has the following fruits: apples, pears, peaches, grapes and strawberries; and an especially fine variety of soft-shelled English walnuts, one fifteen-year-old tree bearing one hundred pounds this season. These nuts are large, many measuring six inches in circumference with hull removed.

STEAM THROUGH THE CARBURETER.

A "super-carbureter" was shown in the accessories tent at the Los Angeles tractor demonstration. Its duty is chiefly to supply steam to the intake manifold. Water from the water jacket is heated on the exhaust pipe for this purpose. A pipe also connects the supercarbureter with the crank case so that the suction draws oil vapors from the crank case and mixes them with the steam. This lubricates the valve seats and helps compression. It also supplies a little explosive vapor from the hot beaten oil which adds to the power. The steam keeps all carbon soft and thus gets rid of it through the exhaust. The device is adaptable to any automobile, tractor, or motor truck.

GOOD RECORD FOR TRACTOR.

A track-type tractor of 20-35 horsepower, which had worked 1,035 hours with a total cost for repairs of \$1.50, was shown at the Los Angeles tractor demonstration. It was owned by J. Reeves of Northam Station, Orange County. He had plowed 173 acres with this tractor; disked 300 acres, chiseled 300 acres, and done other miscellaneous work with it.

Get him with a Stephens Trap

—and ship his hide to DENVER. Stephens will pay you the highest prices for all Western Furs—Coyotes, Skunks, Muskrats, Wild Cats and all others. DENVER is the Closest and Best Market on Earth for Western Trappers and Fur Shippers. Stephens of Denver is the largest exclusive buyer of Western Raw Furs in the world. Stephens charges you no commission—saves you 50c to \$1.00 on express or parcel post and you get your money back 2 to 10 days quicker—because Denver is closer to your town than any other important Fur Center. Every shipment personally graded and priced by a member of the firm.

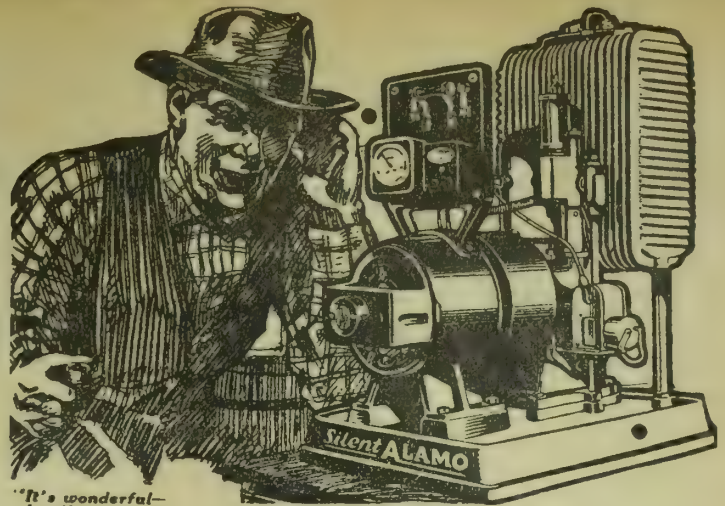
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Why Firestone is Giving Extra Value in Tires

Firestone is giving so much more per dollar this year than the ordinary that our 42,000 dealers want us to tell the public why.

How can Firestone sell the new Standard Oversize Firestone Cord at a normal price?

How can Firestone give the most highly perfected, special molded 3½-inch tire at a price that dealers usually ask for "off brand" kinds?

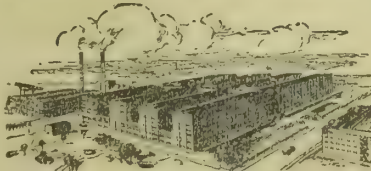
How can Firestone tubes be sold for less than others of any reputation at all when their very looks and "body" and feel indicate their finer quality and longer mileage?

The answer to all this is Firestone generalship of man power—Firestone organization of brains and capital.

Firestone has built tires since the beginning of motor cars and trucks. Firestone built the first truck tire, and practically all the "firsts" among tire and rim improvements belong to Firestone.

Most Miles per Dollar

Firestone



Plant No. 1. Capacity 20,000 Tires Daily
This vast plant is now concentrated on Cord Tires and Truck Tires. Its efficiency and capacity have been greatly increased by Plant No. 2.

That's because Firestone has thought farther ahead.

So today, Firestone is farther ahead than ever. Year by year Firestone has been laying those foundations of man power and resources which are bearing their biggest fruit in low cost mileage today.

It took Firestone man power to create the factories shown here.

It took Firestone man power to foresee the value of a Firestone organization in Singapore, the source of rubber supply, thereby saving you 3 cents a pound on rubber.



Plant No. 2. Capacity 16,000 Tires Daily
Devoted exclusively to 3½-inch Tires. Firestone is first with a huge separate factory and organization specializing entirely on this tire in greatest demand.

It took Firestone man power to control the fabric from cotton field through the mill, and to design looms for special widths of fabric, thus reducing waste and lowering the cost.

And why is this Firestone organization the most effective in the business?

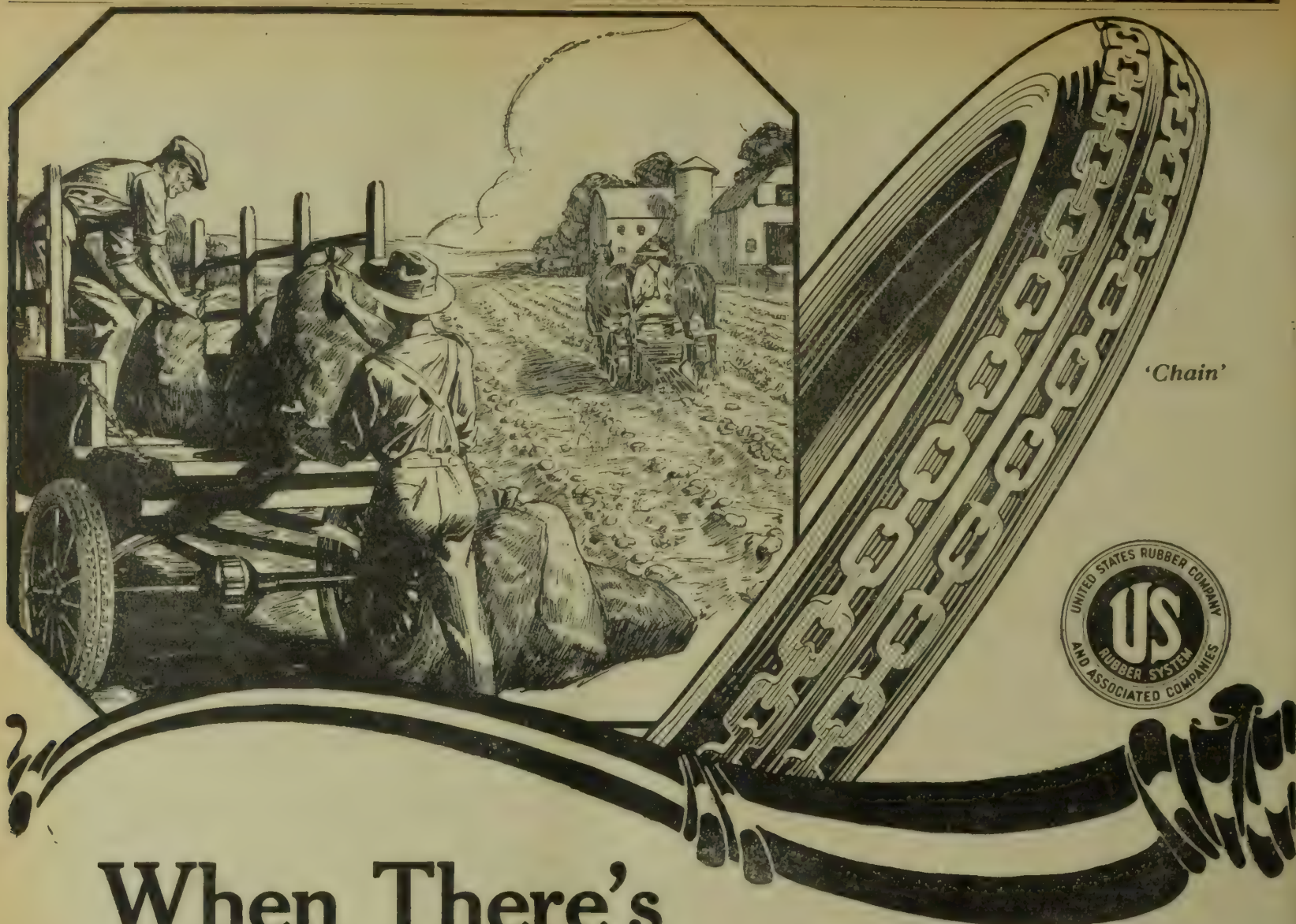
Because Firestone attracts and holds the men who do things.

90% of Firestone workers own stock in the company. Firestone Park is a unique and attractive home community; the clubhouse plays a real part in the daily life of these workers. The Firestone bank has thousands of depositors. The Firestone insurance fund protects every worker in the organization.

All of these are reasons why Firestone can give more in the Cord Tires, or Fabric Tires, or Truck Tires, or Tubes.

Their personal financial interest in you as a customer makes Firestone men save at every turn, to hold you by giving mileage at lowest cost.

Ask your dealer for a Firestone in your size and type.



When There's Hard Work To Be Done

Folks are getting the kind of service they want and have a right to expect from United States Tires.

That's the one big reason for United States Tire popularity.

Where there's hard work to be done—work that requires tire strength and tire dependability,

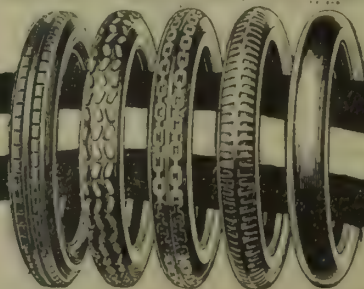
—there you'll find United States Tires.

United States Tires are good tires by right of *might*. They are built to give wear and service—to resist hard use—to save money in *extra* work and *extra* miles.

There are five famous types of United States Tires—one for every need of price or use.

United States Tires
are Good Tires

'Royal Cord' 'Nobby' 'Chain' 'Usco' 'Plain'



THE PACIFIC RURAL PRESS

SAN FRANCISCO

NOVEMBER 1, 1919

LOS ANGELES

Experimental Orchard on a Large Scale

Written for Pacific Rural Press by John J. Fox.



ALBERT F. ETTER, of Ettersburg (Humboldt county) has originated more varieties of apples and strawberries than any other man in the State. Mr. Etter and his two brothers have 2,000 acres of land between them in the Mattole country, of which 100 acres are in apple orchard. At the Northern California Apple Show his several hundred varieties of new apples constituted a show of color, quality and firmness that could not, we think, be equaled on the Coast or excelled anywhere. We shall here describe two or three of the best of his productions which have a promising future. And as Mr. Etter's methods of culture and marketing are altogether out of the ordinary, they merit description.

Soil and Cultural Methods.

The soil is of excellent moisture-retaining quality, and is varying in texture from a medium sandy loam to a shaly loam. There is no hardpan

is about 50 miles long, with a distance of about 10 miles from the Coast, but protected from it by a continuous mountain range. Practically all the apples produced by him are fall and winter apples—keepers. Not only do they seem most suitable to this climate, but being firm in texture, they are more suitable for drying and with less waste than early apples. In planting, the holes are dynamited—about half a stick being used in a deep drill-hole.

Choice Manx Seedlings.

Two handsome and useful apples, from 50 varieties of seedlings of the Manx Codling, are worthy of mention. They all hold true to type, but there is much variation in quality and color, though they are all of good texture. Those we saw at the Northern California Apple Show and at the Emporium display in San Francisco were as full, crisp and firm as when they had been picked six weeks before. The first one was called "Delilah," a name we



The cut shows the home and a part of the experimental orchard of Albert Etter with beans and truck between the rows of trees. The bare spots show where undesirable varieties have been taken out and planted with others. The trees range from 5 years to 25 years old.

and the soil is the same texture at great depth as at the surface. There is plenty of irrigation water on this ranch, and though Mr. Etter has never practised irrigation he intends to. Part of the orchard has been plowed and a part has not been plowed, and you cannot pick out the cultivated from the uncultivated fruit. Therefore, why cultivate when just as good results are obtained without? The intention is therefore to seed down the whole thing to native grasses, especially rib grass; sheep off the growth and then irrigate in July and perhaps again later.

The rainfall at Ettersburg is copious, to put it mildly—90 inches not uncommon, and even up to 100 inches. Because of this rain, cultivation is put off till late in the spring and plowed ground makes spraying difficult. Rains in the fall on cultivated ground render it so soft as to make it a hardship to haul the fruit out. The water for irrigation will be pumped from Briceland Creek, and will have to be lifted 275 feet, but there is plenty of it.

The Etters keep enough stock to run the place and farm for it. In addition they, together with J. E. French, keep a flock of Toggenberg milk goats—a small flock of purebreds and the big flock are grades.

Experimental Work on Broad Lines.

Mr. Etter's experimental work is broad enough in line to demonstrate suitability of varieties for the whole region around him. The Mattole valley

supposed was chosen because it was fair to look upon but tart to the taste. "No," said Mr. Etter, "it is for the reason that if Samson had known as much about women as I know about apples, he would have been able to handle her." This apple can be baked whole; does not mush up when made into pies or sauce. It is not only a good cooker and keeper, but makes the finest syrup of any apple.

"Epochal Seedling" is also from the Manx, a golden yellow apple, always bears well, and is a good keeper. It's flavor has a slight suggestion of grape-fruit. It is also good for cooking and baking in every way. It is a true oblong shape, like Golden Pippin, fairly deep cavity, rather shallow calyx, which is closely pinched, and medium stem—one of the few apples that will bear fruit on sides of new growth.

"All Gold" is a splendid apple and has, Mr. Etter says, the best characteristics of any. It is a Wagner seedling, having the slight ribbing of that variety, but is more refined by being fleshed out. It is a golden yellow in color when ripe, very firm flesh with a perfect flavor, and has excellent keeping qualities. It has a deep cavity and long stem, shallow end and open calyx. The apples set generally not more than two in a place and generally one. It blooms the least of all varieties, he says, but always bears a full crop. It exceeds the quality of its parent by a large margin. Most Wagner seedlings revert to the wild type, but this is a remarkable exception.

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EDITORIAL.

CALIFORNIA: ONE AND INDIVISIBLE.

AS THERE is nothing left of the great war but the treaty ending it, and that will pass with reservations; as the little wars in Europe which have followed the great war are too distant to excite local interest on this edge of the world; as we have no State election next month and no legislature next winter, it is perhaps to be expected that the great molder of public opinion in Southern California should be warming-up their old left-overs on the subdivision of the State of California. It is an inane proposition and as piffling as it is lifeless, but it has to be kicked as often as momentum by gravity and be credited with inherent force which it does not possess—especially by newcomers who have never given the subject any attention.

The only novelty in the proposition as it now emerges from the editorial cold-storage tanks of the Santa Barbara Press, is that California should be divided into three States instead of two, and that in itself is interesting. This is the way of it:

California is logically divided into three parts; especially so, if a strip of southern Oregon could be added to the northern third of California. Within recent months, Klamath, and Jackson counties asked the Oregon legislature for permission to annex themselves to California for geographical reasons; and while the petition was frowned upon and shelved, the fact remains that if California should seriously take up the issue of realignment for the purpose of meeting present and future needs, Oregon, no doubt, would see the wisdom of the step, and encourage it, even at the expense of losing a bit of territory. The Southern California counties form a state within themselves. The Tehachapi is a natural boundary. A new state comprising that section would have sufficient population, and great diversity of interest.

The writer, in support of a tri-partite division, speaks thus definitely of a north and south division, but neglects to mention a central division—taking it for granted, probably, that if his readers should find a head and a pair of feet about six feet apart they would infer that there was a body between them, and of course it would be shocking if they did not, but we of the central part of the State have objections to existence merely as an inference. We write this objection in the effort to produce something as inane as the proposition against which we lodge it!

WHY TRY TO DIVIDE CALIFORNIA?

In one way the reopening of the question of State division by the Santa Barbara Press has a unique and refreshing feature, and that is the claim that it would be good for the whole State and the whole coast. As we remember, former propositions for division have rested on the claim that Southern California is so different in people, in climate and productions that it ought not to be indissolubly linked to the clod-hoppers inhabiting the rest of the State and busying themselves with the products which the south side of the North Pole permits. We are glad that argument has been dropped, for it never deceived anybody but the few who came into California by the southern route, and

have never risen above the Tehachapi mountains, and it was distressing to think that we had any Californians who were so provincial. The only vestige of the old claim is found in the words quoted above: "The southern California counties form a State within themselves," and the untruth of that statement needs no argument beyond the citation of the fact that the southern metropolis, Los Angeles, of which the whole State is proud, has constructed a great system for her future water supply and captured a stream of water far beyond the counties south of Tehachapi and is now irrigating a considerable area of land with water which the proposed division would place under the taxing power of another State! Surely, our Santa Barbara geographer has forgotten how valuable the water supply of a metropolis may become as prohibition progresses!

But the new proposition is based by its proponents upon more statesmanlike grounds, viz.:

California is handicapped by inadequate representation in Congress. This is shown in many ways, one of the most pronounced instances being the national attitude towards Asiatic-American problems.

Our population is rapidly increasing, and our interests so extended and varied that one State government can scarcely do justice to itself or the people.

There is surely force in this suggestion, but the way to enforce our claim for the preservation of America as a home for the white race must not rest upon the chances of doubling or tripling the number of senators from our piece of geography. We must appeal to the sense of fitness and fairness of the senators of other States and the sentiment now ruling in other states is so strong and manifesting itself so clearly that the conception that we must depend upon a little local arithmetic to support it seems trivial. It would, of course, be desirable to have the far-western point of view more fully recognized and supported at Washington, of course, but we must wait until we secure more people and thus advance our strength in the branch of Congress which is representative of population. That is the way other States advance in national legislation, and the only way they can advance. California, with her two senators and a lot of surplus geography, is surely no worse off in the way of representation than is New York with two senators and her great surplus population.

WHY CALIFORNIA CANNOT BE DIVIDED.

But the chief reason why it is idle and inane to talk of dividing California is the fact that it cannot be divided. Proponents of the idea always seem to infer that all we need to do is to agree that it be divided, and perhaps have an election to declare such an agreement. They forget that in only one case in our history has a state been divided and that was the split of Virginia as a war measure, and we devoutly trust that such an occasion may not arise again in this country. In all other states which have a geographical division, as in the Carolinas and the Dakotas, both were admitted as states or created as states and not divided into states after admission. No wish of a state will move Congress to its subdivision unless some very clear national advantage can be discerned. For the reason now advanced, the multiplication of senators from our geography, the more populous states would oppose and not approve it. Even if carried by our own legislature and popular vote (which is itself inconceivable) the U. S. Senate would kill the proposition by its conservative attitude and the House of Representatives by its representation of their excess population of other states. The very same considerations which might lead us to ask for it would induce the people of all the populous states of the Union to deny the request.

We have said that the prevalence of the question before our legislature and at the polls is inconceivable. Supposing that increased representation in the United States Senate and greater influence in national affairs did commend themselves strongly to our people, they would not work or vote for these advantages at such cost of increased taxation as would arise in all the states into which California might be subdivided. Even with prorating to the different parts the present value of state buildings, etc., the taxation to maintain two

or three executive outfits instead of one would frighten support from the proposition even in the section where it would be presumably most strongly urged by local pride and political greed and yearning.

It occurs to us to suggest that our Santa Barbara contemporary who has just challenged discussion of this old and infirm question of state polity could use his strength to much better advantage if he should urge widespread and generous efforts to develop all of California to the ideals of single statehood with which her birth into the Union was endowed. All California is a unit, and no part of California is. The same natural endowments, the same productions and the same local patriotic purposes extend from end to end of our territory and they constitute California different from all other states. Let us, therefore, devote our resources and energies to the advancement of our great and unique commonwealth with devotion and enthusiasm. Let us use our income to more closely connect our great industries and interests by grand highways and improved inland waterways and to unify our people by localized branches of educational institutions greater than those of any other state. California is constituted a great state that she may develop a great people—great in prosperity, in moral standards, in intellectual achievements. The piffling proposition that California needs more senators at Washington and more opportunities for place-seekers and tax-eaters at home is a conception unworthy of a Californian.

AN UNFORTUNATE ATTITUDE.

The triple alliance of capital, labor and public interest, by which industrial peace was designed to be realized in this country, has dis-allied itself by the secession of the labor element thereof. In spite of all the repeated appeals of President Wilson, the labor representatives withdrew—apparently because they could not have their own way in every particular. That seems to be the prevailing attitude of those who rule the labor organizations. To be sure to state their case fairly, we give the declaration which they submitted as the reason for their refusal to try longer to find a basis of settlement of current difficulties and of future understanding. These are the last words on leaving the conference:

"The right of wage earners to organize without discrimination; to bargain collectively; to be represented by representatives of their own choosing in negotiations and adjustments with employers in respect to wages, hours of labor and relations and conditions of employment is recognized."

Apparently, however, it was not this declaration in itself, but what the labor representatives intend to make it mean, which they considered it hopeless to contend for in the conference and prompted their withdrawal. It was not that they considered their right to organize and to represent themselves as they see fit endangered, because very few deny that right now: it was not that they were denied right to confer and agree together upon wages and hours of work, for their right to have their own ideas and to propagate them among those willing to receive them, is now generally conceded. What they seem not willing to concede is the right of other men to work as they desire and of employers to proceed with their enterprises as they plan and contract to do. In short, their idea seems to be that if work is not done as organized employees desire, work shall not be done at all, and they propose to prevent it being done as they see fit. And because those representing employers in the conference would not agree to such a handicap upon the business of the country, and because those representing the public interest in the conference proposed that definitions be drawn to show what is meant by "collective bargaining"—the labor delegates, summoned by the President of the United States to conference to secure what would be fair and equitable to all interests involved, including that of the general public, struck, walked out, or whatever else it may be called—treating the American people, as represented in this solemn, patriotic conference at the national capital, just as they propose to treat the owner of a cross-roads blacksmith shop who might think he had a right to have something to say about the conduct of a business which he had built up. We apprehend that the representatives of

organized labor have gone a little too far toward the line beyond which is disorder and unrighteousness.

THE GREAT STOCK SHOWS.

This issue of our journal appears in the interval between the two great live stock shows to which particular attention has been given in these columns for several weeks past. Last week the show in Los Angeles justified expectations in all the essentials of amplitude of exhibit, high quality thereof, and generous public patronage.

On other pages this week important records of the Los Angeles event may be found. Next week the San Francisco show will be in full swing from its opening on Saturday, November 1. We make this particular reference in case the special treatment given the San Francisco show may have been too ample for readers to carry in their memories. This last appeal for public interest and patronage of the show we make so small that even a vest-pocket memory may enclose it. Even if you have no higher motive than to see whether we have told the truth about the charm and significance of the affair, we urge all readers who can, to rally in the California Building, Panama-Pacific Exposition grounds in San Francisco, at any convenient time before the closing on Saturday, November 8.

WHAT THE FARMERS ARE GETTING.

There was no adequate representation of agricultural interests in the conference, which is to proceed without representatives of organized labor, unless President Wilson should find some willing to serve in defiance of the decision of the American Federation of Labor. But no number of farmers could have saved the collapse which occurred, nor would they desire to retain in the conference an element so self-willed and inconsiderate of others. There are no employers who are more considerate of hired help nor more desirous of giving such help a square deal than American farmers as a class, but they are not any more willing that the help shall run the farm than other employers are that the help shall run the shop. There can be no doubt that by the increase of farm wages during the last few years, the help has netted more than the farm owner or operator has, as a rule. But though he has been running the farm for the help, the farmer cannot maintain his self-respecting manhood and consent that the help shall run the farm and himself. Therefore the farmer cannot but regret the action of the labor representatives at Washington for he could not conscientiously have done anything to prevent it by accepting such terms as they insisted upon.

In this unfortunate matter, which seems to be little less than a strike of organized labor against employment and the public interests, the farmers, as a class, the largest employers in the country, have their consciences clear of contributing to conditions which may be urged as an excuse for it. There is no doubt that instead of profiteering or otherwise contributing to the hardships of labor, which are so freely alleged, the farmers, as a class, have sacrificed their own earnings and endangered their capital to meet laborers' demands. In an address on the high cost of living, in the U. S. Senate last week, Senator Capper of Kansas made these statements:

As a result of the effort to reduce high prices by breaking down entirely the cost of food, we have a remarkable spectacle of a rise of 1 per cent in the cost of living, coincident with the market drops that are putting livestock raisers out of business and causing serious losses to other producers. The government, through the grain corporation, profited \$23,000,000 at the expense of farmers last year, the farmers selling from 20 to 70 cents less than the guaranteed price.

The situation of the live stock farmer is even more deplorable. Farmers are selling their grain-fed beeves and hogs for less than it cost to produce them, but the consumer finds little or no change in the price of meat. The recent decline in live stock prices cost producers \$80,000,000. Live stock growers do not control the markets, and, like other agricultural producers, must accept prices fixed by others.

Without visibly helping the consumer we have brought about a crisis in our most fundamental and vital industry by forcing the producer to accept prices at which he cannot continue to produce, while he and the consumer are compelled to pay prices at which they are forced to curtail the home demand.

Farm wages have doubled, land values have risen enormously, and everything the farmer buys has risen from 50 to 300 per cent.

Under these conditions farmers, as a rule must follow a conservative course for, in their unorganized condition, they cannot do much to secure justice for themselves nor to protect the consumers who are on the other side of the great gulf of exaction and extortion which prevails in the handling and distribution of products. How little of the consumer's dollar the producer really gets is shown by Senator Capper in this way:

Farmers are selling their wheat at a loss. It takes four and a half bushels of wheat to make a barrel of flour. The wheat raiser gets about \$8.37 for the wheat, the miller \$12.70, the baker \$58.70 and the hotel keeper here in Washington, as it is doled out in thin slices, \$587.

It is fortunate that we all do not have to try to live in a Washington hotel, but they are not the only places where a producer can easily learn what happens to his product after he gets the little return for the cost and effort which he puts into it.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Clover for a Sandy Bottom.

To the Editor: What variety of clover would do well on land where bur clover thrives? I want a higher growing clover and one I could irrigate through the summer to get a larger production. The land is rich bottom land, sandy loam three or four feet deep with adobe sub-soil. On account of the adobe sub-soil alfalfa dies out after the first year.—G. J. R., Sebastopol.

We would be slow to give up alfalfa on that depth of soil because it will give you more feed than all other clovers put together. We would prospect the soil carefully by digging holes, etc., and see if there is not some place where a ditch can be cut in to draw off excess water and thus make the land safe for alfalfa. If, however, you have satisfied yourself by sufficient trial that alfalfa will not do, your recourse must be to Eastern clover, alsike clover and white sweet clover. The first two are fibrous rooted and will thrive above the wet. The latter, though rooting deeply like alfalfa, seems to take water better, for it may be found growing on river bars and rooting in submerged gravel. We would sow a mixture of all these; let the best win.

Which are Best Pruners?

To the Editor: Please tell me what make of tree pruners are most powerful and at the same time easiest to operate on lemon and orange trees.—R. E. S., Baldwin Park.

We presume it would be possible, by a proper arrangement of dynamometers and magnifiers, to determine what form of leverage and of cutting edge would sever a branch with the smoothest slice, least injury to the bark and least push on the part of the operator. That is a job for the mechanical staff of an experiment station. But if those things are determined the result will be immediately upset by the personal equation, because no two men will keep the blades equally sharp and the work depends chiefly on that. Besides the personal equation will stay with it. The best pruning tools are those which the pruner likes best—barring of course cheap, cast-iron things, which are the most expensive no matter how little you pay for them, and if you consult experienced pruners they will no more agree which tools are best than other men will agree as to which is the best woman to marry or the best agricultural paper to pay a dollar for. Your question is unanswerable. Of the many good tools in the market the best for you is the one you keep sharpest and learn to like best.

Fertilizer for Alfalfa.

To the Editor: Advise me what is the best fertilizer for alfalfa other than stable manure. Also the best time to use the fertilizer, whether in the fall or spring and would you use the spring-tooth harrow after spreading it?—O. M., Sonora.

Probably the best and quickest acting stimulant for alfalfa would be 500 lbs. of gypsum and 100 lbs. of nitrate of soda to the acre—applied as growth starts in the spring and while you still have some showers coming, or just before any of the summer irrigations—preferably at the beginning of the growing season. It is not necessary to use

JUST OFF THE PRESS!

“California Fruits
And How to Grow Them”

EIGHTH EDITION; FULLY REVISED;
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“California Vegetables in Garden and Field; fourth edition; \$2.00 per copy, postpaid. “California Garden Flowers, Shrubs, Trees and Vines;” \$1.50 per copy, postpaid. “Second Thousand Answered Questions” in California Agriculture;” \$1.50 per copy, postpaid. “California Hog Book,” \$2.00 per copy, postpaid. “California Poultry Practice;” \$1.00 per copy, postpaid.

PACIFIC RURAL PRESS

525 Market St., San Francisco

Publishers

the harrow unless the surface needs loosening up; the water will carry the fertilizer in with it.

Limas in a Hot Valley.

To the Editor: Next season I expect to plant three thousand (3,000) hills of pole lima beans. What is the prospect of getting a crop? Is the climate suitable in this part of the Napa Valley for growing lima beans? Some people here tell me I can't grow them in this locality. Is this true?—A. H. K., St. Helena.

You take some chances, for Limas do not like much heat and drouth and are not much grown where coast fogs and moist air are shut out. Still, in garden practice they do come through—probably because atmospheric conditions are modified somewhat by shelter and watering. You evidently intend to pole the beans which is not done in field growing, and this may mean that you intend to secure garden conditions. If that is the case and you start as early as frost-freedom permits, we presume you will get some beans. But your neighbors are right that your part of the Napa Valley is not suited to Limas as they are usually grown.

Bluestoning Seed Grain.

To the Editor: Has it ever been definitely proven that bluestoning seed wheat or barley before sowing has any beneficial result on the following crop, and if so what is the object?—E. W. H., Hopland.

Yes, it has been amply demonstrated that bluestoning seed, if properly done, will reduce the amount of smut on the crop which grows from that seed. It is done for the purpose of killing the spores (seeds) of the smut fungus so that they cannot germinate and penetrate the tissue of the growing grain. Bluestoning is not an absolute preventive of smut, because the spores can get to the plant in other ways than by the seed which carries them to the soil in which it is sown, but experience has amply demonstrated that sowing clean seed reduces the injury by smut so much that seed-treatment should always be carefully done.

California Weather Record.

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending October 14, 1919.

Stations—	Past Week	Rainfall		Temperature	
		Seasonal To Date	Normal To Date	Highest	Lowest
Eureka .....	.00	1.78	3.68	54	38
Red Bluff .....	.00	.98	2.25	70	38
Sacramento .....	.00	.55	1.34	78	40
San Francisco .....	.00	.62	1.44	67	48
San Jose .....	.00	.62	1.18	74	36
Fresno .....	.00	.68	.94	82	40
San Luis Obispo ..	.00	.52	1.71	74	36
Los Angeles .....	.00	1.84	.77	72	50
San Diego .....	.00	1.31	.48	70	48
Winnemucca .....	.00	.82	1.14	68	18
Reno .....	.00	.62	1.04	70	22
Tonopah .....	.00	1.06	1.91	67	22

Let's Bind to Us the Heart of Australia

Written for Pacific Rural Press by R. E. Hodges.

A hundred men picked from the veteran Australian army of the European war—who can picture their future—who can measure their influence on the future of Australia! Train them in California methods of agriculture and who can foresee the value of the closer bond between these two empires of such similar topography, soil, climate, and relation to the rest of the world!

Australia, whom we follow in many of the advanced practices of modern governments, is yet practically undeveloped agriculturally. Her area, as great as that of the United States, contains approximately the same agricultural possibilities, for she lies in the southern hemisphere about as the United States does in the northern hemisphere.

Undeveloped, but Important.

With only five million total population, including several cities of major size, the agricultural population is yet small in numbers but large in operations. California has for several years felt tangible effects of those operations, particularly with regard to wheat, wool, butter, and more recently with eggs, which have been imported to this State. Moreover, our apples compete in a small way with Australian apples in British markets.

Why Aid Agricultural Competitors?

The competition will increase as the Commonwealth is developed.

From a selfish standpoint, there might be some question as to the profit to us of helping in that development. But it is a question with another side particularly interesting to us of California. In Australia no Orientals may obtain any kind of a hold such as they have in California. Here we already see signs of a general upheaval in public sentiment that will swiftly and surely accomplish something when it occurs. The public sympathy of the people of the "white men's land," whose shores are washed by the same Pacific, which sustains our own commerce—that sympathy may one day be of definite value to us. If there is any Oriental menace, as many people believe, it affects Australia even more than it does ourselves, and we may count on their active support.

Splendid Allies They Would Be!

Such support as that would be! In the European war every Australian soldier and sailor was a volunteer. Magnificent records they made—magnificent men they are, who survived that struggle! We speak from first-hand acquaintance with a large number of the hundred picked soldiers mentioned at the beginning of this article. They fought in Egypt, in Palestine, France.

When the war was over there was still urgent need for ships to carry food to Europe from the nearest source of supply—America. Australian soldiers 13,000 miles from home had to wait for boats to be released to carry them back. It was at this time that Prof. Elwood Mead, now of the University of California, but formerly high in the agricultural councils of Australia, received a cablegram at Washington asking him to place 600 of the Australian soldiers in America—one hundred where they could learn the best practices of American agriculture, and five hundred in the factories and industrial centers of the nation. Union labor was then fearing an oversupply of returned American soldiers and had even proposed that they be held abroad at army wages until they could be gradually "infiltrated" so they would not disturb the wage conditions of the man who had stayed at home. Under such conditions union labor objected to the bringing of 500 Australian defenders of democracy into our country, and to our shame be it said they were kept out.

One Hundred Study Our Agriculture.

For the hundred chosen to study agriculture, however, Prof. Mead ob-

tained telegraphic confirmation from Dean T. F. Hunt of the California College of Agriculture of the proposal to place them at the University Farm School at Davis, whence they could make appropriate diversions and excursions to the best ranches of the State. Practically all of those men, chosen first for their interest in agriculture, and second for merit, are now

same purpose—they are brothers-in-battle to our own sons, and we owe them homage as we owe it to our own fighting men. We owe them the best that they ask, for without their sacrifices our best would be but poor satisfaction under German whips.

Australians on Trip through Valley.
The University faculty and the



LEVELING LAND WITH TRACTOR AND POWER SCRAPER.

One of the most absorbing features of the Australian soldiers' trip through the Sacramento Valley was the tractor land leveling which was being done for one of the colonists on the Durham State Land Settlement. Irrigation is one of the chief studies of the hundred soldiers at University Farm. The importance of exact land leveling before any perennial crop is planted is impressed upon the men. The State has until recently been doing this for its settlers, and the State still owns the tractor and power leveler at Durham.

at Davis or on ranches where they can absorb the best we can give them. They are learning the things that will help develop their country into a stronger competitor of California; but we may well remember that we will be competing with white men of our own race, whose competition will not lower our own standards of living.

Looking at this proposition from another standpoint than immediate selfishness, we may well remember how these men sprang to arms years before we entered the struggle for the

ranchers to whom these hundred men at Davis look for instruction are giving the best that they know. One instance of this was the automobile trip arranged for them October 18 and 19, whereby they were taken up the east side of the Sacramento Valley and back to Davis on the west side. Their first major stop was made at the State Land Settlement at Durham, where a farm dinner was followed by a trip around the colony. It will be remembered that this project was put through largely under the influence of

Prof. Mead and based on his experience with similar work in Australia. Herein we follow and learn from that Commonwealth.

The soldiers were liberal and apparently unanimous in their commendation of the work done in so short a time at Durham. A visit to the U. S. Plant Introduction Gardens near Chico was made especially pleasant by the freedom with which they enjoyed grapes of a thousand varieties, Chinese jujubes of several varieties, and watermelons. The night at Chico was followed by a breakfast, which cost some of them \$1.25 each without satisfying their appetites. At Hamilton City and Orland they saw private herds of fancy Berkshires—the breed best and almost exclusively known in Australia.

All along the way, they stopped as suited the fancy of each auto load to examine irrigation works, rice harvest and threshing, etc.

Reminded of Homeland.

The similarity of the country to their homeland made it easy to get them to talk about Australia with an eagerness that betrayed a trace of homesickness, which was not otherwise shown. No invidious comparisons passed their lips, but probably not one of them could be induced to remain here permanently. They know that they have greater opportunity on the cheaper lands and the newer agriculture of Australia amid natural conditions as good as we have here. One of them remarked that Australia is situated with respect to the rest of the world in all natural conditions as California is situated with respect to the rest of the United States.

Now when they go back to their native homes after six months or a year here, may they carry a warmth of cordiality and friendliness, and may they leaven the whole of Australia with a feeling of brotherhood that will endure through all the tempests

SAVING TOMATO SEED COMMERCIALLY.

(Written for Pacific Rural Press.)

The average gardener who buys a few packets of tomato seed has little idea how they were separated from the tomatoes, but he realizes that they cost a lot more than they used to. The grower who saves his own seed will be interested in the operations of the old-established Havens Seed Co., who put up a large new plant near Santa Ana last year. They contracted a large acreage to be grown for seed this year and the writer was privileged to see the various steps in preparing it for sale. The tomatoes are hauled from fields to the plant in tank wagons; for no attempt is made to keep them from mashing. The driver shovels them into a crusher operated by a small gas engine. This empties by way of an adjustable trough into barrels kept on a platform out-of-doors. The pulp and seeds and juice are left in the barrels about 24 hours to ferment. Then they are dumped into an 8x12-inch flume about 150 feet long through which a good stream of water flows rather rapidly. Partitions about 20 feet apart in the flume catch the seeds as riffles catch gold in a miner's flume. Sound seeds are heavier than water, but the pulp floats away with lighter seeds. When a batch of the pulp has been washed out, all of the partitions are removed and the clean seed washes down to a tank at the lower end. The tank is drained and the wet seed are put in a screw press which takes out excess water. Then they are placed in thin layers on screen-bottomed trays set on frameworks which keep them off the ground to give wind free play, and slope them slightly toward the south to get more direct rays of the sun. They are stirred occasionally as they dry, the last bits of pulp, etc., being removed by hand.

Coachella Valley cotton men are claiming 650 pounds of lint per acre.

A TWO-YEAR GROWTH OF

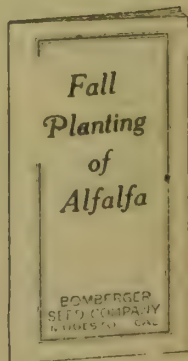
ALFALFA

IN ONE SEASON

Alfalfa sown in the fall under the right conditions has shown a growth next season nearly as heavy as two-year-old alfalfa. Fall seeding is worth knowing about.

SEND FOR BOOKLET

which tells about it, explains the conditions under which it pays, and contains much valuable alfalfa information. Sent free with Price List and Booklet describing Bomberger's Seven Kinds of Alfalfa.



YOUR SOIL NEEDS

Humus and Nitrogen Bacteria

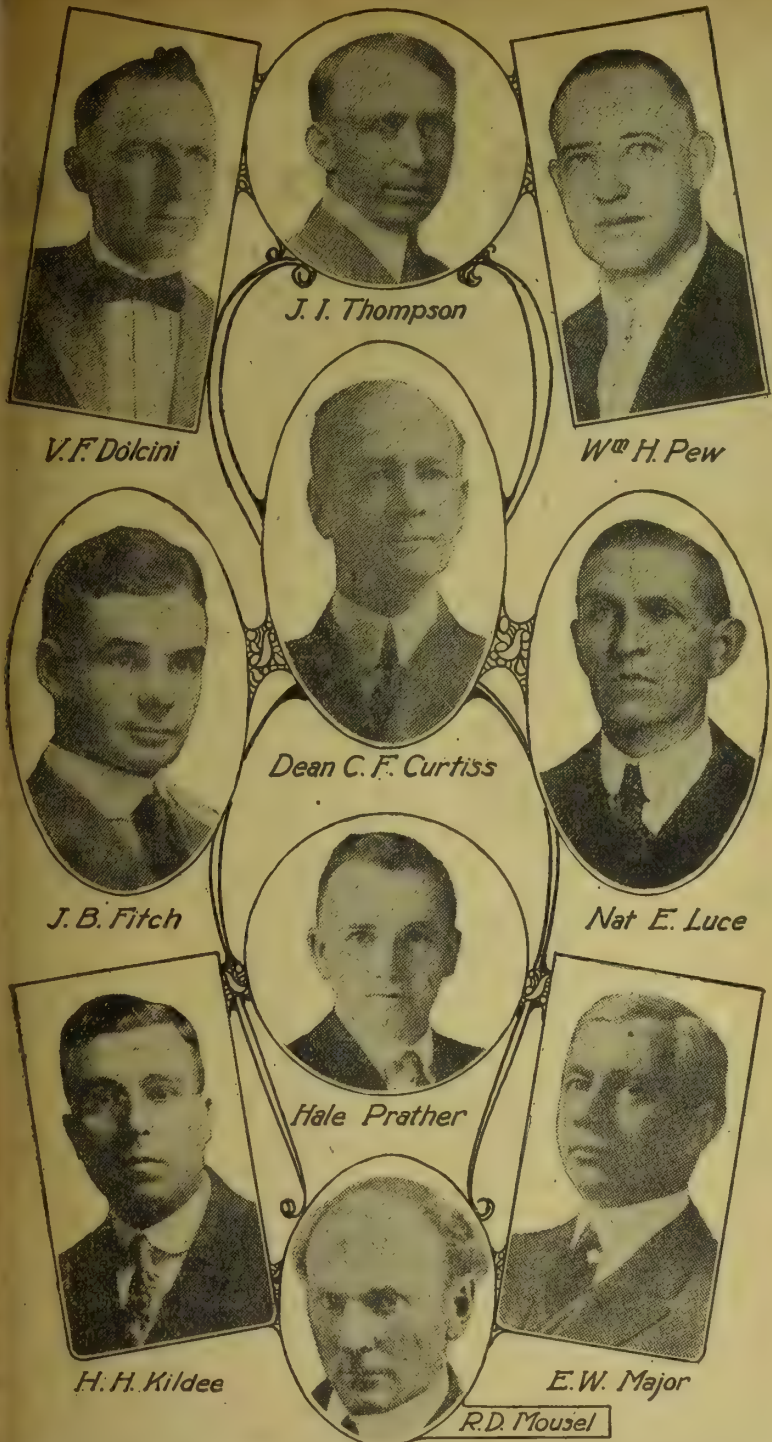
MELILOTUS INDICA Supplies Both

Now is the time to plant it. Buy your seed from

Aggeler & Musser Seed Co.

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Buy only Mellilotus seed that has a quality tag on each sack. It protects you against the low germination seed so general on the market this season. This seed is above 99 per cent pure and above 90 per cent germination.



Judges of the different classes of livestock at the California International, November 1-8, including draft horses, beef cattle, dairy cattle, swine, goats, poultry and pigeons.

THE LIGHT HORSE AT THE CALIFORNIA INTERNATIONAL

This class of horses will be in evidence chiefly in the horse show. This certainly promises to be one of the chief attractions of the week from Saturday to Saturday.

The following breeders and lovers of the light horse will exhibit their beautiful animals:

American Saddle Horses—H. C. Ahlers, San Francisco; Merritt-Bowers Co., Tulare; E. M. Simpson, Hood.

Thoroughbred Horses—Edward Cebrian, San Francisco; J. H. Rossiter, Burke; Merritt-Bowers Co., Tulare.

Standard Bred Horses—University of California; Merritt-Bowers Co., Tulare.

Arabian Horses—J. H. Rossiter, Burke; S. C. Thompson, Concord.

The tools and facilities for keeping harness in repair are comparatively simple and inexpensive. A considerable portion of the repair work on harness can be performed by the aid of tools required for other purposes, but there are a few special devices that are desirable.

In advertising livestock the race is to the steady runner, not to the swift starter. Keep it up. It pays.

THE DRAFTER IS COMING TO HIS OWN AGAIN.

The horse department of this show will be one of the largest and most complete of any show in the country. We will have good showings in the draft breeds, ponies and light horses. The drafter is coming into his own again and the demand for good breeding stock far exceeds the supply, so I know that the people of the country will be greatly interested in this department.

E. W. WESTGATE, Supt. Horse Division.

THE DRAFT HORSE AT THE CALIFORNIA INTERNATIONAL

All the prominent breeders of these massive and intelligent transportation assistants of man will have their beauties in the show ring at the crack of the whip. Some say that the day of the horse is over, but that has been prophesied before, and they still have a large place in even this tractor Heaven of the Great Southwest.

Prominent breeders from all over the State of Percherons, Clydesdales, Shires and Belgians will have their horses at the show. Among them we note U. W. Thompson, Patterson, Percherons, and Belgians; Merritt-Bowers Co., Tagus Ranch, Tulare, Percherons, Belgians and Shires; Easton & Ward, Diablo Stock Farm, Diablo, Shires; E. M. Simpson, of Hood, Clydesdales; estate of Thomas B. Dibble, Lompoc and Santa Barbara, Clydesdales; (Miss) Ruth Maxwell, Sonoma, Percherons; Palo Alto Percheron Farm, Palo Alto, Percherons; L. A. Hall, Mountain View, Percherons; Ratto Stock Farm, Napa, Belgians.

In advertising livestock remember that it is better to interest a few than to merely attract a multitude.

HEREFORDS

of Royal Quality--at Public Sale

EXPOSITION GROUNDS, SAN FRANCISCO,
FRIDAY, NOVEMBER 7, AT 1 P. M.

This is an offering of high-class Herefords selected by a Committee appointed by the Association, with the purpose to present in this sale the most notable offering of the breed yet made on the Pacific Coast.

Contributors to Sale:

J. H. CAZIER & SONS CO., Wells, Nevada. CHAS. RULE, Jenner, Calif.
H. M. BARNGROVER, Santa Clara, Calif. J. A. BUNTING, Mission San Jose, Calif.
W. J. BEMMERLY, Woodland, Calif. DIABLO STOCK FARM, Danville, Calif.
HEREFORD CORP. OF WYOMING, Cheyenne, Wyo.

THE FEMALES

The list of females includes many first-prize winners and proven breeding cows, a large number of them bred to such great bulls as Cazier's \$10,000.00 BEAU BLANCHARD 76th; Bunting's ANXIETY FAIRFAX and ALEC; Barngrover's PATRICIAN 5th; Bemmerly's NEW ERA 2nd and BONNIE BRAE 96th; and Diablo Stock Farm's BERTRAM FAIRFAX and WITCHFORD.

THE BULLS

Two Grand Champion bulls, SONOMA, winner at Denver, consigned by Chas. Rule, and CALIFORNIA PRINCE DONALD, consigned by J. A. Bunting, are included in a list of bulls that is rich in quality and breeding throughout. You can buy a real herd sire in this sale. Every animal guaranteed to be a breeder; every animal over six months old tuberculin tested.

Sale under auspices of

PACIFIC COAST HEREFORD CATTLE BREEDERS' ASS'N

J. I. CAZIER, Pres. J. A. BUNTING, Sec.
Wells, Nev. Mission San Jose, Calif.
Auctioneer—Sales Manager—
EARL GARTIN, Greensburg, Ind. C. L. HUGHES, Sacramento, Cal.

DON'T FORGET THE

Shorthorn Sale

To be held under the auspices of

CALIFORNIA SHORTHORN BREEDERS' ASSOCIATION

in conjunction with the

CALIFORNIA INTERNATIONAL LIVESTOCK SHOW

—at—

SAN FRANCISCO, NOVEMBER 6

At the California Building, Exposition Grounds, at 1:30 p.m. sharp

CALIFORNIA SHORTHORN BREEDERS' ASSOCIATION,

222 Sharon Bldg., San Francisco

Auctioneer, EARL GARTIN of Greensburg, Indiana.

SONOMA, 625,000

A proven herd header of royal breeding and weighing over 2400 lbs. will be sold at the

HEREFORD BREEDERS' SALE, NOVEMBER 7
at the California International Live Stock Show.

Meet me at San Francisco, November 1-8

(Will show a lot of young stock by this great bull.)

I am also consigning to the sale a few choice bred heifers.

FOR PRIVATE SALE, a carload of young bulls sired by Sonoma and out of good breeding cows. I have just sold a carload of these cows to an eastern breeder, without calves and in range condition, for \$1500 each, and refuse to sell more at the same price.

Meet me at San Francisco, November 1-8

CHARLES RULE

Duncan Mills,

Sonoma Co., Calif.

One Method of Drying Prunes and Grapes

(Written for Pacific Rural Press.)

"We only have six or seven acres of prunes so we dried them in short order and delivered them to the warehouse," said J. H. Coops of Sonoma. "We installed a Sebastopol apple-drier this year at a cost of about \$600—for we did the work ourselves—and had good success drying our prunes with it. It only holds about one and a half tons of green prunes to a charge. We half-dried our prunes in the sun and then finished them in 10 hours. Others took two days of ten hours each, but we had no mouldy or burnt prunes. We only have about 10 acres of grapes left, but we shall probably dry them as there seems to be a market for dried grapes and transportation on green ones is uncertain. This apple-drier does good work excepting on pears. They take too long and are apt to become dark."

5,000 Cherry Trees.

Mr. Coops has a good useful packing-house in connection with the drier, for he has apples, figs and pears, besides some grapes and prunes. But he will need it all ere long, for of his hundred acres of fruit, the greater proportion is cherries—about 5,000 of them of varying ages—enough already in bearing to keep on 20 pickers this spring.

The trees had good, full, green foliage when we saw them the last week in September and were very clean. He and his two stalwart sons run the place—one of them being just back from service in France. We asked Mr. Coops how he had kept his trees so clean of red spider for their old

haunts were still in evidence. He said we gave them a thorough spraying in the swelled bud last spring just before they broke.

The Spray We Used for Red Spider Was as follows: Soluble sulphur, 12 pounds to 100 gallons of water and 15 gallons of miscible oil. We put it on under good pressure. The miscible oil is very penetrating and even a few gallons of it makes a good spreader.

A Tractor Instead of Horses.

"We manage to get through with our work now that we have a tractor with very little trouble," said Mr. Coops. As you see we work right up to the trees and then work the ground down in good shape." If horses had to be relied on to take care of 100 acres with three men they would be very busy people for awhile, and if the Spring was late—followed as it so often is here at that time by north winds—the plowing and working down of such an area would be no snap with three teams.

Early Days.

Mr. Coops recalled the days, happily now passed, when they used to take their butter to the store and get 15 cents a roll for it (but you had to take it out in trade), and when eggs sold for 8 and 10 cents a dozen, with pork at 5 cents and hay \$5 a ton. It is difficult now to realize how farmers and their families managed to even exist when it took nearly all they made to pay the interest on the mortgage. Those days, like other slavery days, are gone, we hope, never to return.

The Fair Harvest of Raisins

(Written for Pacific Rural Press.)

At a meeting of the board of directors of the Associated Raisin Company it was resolved to make an initial payment of five cents a pound on Muscats, Thompsons, Malagas and Sultanas, instead of the 3½ cents provided by contract for the first payment, and eight cents will be paid on Bleached Seedless. The Associated is enabled to make these large payments because of the large volume of business already consummated with the trade. These first payments on all raisins will amount to nearly \$15,000,000, or about \$4,500,000 more than the contracts call for at this time.

This has been the greatest season ever known to the industry and will help to recoup some of the grievous losses sustained last year—particularly in the Northern counties—from rain. In view of the exceptionally heavy cost of production this year, the directors made a special effort to turn the money over to the growers as rapidly as possible so that they might meet their obligations without delay.

The Association will be able to market the entire crop of its members, amounting to some 150,000 tons, by the first of the year. Its financial position is now stronger than ever and its ability to handle the rapidly increasing output keeps ahead of the extra tonnage. The crops of members are insured on their own premises free of charge where such holding is done to relieve packing space at the company's warehouses during the rush season, now congested additionally by

car shortage.

The season of delightful weather has arrived in the great country centered by Fresno. And now plans are being laid for constructive investment. New trays in thousands are to be provided for next year, while tractors and cultural tools are to be bought in enormous quantities.

The unity of endeavor by farmers and business men has made this great center what it is. The facility of transportation by road and rail, the nearness of markets and delivery stations in all centers, the carrying out of great drainage and irrigation projects—all these things have been made possible by united effort and organization on the part of farmers, loyally backed and pushed by the business men. They have spent money by millions, and because of this every business prospers—you can feel it, it would stir the blood of a Florida cracker to life.

In every district in California where the grower is backed by the time, money and energy of live Chambers of Commerce and Business Men's Associations, that district finds it has a bonanza and money for improvement drifts that way. Los Angeles started it and all other rich centers are following suit—or remaining on the dump for a negligible few prospectors to exploit. Any great undertaking that benefits the farmer is a goldmine for the business man. Fresno is game and will chip in on every deal—except a raw one.

MELONS MARKETING BY AUTOMOBILE.

L. E. Wright of San Bernardino county has the reputation for having made a scad of money this summer from 3¼ acres of watermelons. He sure had a big crop, but that would have been poor consolation without proper marketing facilities. It wouldn't be profitable to dump the whole production into Los Angeles. Most of the crop was sold from two touring automobiles, one driven by Mr. Wright and one by his wife. A half-ton or even 1200 pounds of melons would be loaded onto each machine and hauled to nearby towns, such as Chino, San Bernardino, Ontario, Pomona, Redlands, Riverside, etc., and quickly sold at retail. The surplus was hauled by truck to Los Angeles on a motor truck.

DISTINCTIVE PLACE OF TRACTOR.

A tractor newly placed before the public, but not shown at any of the demonstrations or fairs, is the Union Tractor, the first model of which was exhibited at the California Land Show in San Francisco recently. It is of standard design except for the tracks. There are no steering wheels. The tracks are made of manganese steel, tough, unbreakable and all but unwearable. The distinctive feature is that the track does not sag but arches outward between the drive sprocket and idler wheel. This is due to the beveled contact faces of the track shoe-links. Their fitting together makes the track rigid. The weight of the tractor is entirely on the drivers and idlers with no truck wheels between them. A three-point suspension device gives flexibility to the frame.



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We specialize in fruit and nut-bearing trees. We know how to grow them and exercise great care to insure stock being received in good condition.

\$1,036,336 for Shelled Almonds

The above amount was paid for almonds imported into the United States during April. California fruit growers should plant more almond trees and keep this money at home.

Write to us about best varieties to plant.



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"GROZ-IT BRAND" Pulverized Sheep Manure

Cheapest and most efficient fertilizer — Highly concentrated — Dry, Odorless — No weed seed or foreign matter—a natural fertilizer.

Contains plant food as follows:

2.50%	Ammonia
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BARTLETT PEARS

20,000 fine trees.

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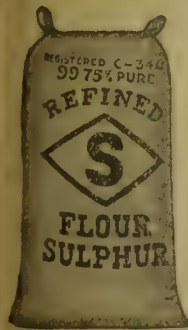
It describes Madewell Well Casing and other Madewell Sheet Metal Products in detail.

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ANCHOR Brand Velvet Flowers of Sulphur, also EAGLE Brand, Fleur de Soufre, packed in double sacks, are the fluffiest and PUREST sulphurs that money can buy; the best for vineyards; the best for

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For LIME-SULPHUR SOLUTION, use our DIAMOND "S" BRAND REFINED FLOUR SULPHUR. We can furnish you this Sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out in labor for spraying your orchard, even if you pay your men \$4 per day for making the solution and applying same.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre DIAMOND "S" BRAND POWDERED SULPHUR, 100% pure. This has increased various crops up to 500%.

Also PREPARED DRY DUSTING MATERIALS, Tobacco Dust, Dusting Sulphur Mixtures, etc., and "Anchor" Brand Standard LIME-SULPHUR SOLUTION 33 deg. Be. Fungicides and Insecticides. Carried in stock and mixed to order.

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CALIFORNIA CONDITIONS
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HAUSER PACKING CO.
Los Angeles, California

HORTICULTURAL JOTTINGS.

A seedless fig has been developed at Pomona by W. F. Bollinger.

The Federation of California Farm Bureaus has been completed.

John Solus, north of Yreka, reports gathering two thousand pounds of apples this year from a single tree.

Car shortage continues to hamper shipping of fresh grapes. Some wine grapes were reported to have been sold at \$90 a ton in New York.

A Gridley (Butte county) grower is said to have taken a crop of Thompson Seedless raisins from 10 acres that will bring \$8,000.

Attempts have been made to damage citrus and walnut groves in the vicinity of Pomona, Puente and Covina, it is reported, and that quantities of fruit and nuts had been stolen.

California walnuts are always a better buy than imported nuts because of the way they are handled. All light, undeveloped and imperfect nuts are taken out with a blower.

The Federal Land Bank at Berkeley, up to September 30, had approved 5,036 loans, totalling \$15,749,100, of which 4,546 had been closed to the amount of \$14,065,400 loaned.

A record price for a citrus orchard is claimed to have been established at Whittier last week with the sale of ten acres of 11-year-old Valencia oranges and lemons for \$60,000.

The growers have a community apple-drier in the Upper Mattole Valley (Humboldt county). Another drier has been started near Fortuna with a capacity of two dry tons a day. They will be running up to the end of January.

The fruit consignment of new season grapefruit arrived on the San Francisco market two days before the Tulare county fruit showed up. Arizona's first shipment consisted of 1200 Los Angeles lugs, which were offered at \$1.75 to \$2 a box, or about 6 cents a pound.

Eighty-four per cent of British ex-service men applying for small holdings of land have been approved as suitable. They number 7,763 men. Nineteen thousand acres is held by the Board of Agriculture for this purpose, and 41,000 more is offered by owners in response to the government appeal.

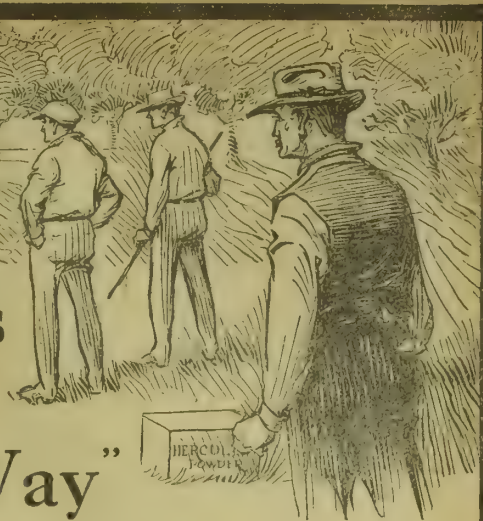
The California Associated Raisin Company is still short of layer raisins. In addition to the extra \$15 a ton offered for hand sorts a further offer was made of \$5 a ton for slip layers. Men with raisins still on the trays have been carefully examining them so as to make all layer raisins possible. A more humid atmospheric condition makes things more encouraging and the rush of work is through.

The California Walnut Growers' Association sold up to 23,000 tons of walnuts by confirmation within 36 hours of opening prices being published. Within three days they had to decline orders aggregating 93 carloads more in spite of heavier importations from Europe. The crop may run up to 2,000 tons more than earlier estimates, in which case they will all be snapped up by the trade.

Sixteen carloads of honey have been shipped out of Imperial this season and four more will follow. This will make up the average crop for this valley, which is about 20 carloads. A carload of honey contains from 300 to 350 cases of 120 pounds net. There are estimated to be 47,000 colonies of bees in Imperial county apiaries now, probably an extra number raised for sale, as colonies have been selling well this year.

One hundred carloads of Watsonville apples have been bought for the British Christmas trade by four firms in London. Two dollars a box f. o. b. Watsonville is the price mentioned. Difficulty is being encountered in supplying the necessary number of refrigerator cars. Transportation costs are 62½ cents a box railroad rate, and 85 cents steamer rate. With handling the cost is \$3.90 a box in London. The British Food Law prevents the sale of apples at higher than \$5 a box, which leaves a profit of \$1.10 for marketing and taking chances.

"There's A Right Way"



"Some folks think that when you blast for tree planting you've got to shoot the earth up to the sky—that's *wrong*. A good shot for tree planting just raises the surface earth two or three feet—then the force of the dynamite is properly used—it breaks up the earth all around the hole and gives the young tree's roots a chance to spread.

"The best dynamite to use for tree planting is

HERCULES DYNAMITE

and the best way to find out how to use it most effectively is to send to the Hercules Powder Co. for the 68 page illustrated book, 'Progressive Cultivation'. This book not only tells of the many things that dynamite can do to help you with your farm work but it gives detailed *directions* for every blasting operation.

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Ask for prices delivery from warehouse, Los Angeles and San Francisco, or ex-steamers November.

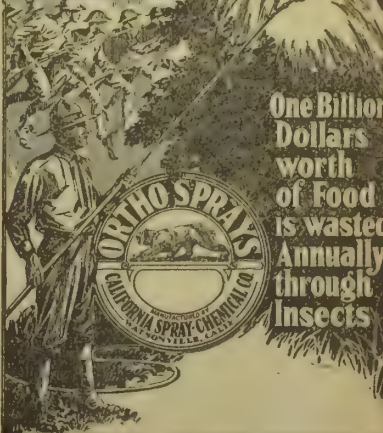
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311 CALIFORNIA ST., SAN FRANCISCO

The native California crabapple is scarcely as large as an average Picholine olive and hangs in similar clusters, only with very long stems. It has been hybridized with the Oregon crab by Albert Etter and a handsome crab produced an inch in diameter. It carries a brilliant color, covered with a plum-like bloom.

After November 1 we get the right time. Let's keep it.

ORTHO SPRAYS
will win the War
against the Insects



One Billion
Dollars
worth of
Food
is Wasted
Annually
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Insects

Get Citrus Trees Now for Next Year

	Age	Size	Price	Per 100	Per 1000
Wash. Navel	2-3	%	.85	.75	.65
Eureka Lemon	2-3	%	.85	.75	.65
Valencia-Late	2-3	%	.85	.75	.65

Send for complete list.
We raise only first-class trees.
SENTO CITRUS NURSERY
E. F. D., Box 421, EL MONTE, CALIF.

The Standardization of Fruit Varieties

(From an address by A. D. Shamel to the California Associated Nurserymen.)

One of the main reasons for the commercial success in the marketing of the California citrus crop is that only a few standard varieties are grown. The Washington Navel orange is the winter and the Valencia the summer orange. The Marsh is the only successful grapefruit variety. The Eureka and the Lisbon lemon varieties complete the list.

In looking over the commercial plantings of deciduous fruits and the production of these varieties in the United States as presented by H. P. Gould, I have been greatly impressed with the fact that there are only a few important apple varieties.

On the other hand, in going over several eastern nursery catalogues recently I was utterly bewildered by the multiplicity of varieties offered. With my limited knowledge of the subject, I could not determine in those catalogues any particular distinction of varieties, and after finishing reading the glowing descriptions of the many sorts I felt absolutely helpless. Some of the varieties were apparently new and were being introduced with most extravagant claims as to their value.

Opposes New Varieties for Commercial Planting.

I do not believe that any new fruit variety should be introduced and recommended for commercial planting until it has been proved to be commercially valuable and superior to existing varieties. I am a firm believer in experimenting with new forms and varieties, but I am seriously opposed to pushing and selling a new variety just because it is something new. I feel sure that this kind of business is the curse of the legitimate nurseryman and of fruit growers in general.

I have been told that some years ago there was a craze amongst certain nurserymen for calling their trees "pedigreed" without any foundation in fact. This false and misleading use of the term "pedigreed" has brought the word into such disrepute that we are still struggling to give its legitimate use a clean bill of health. This effort to get something for nothing resulted in some horticulturists turning against the idea of bud selection, and it will take a long time for us to overcome this handicap.

While I am a firm believer in the use of genuinely pedigreed trees I am as deadly an enemy of the fraudulent use of this term as anyone in America. But because some persons have abused the word this is no reason, to my mind, for condemning and discarding it. Such practice is not confined to horticulture. I went through the very same thing in my early work in corn improvement. As soon as the use of select seed corn became popular some seedsmen began to offer "pedigreed" seed corn, which they secured by backing a sheller up against a corn crib and taking any old corn that they could buy at the cheapest price.

The scandals in connection with fraudulent pedigrees in live stock are still fresh in our memories. Stock-selling promotion schemes for separating the unsuspicious purchaser from his money still flourish in many sections.

The peculiar difficulty in the nursery business is that many varieties of trees do not come into bearing until several years after the trees have been planted. By that time, in many cases the connection between the sources of buds and the trees has been lost. I think that this condition is largely responsible for the lack of progress in bud-selection work. The purchaser of seed corn finds out the value of his seed within a few months. With some fruit trees it takes a long time to get a line on their value. For this reason, care in propagation and bud selection in fruit varieties is all the more important.

I believe that we have reached the time when more careful attention should be given to varieties and only those of established value and importance should be propagated commercially. Furthermore, I feel sure

that we should now center our efforts for the improvement and standardization of these varieties.

Some Recent Developments in Bud-Selection.

The most striking recent development of the effort to introduce bud selection into the commercial propagation of fruit varieties has been the action of the California Fruit Growers' Exchange, in establishing a department of bud selection as a branch of the Fruit Growers' Supply Company. C. S. Milliken is in charge of this work and the first year supplied about 300,000 buds to citrus propagators. These buds were secured from superior parent trees, which were selected on the basis of their performance records. Fruit-bearing bud wood has been furnished propagators at the time it was needed for use and as it was used, in the nurseries or other places. I want to say here that in my opinion this is the greatest step forward in the improvement of any fruit crop ever undertaken in the entire history of horticulture. I feel certain that it will be looked upon in time as the beginning of a new and better era in tree-propagation work. It is significant that it has been done in California by the active, progressive, and forceful men of the citrus industry, who have been primarily responsible for many other vitally important reforms in fruit growing and marketing.

Success of Bud Selection Astonishing.
The immediate success of the bud-selection department under the present conditions is astonishing and more than many of us expected or dared hoped for. During the past two or more years little propagation of fruit trees has been done in California, owing to war conditions. Many of us feel that now that we have won the war there will be a great revival in fruit-tree planting. The holding back of planting during this period, together with the increasing knowledge of the value of fruits in human nutrition and the consequent increasing consumption of fruits for food and health, will be likely to result in the very active development and planting of fruit lands.

In facing this new era here and in our allied countries, where much replanting as well as new planting is in prospect, I want the California nurserymen to lead in the propagation of reliable trees grown from carefully selected buds of standard, established and thoroughly proven varieties.

ASCOLANO OLIVES UNSATISFACTORY.

(Written for Pacific Rural Press by D. J. Whitney.)

Olive varieties are paired off: Missions and Manzanillos for medium-sized, heavy-bearing, all-purpose olives; Queens (or Sevillanos) and Ascolanos for large-sized, fine-appearing pickles. However, on the Honora Realty Co. ranch at Lemon Cove, the Ascolano is held to be much the poorest of the lot, not on account of inferior yield, for it sets fruit well, but because it is excessively delicate in every way. "We have found," says Chas. Goodale, manager of the ranch, "that if the trees get pinched for water the slightest bit during the summer a lot of the fruit will shrivel and never will fill out, which is not the case with the other varieties. Frequently, for example, we do not pick more than half of our crop on that account. A touch of frost will ruin the Ascolano, while the Mission can be shriveled a little by frost and will firm up again if damp weather follows, though of course a serious freeze will ruin it. The Ascolano is very delicate to handle also; you almost have to pick right into water to keep from bruising them, and a little bruise will cause the fruit to turn soft and black.

"The Queen will not yield as heavily as the Manzanillo and Mission, but the much higher price makes the net returns per acre considerably higher as a rule, provided frost conditions are good.

[This is one of a series]

Early Spraying The Best

Ten years attention to detail has proved that those who spray with

ZENO

As soon as the leaves are off in the Fall,
Have better trees and fruit—because it controls
Scale when it is least resistant and barely started;
Destroys the eggs of aphids and red spider,
Preventing millions of insects from hatching;
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and more productive.

And these are reasons why ZENO has
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or by writing to us direct]

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Which will produce immediate effects.
Saves years of waiting. You can enjoy
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trees for shipment, we suggest that you
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pruner
made that cuts
from both sides of
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Write for
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Desires your business for gilt-edge orchard stock.
Strawberry, Logan and other Berry Plants.

Certified and Hill Selected Strains of Seed Potatoes.

RESULTS OF CROSS-POLLINATION OF CHERRIES.

(Written by Warren P. Tufts, Assistant Prof. of Pomology, University Farm, Davis.)

In the issue of the Pacific Rural Press of March 29, on page 481, I note what you have to say with reference to the pollination of the Napoleon (Royal Ann) variety of cherries. You might be interested in learning of the results of our experiments conducted under somewhat similar climatic conditions (as those in Soquel, Santa Cruz county).

During the season of 1917, we made a large number of cross-pollination experiments with the sweet cherry in the orchard of A. B. Carey at San Leandro. In these experiments we found that the "normal set" of the Royal Ann was only 5.8 per cent, and that the poorest set by hand pollination was 24.7 per cent. Below are recorded briefly the results of the season's work on the Napoleon:

Napoleon X Black Republican	32.9%
Napoleon X Black Tartarian	48.3%
Napoleon X Burr Seedling	58.7%
Napoleon X Pontiac	24.7%
Napoleon X Rockport	24.7%
Napoleon X Governor Wood	47.2%

It would seem from the above figures that the Burr Seedling is a very satisfactory pollinator for the Napoleon. However, the Burr Seedling variety itself is of little commercial importance, it being a variety which is very shallow-rooted and one on which there is much difficulty to secure a commercial set of fruit. The Rockport, although a variety of good quality, is not commercially desirable, and the same statement might perhaps be made of the Wood variety. The Pontiac is of little commercial importance.

Both the Black Republican and Black Tartarian varieties are suitable for securing good results with the Napoleon. However, the Tartarian, as a rule, blooms earlier in the season than does the Napoleon and for that reason is not always satisfactory, although most growers feel that the Tartarian overlaps sufficiently with the Napoleon to secure a set of fruit on both varieties. The Republican, on the other hand, overlaps well with the Napoleon in time of bloom. In working with these various varieties, we find different strains existing within the variety, and these strains exhibiting various differences so far as their pollenizing abilities are concerned, which leads us to be rather careful in making recommendations for the planting of pollenizing varieties for the sweet cherry. However, it is necessary to give the growers the best of our information, and so at the present time for the Royal Ann we are recommending either Black Tartarian or Black Republican, and possibly the long-stemmed Waterhouse variety. The Oregon Station has secured best results with the long-stemmed Waterhouse cherry as a pollinator for the Napoleon. There is another strain of the Waterhouse having a relatively short stem, which is unsatisfactory as a pollinator.

WINTER SPRAY—ORCHARD NOTES.

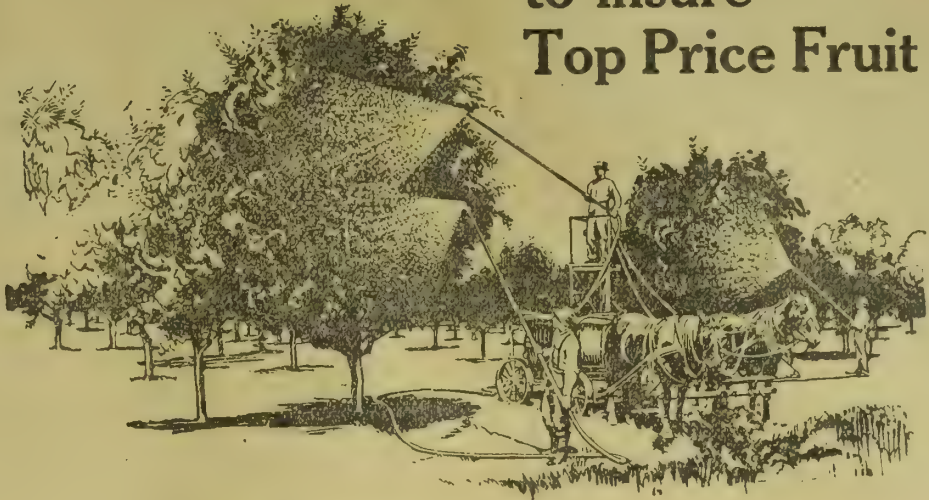
(Written for Pacific Rural Press.)

H. B. Hopkins, Horticultural Inspector at Watsonville, recommends the use of crude oil emulsion as a winter clean-up spray on apples. The best time to apply it in his section, he says, is from mid-December up to not later than February 10 on apples and not later than the first of February on apricots.

Every young tree that shows itself to be an "unprofitable servant" for any reason should be top-worked this winter to a strain or variety that will pay. But you want to make sure first that it is going to remain an unprofitable servant. Any young tree that shows itself to be permanently stunted should be dug up without any more delay and a good vigorous youngster planted in its place after preparing a thoroughly good hole for it.

Look out for gophers and get them now. In well-drained orchards they delve deep this time of year and sometimes nest under the root-crown of your best cherry-tree without giving much evidence of it.

Dormant spray must be used to insure Top Price Fruit



The Sap is a Tree's Life

The Sap-Wood may be called its Arterial System. This is the vital part of a tree. It must be protected, to yield vigorous growth. That demands thorough spraying before foliage appears. Sap-Wood pests must be prevented from draining a tree's vitality. The full flow of sap should be saved for bud and foliage points. Nothing known to growers equals Lime Sulphur for this work. Sherwin-Williams now make lime sulphur in dry powdered form.

S-W Dry Powdered Lime Sulfur

Is the regular standard 33° Baume, but sold to you *dry*, without the water. It does absolutely everything the liquid formerly did. It is not an experiment. For four years leading growers have used it. Millions of pounds have been sold, and users steadily re-order in greater quantities. It is well-known in every U. S. and State Test Station. It embodies every progressive advance in chemical science and agricultural research, invariably shows maximum results in actual orchard use.

For Scale and Fungus Diseases

S-W Dry Lime Sulfur is very effective against San Jose Scale, Oyster Shell Scale, etc., and is an equally efficient preventive against Rot, Scab, and various fungus diseases attacking apples, peaches, pears, grapes, etc. It is also of great value to citrus growers.

Combination Summer Spray

S-W Dry Lime Sulfur and Dry Arsenate of Lead combine with the greatest effectiveness as a mixed spray, for spring and summer use against leaf-curl, rot, scab, and against chewing insects.

Arsenate of Lead,

Arsenate of Calcium, Paris Green, Tuber-Tonic, Fungi-Bordo and Pestroy,—and a complete line of germicides, vermicides, dips and Wood Preservatives. For 53 years we have been selling Paints and Varnishes on their covering and protective powers. We are now the largest makers of insecticides in this country and sell them the same way, on their covering qualities, killing action and permanence.

A free copy of book,

"Sprayer's Manual" will be mailed on request. Address, The Sherwin-Williams Co., 618 Canal Road N. W., Cleveland, O.

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RHUBARB

WAGNERS IMPROVED

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Growers making \$1000 and over per acre annually. Splendid results in six months. Special prices for immediate planting. Also berries and small fruit, etc. Write to the originator, J. B. WAGNER, Rhubarb and Berry Specialist, Pasadena, Calif.

PUT THIS DOWN IN YOUR NOTE BOOK:
"Pacific new and re-noved pipe saves me money."
Renewed screw casing costs from one-half to two-thirds less than standard pipe. Large savings on standard pipe, fittings and valves; special fittings made to order. Pacific Pipe is thoroughly tested and guaranteed for 150 pounds working pressure; asphaltum dipped; serves every purpose. Let us save you money. Write!

PACIFIC PIPE CO. 229 Howard St. SAN FRANCISCO

Here and There in the Fruit Business

Advertising Our Almonds.

The California Almond Growers' Exchange has started on a nationwide campaign of advertising the "California Blue Diamond Brand Almonds" on a scale commensurate with the magnitude of its business. That is, on a scale equal relatively to that practised by the Orange, Raisin, Prune and Apricot, and Walnut Associations. On the top of each bag of almonds is an advertising tube containing two window posters, a talk to the retailer on the value of display, and a return postcard asking for free window decorations. Sixty-one thousand prominent retail stores will have the booklet, "From the Valleys of California," mailed them, followed by letter reminding them of the value of laying in their stocks for the holiday trade (the chief market for almonds). Full page ads will be run in the National Magazines. About two million pieces of advertising matter will be distributed by the Exchange during the shipping season. A large part of this advertising campaign will be paid by the price only obtained by reason of such activities. The united growers alone can push their markets on such a princely scale. Out of a world's production of 400,000 tons of almonds we only average 6,000 tons, but this will soon be doubled. It is necessary to hang together to capture our share of the markets.

Growing Apples with Clover.

There are certain localities in the Coast regions of Mendocino and Humboldt counties, especially in protected areas where redwoods stood, where apple orchards are very successful with clover and rye grass covering the ground. Geo. E. Wrigley of Elk River (Humboldt county) has such an orchard—results being eminently successful. His varieties are King (Thompson), Delicious, King David R. I. Greening, Wagner, Bismarck, Maiden Blush and Fall Gravenstein. In this ten acres, all the apples were very firm, symmetrical and brilliantly colored. No codling moth—the only spraying being done for scab. About two or three sprays are necessary for this. The only noticeable pest was apple aphid, a few trees showing bad infestation, but this Mr. Wrigley will control in another year by timely applications of oil sprays in early spring. The trees were green and fresh in mid-October, a small number of brilliant yellow leaves, showing the first sign of fall. The clover and alfalfa beneath the trees is regularly mown and fed and the manure returned to the land. It is only in a few localities that this plan is feasible.

Future Markets for Dried Grapes.

In a recent address to growers, Col. Harris Weinstock, State Market Director, who has been investigating foreign markets for dried wine grapes, said that an interest had been aroused in exporters, both East and West, who are ready to help in developing foreign markets for dried wine grapes, but they must have samples to show. These samples will now be forthcoming as a lot of grapes were dried from the 1919 crop. Colonel Weinstock said that in his survey good marketing possibilities were visible and European headquarters would be necessary for distribution. Samples will be sent to London, where considerable interest is shown with a fair prospect of future development. In the survey of foreign markets, Japan was found to be encouraging wine-making and there are great possibilities in China. More data will be available shortly with regard to canning must, concentrating and holding syrup and curing wine grapes and providing a market for these products beyond our own borders.

How Walnuts are Pushed.

How did the Walnut growers sell the bulk of the largest crop ever produced in the State in a few days, and at a record price? It was by pushing and advertising the nuts with the persistency of a chewing-gum manufacturer. Full page ads of the shelled nuts will appear in the Ladies' Home

Journal, Saturday Evening Post, Literary Digest, Good Housekeeping, and other national channels. One issue of the above magazines will reach 6,000,000 homes. In addition to this a vigorous trade paper campaign to retailers is carried out and artistic card displays for dealers' windows and offices are furnished, bearing a representation of "Diamond Brand" shelled walnuts. Such a campaign is only possible by the union of growers, 90 per cent of whom are members. Now that the speculator has been eliminated the grower gets all there is in his crop minus only the bare cost of marketing.

Almond Exchange and Fire Loss.

The Oakdale Almonds Growers' warehouse was destroyed by fire October 15th, with a fire loss of nearly \$50,000. Members of the Association have received notice from the California Almond Growers' Exchange that they would be compensated for every pound of almonds lost in the fire as they were full covered by insurance carried by the Exchange. The owner of the warehouse is the only loser, as he had cancelled his policies only a few weeks ago and was not covered by insurance. There was a total of 80 tons of nuts burned in the fire—all fancy varieties. Growers in this district are now shipping their nuts to Lodi for sulphuring and reshipment.

Apples in West India Market.

Under the preferential tariff apples from Canada are duty free in the British West Indies if accompanied with a certificate of origin. Otherwise the duty is 2 per cent ad valorem. There are no regulations in regard to insect pests or diseases. The cheaper classes of apples are shipped in barrels and sold on consignment, but the better classes, such as Canada Red, Spitzenberg, etc., are shipped in boxes and are placed in cold storage. These are generally in fulfillment of firm orders and the pack runs about 138. The season for best markets is from November to February.

Uneasy about Transportation.

Orange shippers at Porterville and district continue to be uneasy about the shortage of cars, which is delaying shipments. The copy of a statement, recently issued by Edward Chambers, director of traffic of the Railroad Administration, says the fault lies with the shippers who "delay the cars at destination" and who will not promise that any further steps be taken to expedite traffic as a more rapid freight service "will mean largely increasing the number of trains in the roads with a greater consumption of motive power."

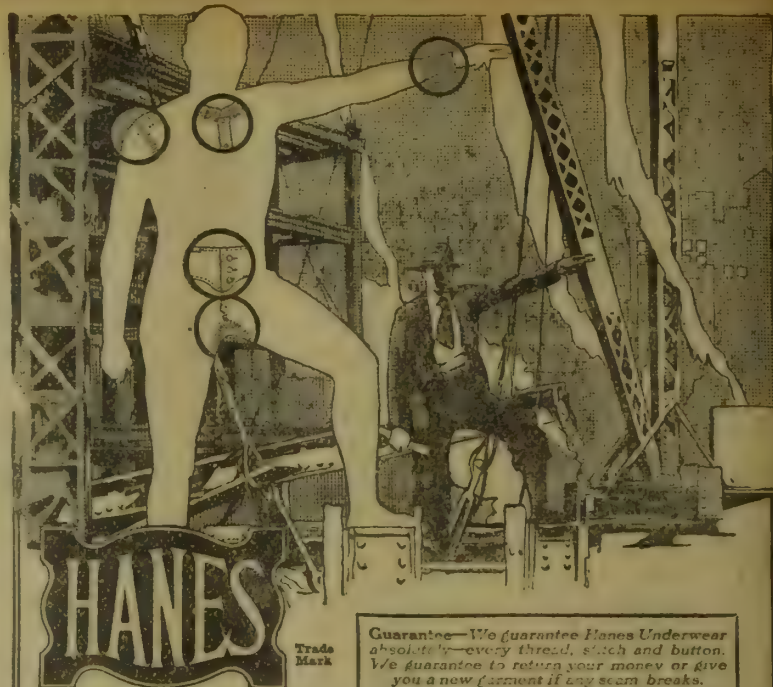
National Standard Fruit Pack Law?

A bill is to be presented to Congress for the standardization of fruit containers, it is announced by the National Basket and Fruit Package Manufacturers' Association, which recently held its annual meeting at Atlantic City (New Jersey). The bill will require that all fruit packages and baskets shall be of uniform size and specifications, so as to make secure packages and prevent loss in transit. It will also insure the consumer full weight.

Riparian Rights Sustained.

James J. Stevenson, Inc., received a verdict giving them \$200,000 damages in a suit in which the San Joaquin and Kings River Canal and Irrigation Co. (Miller and Lux) sought to condemn the riparian rights to 500 second feet of water of the San Joaquin River owned by the Stevenson Corporation. This was the fourth trial of the suit—one of the most famous in the history for water litigation in California.

Here we are, we Americans, sitting around with our hands in our pockets half the time, bragging about being the richest country in the world. And the "bankrupt" countries of Europe are getting us over a barrel while we are letting our opportunities of production slide. We could be amused if some other country were acting up this way, but Americans—!



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UNDERWEAR

Warning to the Trade—Any garment offered as "Hanes" is a substitute unless it bears the "Hanes" label.

Quality and care put into Hanes Underwear will astound any man!

You'd rate Hanes winter Men's Union Suits and Shirts and Drawers *sensational value* if you followed the bales of fine, long-staple cotton from the moment they entered the Hanes Plant until you saw Hanes Underwear packed into boxes for shipment all over the nation!

What goes into Hanes in quality and workmanship comes out to you in extra-wear, extra-comfort, extra-warmth!

Read every detail and compare with the circles in the diagram figure above, because you should understand that Hanes hands you: *Guaranteed* unbreakable seams, with reinforcements at every strain point; buttonholes last as long as the garment; elastic knit collar that won't gap; shape-holding elastic knit shoulders; snug-fitting three-button sateen waist-band; elastic knit wrists; pearl buttons sewed on to stay!

Hanes Union Suits are the best at the price. They have the desirable features of Hanes Shirts and Drawers with a closed crotch that stays closed!

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Union Suits for Boys are as wonderful value as are our men's garments. To mothers and fathers Hanes boys' Union Suits are superb. Cozy, fleecy warmth and the finest workmanship put these boys' suits in a class distinct from all others. They certainly do stand the wear and wash!

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32x3 1/2	12.85	15.85	2.70
31x4	16.30	20.65	3.15
32x4	16.60	21.15	3.25
33x4	17.30	22.00	3.35
34x4	17.80	22.50	3.45
36x4		26.60	
34x4 1/2	24.00	30.35	4.20
35x4 1/2	25.00	31.65	4.30
36x4 1/2	25.45	32.20	4.45
37x4 1/2		35.75	5.10
35x5	28.70	36.15	5.25
37x5	30.25	38.30	5.40

All other sizes in proportion.

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30x3\$ 9.25	34x4\$19.90
30x3 1/211.75	34x4 1/225.35
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Open Sundays and Evenings

PRUNE DELIVERIES BY THE ASSOCIATION.

(Written for Pacific Rural Press.)

The car shortage which affected the Prune and Apricot Growers' Association, in common with other industries, materially affects the extent of participation in September premiums. For the fruit could not be delivered. The heavy delivery of prunes extra early naturally increased the congestion of the associated warehouses caused by the car shortage—"plants that were never designed to store the majority of the largest crop ever produced in the State," says H. C. Dunlap, manager of the Organization Department.

Labor shortage also affected the expeditious handling at some of the plants. "Box-shook for packing has also developed shortage, due to a tie-up of traffic and cars on Oregon line to mills."

"This year, so far as deliveries and gradings have been reported, payments have been readily attended on an 8 cent basis. The accounting department has been at no time more than two or three days behind in grade sheets forwarded from packing houses. There has been delay in packing houses, owing to the vast quantity of deliveries—but where specially required, a very material payment on door receipts is made, to assist present needs."

"Financing has been attended with apparent ease. Shipments to date, along with our unsecured credit as a corporation, have developed sufficient funds without recourse in any instance to warehouse receipts on stored fruit. We even have hopes of completing the season without such necessity."

"More than the ordinary portion of fruit is now in process of distribution and will go early into consumption. Of late all dried fruit operators have been inclined to revise upwards their estimate of the present crop, and the possibility of hold-over into another season will certainly be materially minimized by the advantage of the greatest possible consuming period."

"All shipments we could make in September brought one cent a pound premium. Calculating by car shortage our premium loss amounts to \$39,000."

HORTICULTURAL JOTTINGS.

The trade prefer to pay a fair price and have the market maintained, rather than pay a low price with a fear that with low prices there would be demoralization.

Sixty-four carloads of apples left Watsonville centers in one day (Oct. 13), most of them for Eastern points. Forty-one were refrigerator cars. The car situation is improving.

The 100 tons of Nonpareil almonds that were bought in Chico early this year by the speculator at 21 cents indicates why it is possible for him to cut the Association price and unsettle the market.

T. J. Steves of Los Angeles county alone does the work of two or three men in an orchard. He uses a tractor whose operating cost while running is less per day than hay alone for the horses it displaces would cost while they are idle.

Of the two fires at almond warehouses this year, one of \$35,000 and one of \$50,000, members will be paid in full by the Almond Growers' Exchange for every pound of almonds, without cost to these members. Insurance is taken care of by the Association.

Ninety-eight per cent of sales made by the Almond Growers' Exchange, subject to buyer's approval of opening price contracts, were confirmed in full as booked as soon as prices were announced. Perhaps three-fourths of the crop have been sold at opening prices.

The trainload (of 42 cars) of grapes which left Turlock the first week in the month and was valued at \$75,000, was given the right of way East over everything except passenger trains. This was a fast box-car shipment of 550 tons of Zinfandels, Malagas and Muscats.

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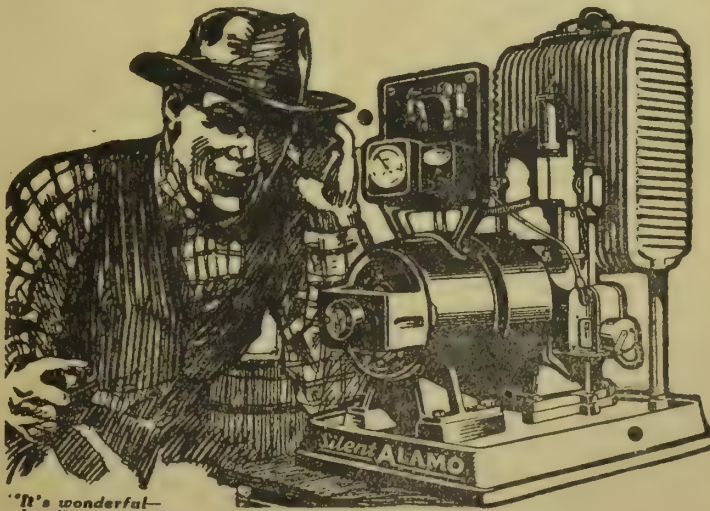
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now has well over 3,100 members!

Market Growers Sell at Their Own Prices

(Written for Pacific Rural Press by R. E. Hodges.)

At last tomato growers are setting prices for the fruits of their labor, f. o. b. ranch, and are getting their prices! That is for tomatoes to be shipped East. The Vegetable Growers of California, Inc., have arranged a contract with a produce-shipping concern of fifteen years' experience to take the tomatoes of Association members at their ranches at a price to be determined weekly. Similar arrangements are in operation with cauliflower, of which the Association controls more than half in Southern California, and the same is planned for cabbage and lettuce later.

During the week ending October 18 the Association price was 47½ cents per packed lug box f. o. b. ranch. Independent buyers were paying 40 cents to non-association growers. During the week ending October 25, due to a strong demand and diminishing supplies, the Association price rose to 62½ cents, while outsiders were paying 50 cents.

Practically all of the shipping tomatoes at this season are from Southern California. Eight or nine districts, including Puente, Chatsworth Park, Hansen Heights, Pacoima, Compton, Gardena, and Santa Ana will be shipping in quantity until about Christmas. Two or three carloads a day are moving to market under the Association agreement which, according to Mark Grimes, member of the Association Executive Committee, covers between 50 and 60 per cent of all shipments.

Growers Use Marketing Intelligence.

This is the first time tomato growers have had a firm, intelligent hand on the distribution of their products. Each Saturday a representative of each district meets in the Association office at Los Angeles with the Association marketing agent and a representative of the shipping concern. They discuss market and crop conditions throughout the country and the probable demand. Then a price is set for the coming week. This price is designed to return to growers a fair profit, above costs of production. Probably when the demand is good, the growers will figure on recuperating some of the losses encountered in the chaotic period a few weeks back. They ought to. Growers cannot continue producing crops unless the year's work produces a profit. If production drops because producers are forced out by low prices, consumers will perforce pay higher prices than if producers continuously get living returns.

The price can be intelligently set now as never before. The U. S. Department of Agriculture has offices in Los Angeles reporting both crop and market conditions throughout the nation daily. The Association, with its

large acreage, can make use of the information furnished by the Government. Individuals have the same information available, but are powerless to make it useful in getting proper prices. The Association also gets reports from Eastern growers' associations which help. In addition, the shipping concern is vitally interested in furnishing the best information it can get from its eastern representatives. This information is given at the price conferences as correctly as possible; for if the price set for the coming week is too high, competitors can undersell him on the markets. If the price is too low, the growers kick hard, and some of them sidestep their contracts. As there are some 45 speculative buyers in Southern California, some of them very powerful, and some very desirous of undoing the Association, it behooves the price conference to set the right prices.

Economies in Operation.

However, the Association has a great advantage over the independents in its possibilities of greater economy in operation. It can ship in carlots, which most of the others cannot. Its shipper can send motor trucks to the ranches and haul full loads with relatively short hauls because the trucks do not have to travel so far to get their full loads. The Association cost of hauling averages about three cents per box from ranch to packing house. Then, knowing that they will have a certain amount to pack each day, packers can be assured steady work with a minimum of waste time. Mr. Grimes figures that the packing for Association members costs four cents a box less than that for outsiders. Every avenue of waste is being eliminated as much as possible.

All economies in handling are important to the growers, even though they get their price for tomatoes at the ranch, for their price at the ranch is set on the basis of selling in competition on the markets at the growers' price plus the shipper's cost of operations plus the shipper's commission, all of which are known in detail by the price conferees.

Here is another great economy. The shipper knows it is good business to handle so large a quantity practically certain to be delivered. He does it for eight per cent commission on gross sales, whereas the ordinary commission for selling is said to be 15 per cent, except to the biggest growers who get a rate of 12½ per cent.

Growers marketing through the Association shipper also have a much better chance to dispose of their entire shipments promptly. They have copies of the sales accounts and can trace their tomatoes to the retailers of each lot. They have intelligent and profitable control of the prices and marketing of their own products.

Wheat or Barley for 1920

To the Editor: In your issue of August 30, you wrote an article on the prospective profits from barley and wheat for 1920 harvest. In one sentence you say, "Wheat planting this fall is a better bet than barley where wheat may reasonably be expected to make half as many sacks per acre." When writing that sentence, did you have in mind that 75 per cent of the land in this State on which the 1920 wheat crop will be grown has been growing wheat ten to fifty years and almost continuously? Furthermore, did you have in mind that the chances of growing twenty sacks of barley to the acre on said land is twenty to one greater than growing ten sacks of wheat? Also can a farmer grow less than ten sacks of wheat at a profit at present prices and cost of labor and other items entering into the cost of growing wheat? Admitting the foregoing to be facts, is not 20 to 1 rather strong odds for a poor devil of a farmer to play against by playing your favorite "wheat"?—C. M. Barney, Monticello.

What we did have in mind when we wrote that sentence was that a great deal of barley land might well be de-

voted to wheat for the coming season. We also remembered the diverse conditions in this State and preferred to let each individual barley grower judge for himself whether his fields could produce half as many sacks of wheat as of barley. We feel quite sure that if ten sacks of wheat can be grown per acre this season, the prices will return a reasonable net profit to the growers, considering the facts stated in the article. More recently, an attempt has been made to dampen the ardor of wheat enthusiasts, and thus to restrict the area to be planted in U. S. this fall and next spring. But still more recently the U. S. Wheat Director expressed sentiments that lead us to believe that he is not in harmony with the wet-blanketers. Moreover, even if it might be well for American wheat planting as a whole to be reduced, we maintain that until we raise enough wheat in California to feed ourselves, it will still pay better than barley so far as anyone can see now. It is barely possible that ten sacks of wheat per acre on such land as you describe has about one chance to be realized where twenty sacks of barley has 20 chances.

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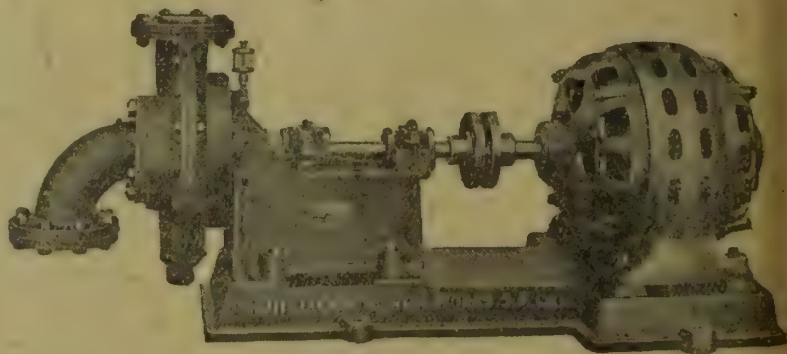
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"BYRON JACKSON" PUMPS are built to meet every condition of
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Write us your conditions.
New Catalog No. 60-A for the asking.

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IRRIGATION SYSTEM



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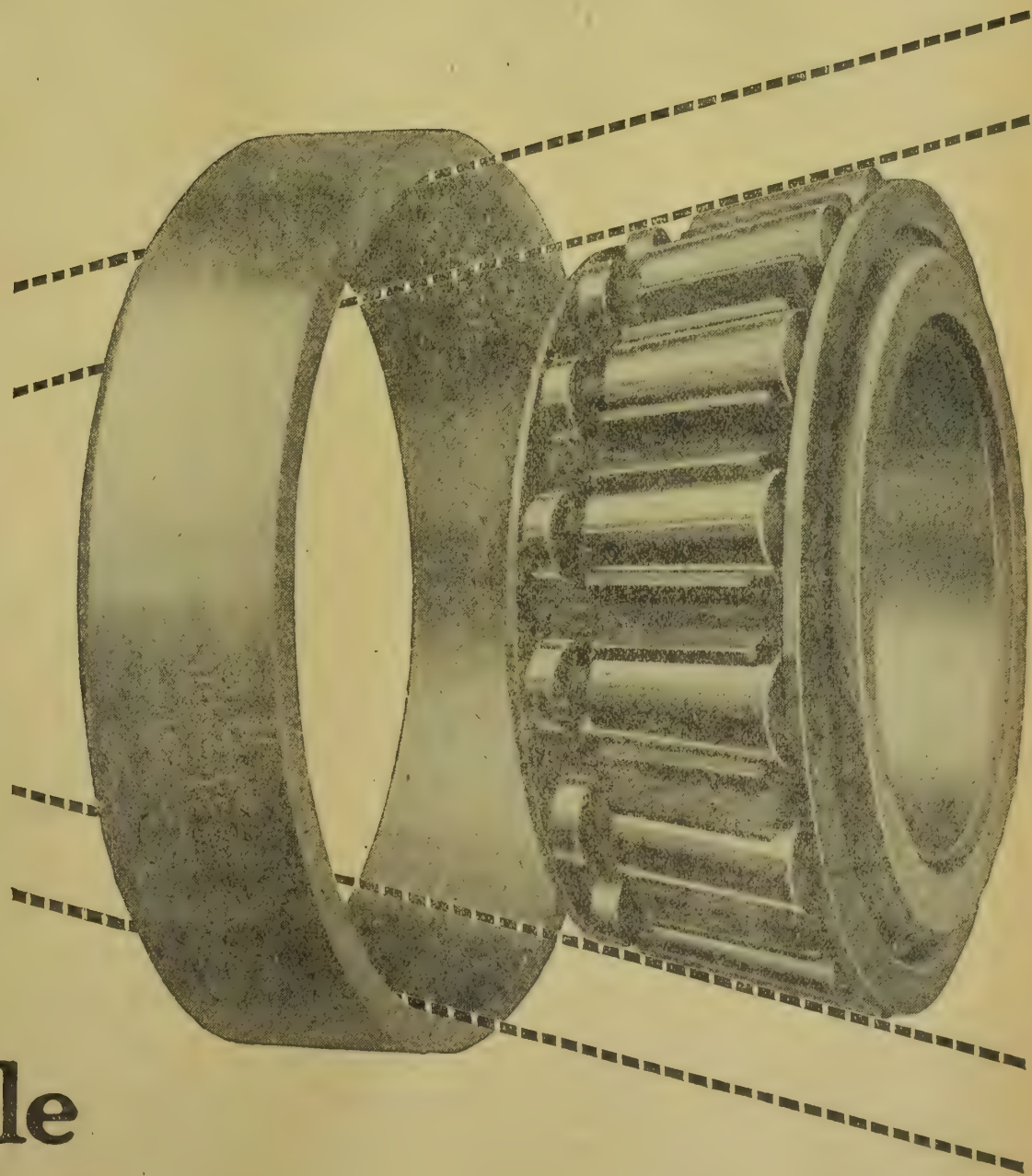
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Canton, Ohio

Suggestive Agricultural Pointers

Tomato Seed at Less than \$2.

A great quantity of tomato seed grown in 1918 is for sale by the Vegetable Growers of Cal. Inc. at less than \$2 per pound, according to Sec. J. M. Rittigstein. These sold at \$4 per pound last year. They are of the New Stone, San Jose Canner, and Hammer Globe varieties. Delivery can be made at Santa Ana, Los Angeles, Sacramento, San Francisco, or Santa Rosa. The Association has enough for two years.

Vegetable Side-Issue Pays.

War necessity started P. R. Canady of Huntington Beach, Orange county, into gardening in 1918 as a side-issue to his jewelry business. This season, besides furnishing a fine exhibit for the county fair, Mr. Canady sold \$365 worth of vegetables between Feb. 27 and Sept. 30 from one-half acre. These cost him \$111 besides his own labor.

Beans Make Bigger Barley Crop.

H. G. Hansen of Monterey County raised about 200 acres of beans in 1918 and still had the beans at planting time in 1919. However, he planted 300 acres for this year's crop because he has found that beans are better than fallow or pasture to increase the barley that is grown the following season on the bean land.

Bean Crop Estimates.

October reports to Field Agent E. E. Kaufman of the U. S. Bureau of Crop Estimates indicated that with practically all of the planted area harvested, the average yield of lima beans for the State was about 450 pounds per acre this year, making a total production of about 540,000 sacks as compared with last year's crop of 1,545,000 sacks. Ventura county produced about 60 per cent of the total crop on practically half of the total acreage. Beans other than limas show only 60 per cent of a normal crop in the Santa Maria and Lompoc district. As this district is the largest producer of small whites, it means a material decrease in the production of this variety. In the Salinas Valley, conditions are better. A heat wave, September 18 to 20, in the Sacramento Valley put still another crimp in the beans of that district, and conditions are only about 60 per cent of normal, which on reduced

acreage means a greatly lessened production. San Joaquin Valley fares but little better, and the estimated yield per acre for the State is about as low as ever recorded. The production forecast is for about 3,487,000 bushels. This gives a total for all beans of 4,387,000 bushels compared to 8,584,000 bushels last year and 8,091,000 bushels in 1917. Bean production in the United States is estimated at 12,690,000 bushels compared to 17,437,000 bushels in 1918.

Only \$2.36 for a Name!

Fourteen cents a gallon is the cost of preparing a chemical weed killer, whose formula was recently published by Prof. Geo. P. Gray of the University of California. An enterprising body designed a label with a name and added about eight parts water to one of the formula and has offered it to the gullible for \$2.50 per gallon—guaranteed to do the same work!

Save Seed Potatoes Now.

With a short U. S. potato crop in sight, seed sellers may boost prices next spring. Save your own seed at half the cost and know that it is from uniformly productive hills free from disease.

Bean Movement from San Francisco.

On September 1 there were 236,110 sacks of beans in San Francisco warehouses. During September 146,289 sacks were received. At the end of the month there were 216,840 sacks on hand. Shipments out of San Francisco during the month were 19,270 sacks more than the receipts during the same time.

Sweet Onions—New Vegetable.

C. O. Watts—farming 12 acres of the R. H. Middleton ranch—is now harvesting a crop of Spanish sweet onions. This is one of the only two fields of this onion in the United States—and finds a ready market at \$6.00 per hundred pounds, f. o. b. the ranch. Mr. Watts will harvest over 200 sacks to the acre. The seed was imported from Spain by Kirkpatrick of Riverside, and 2 pounds of seed was used per acre. The product is finding a ready sale in Los Angeles markets retailing at 15c per lb. It is estimated about 50 acres will be planted next year by this ranch alone.

Some Seed That Will Be Scarce

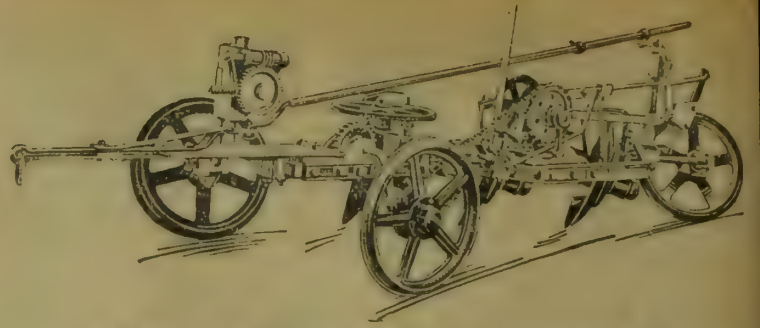
(Written for Pacific Rural Press.)

What we may expect in the way of prices for seeds of various sorts can be provisionally estimated from the supplies as shown in the table below for the United States. Most of the figures do not include the 1919 crop, however. The figures are adapted from the latest issue of the "Seed Reporter," published by the U. S. Bureau of Markets. June 30 is the season of lowest stocks and January 1 about the heaviest stocks normally. Figures represent pounds.

Kind	Total receipts for year ending June 30.		Stocks on hand June 30.		Stocks on hand.	
	1919	1918	1919	1918	Jan. 1	Feb. 1
Alfalfa	46,048,277	44,760,630	4,242,443	11,320,640	18,903,988	26,682,259
Common vetch	1,984,507	5,244,308	254,572	2,119,976	797,185	2,869,968
Sudan grass	6,242,488	4,415,611	136,041	669,780	1,055,841	850,740
Beans (snap)	40,169,329	24,196,871	14,974,514	5,688,906	26,187,252	11,915,254
Mangels	1,112,431	819,342	799,059	693,536	692,030	742,561
Cabbage	649,917	711,296	593,203	610,358	613,318	750,783
Carrot	3,073,243	2,106,009	1,055,673	573,262	1,466,078	751,871
Cauliflower	15,473	9,037	10,820	8,064	8,465	9,674
Lettuce	1,395,063	1,578,257	913,143	879,169	1,155,831	1,049,038
Onion	2,947,497	2,324,079	828,311	348,400	1,416,172	854,872
Peas	76,302,941	59,397,675	9,795,056	8,892,940	49,770,739	35,667,246
Spinach	3,382,031	1,474,866	1,508,561	511,558	1,790,060	520,590
Tomato	762,069	439,069	388,774	190,603	460,447	286,768

It will be noticed that the total stocks on hand June 30, 1919, show only one-third of the alfalfa seed this year that there was last. Of vetch seed, there was only a tenth as

spinach seed had trebled; and tomato seed in stock was double that of June 30, 1918. These data would be interesting in connection with figures on this year's crop which are not yet available.



FOR ORCHARD WORK

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LOS ANGELES

California Federation of Farm Bureaus

Delegates from thirty California counties, representatives of 20,000 members of California Farm Bureaus were convened at Berkeley, October 23, to organize as a State Federation. This was done and W. H. Walker of Willows (Glenn county) was elected President, and presided at the sessions at the conference at the College of Agriculture following his election. J. K. Macomber of Tipton, Tulare county, was elected vice-president, the offices of secretary and treasurer being left open till a suitable appointee is found by the president.

The conference decided on a definite program for the first year, under the leadership of seven regional directors

representing various sections of the State.

The Livestock Committee, headed by J. W. Schmitz of Madera, will put in a State-wide campaign for the use of purebred sires throughout. The plan is to have a Dairy month, a Hog month, a Sheep month, and a Horse month, during which the united efforts of the county bureaus will be exerted to secure the exclusive use of purebred sires in their respective counties. Boys' Pig and Calf Clubs will also be promoted through this committee.

The Irrigation and Drainage Committee, R. L. Moorhead of Sutter county, chairman, will attempt to correlate all the local irrigation projects now under way in the State into a campaign for a greater irrigation area in California and to mitigate, prevent, or reduce injury to the soil from alkali by proper systems of drainage.

A Marketing Committee, under J. A. Teagarden of Placer county, will study the marketing conditions of the State, promote livestock auction sales now held in a number of counties and cause their spread in other districts. This committee will also inaugurate a wool pool among sheep raisers of the State and will maintain an inter-county exchange for high-class products, such as pure seed.

The Grain Growers' Department, George H. Sawyer, of Stanislaus county, chairman, will determine a plan for handling the grain crop. It is hoped that grain may be graded into lots of like quality under a state system of grain standards and be pooled.

The Fruit Committee, under Sheridan Baker of Sonoma county, will promote pruning demonstrations and investigations of tree and plant pests and diseases and investigate the question of fertilizers, their application, and results.

The Educational Committee, Volney H. Craig, of Los Angeles, chairman, will have charge of publicity work, improvement of rural schools, and the spreading of information relative to production and cost. The Committee for Community Improvements with Fred J. Hart of Salinas, Monterey county, as chairman, will work for the improvement of rural social life.

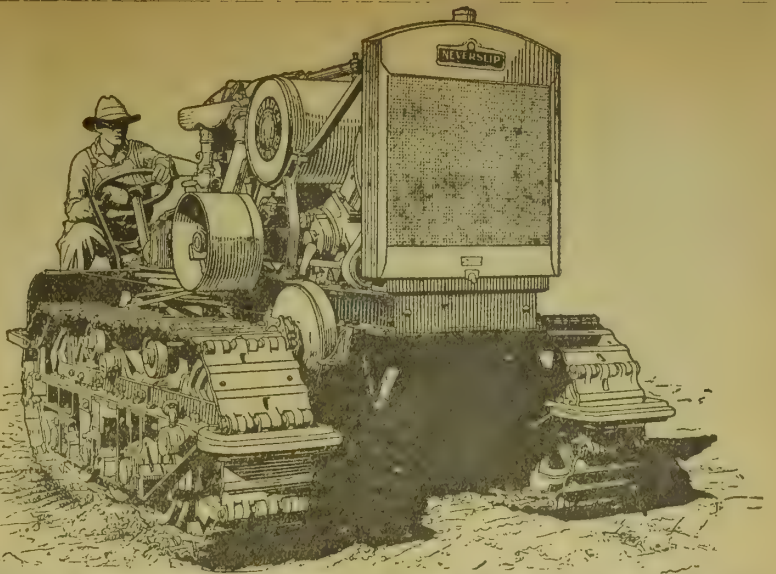
The California Farm Bureau Federation is to become a unit of the American Farm Bureau Federation, which is to hold its organization meeting in Chicago on November 9 and 10. The three delegates named by the conference to attend the national federation are: President W. H. Walker of Glenn county; Volney H. Craig of Los Angeles county, and George H. Sawyer of Stanislaus county.

NOTES ON THE BLOOMING OF SQUASHES.

To the Editor: Why are all the blossoms on my eight hills of Hubbard squash male? Last winter I saved the seed from a squash taken from a plant growing in a corn field the previous summer. It made a very rank growth, but had only four squashes, though it made many more blossoms. The vines I grew this year were all fine, but up to August 1st not one female blossom appeared. I planted fifty hills of squash and pumpkin. The summer varieties are satisfactory and I see some Boston marrows developing, also a few pumpkins, but Hubbard seems a flat failure.—J. G. A., Napa.

(Answered by E. B. Babcock, Professor of Genetics, University of California.)

In general, I know that some members of the squash family sometimes produce almost no male blossoms, for reasons unknown to me; but they usually will produce at least two or three before the vine stops growing. Dr. A. L. Hagedoorn who has done experimental work on squashes which made it necessary to use the female flowers only, tells me that some varieties produce almost no female flowers, and those they did have come just at the end of the growing period. Furthermore, he observed that his difficulty was more pronounced when working in Holland



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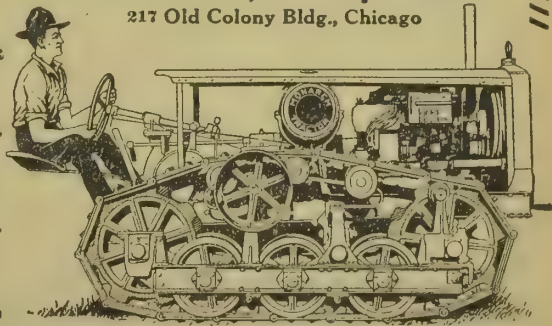
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than when he was working on his investigations in France. He did say, however, that he never failed to secure at least a few female flowers on each vine. Therefore, I hope that, by this time your wayward vines have reformed and that the prospects of Thanksgiving pies of Hubbard derivation are improving.

One-third of the striking miners are said to be of foreign birth and parentage and generally illiterate. Are they believed to take a lead in American affairs?

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36x4 1/2	11.50	3.25
37x5	12.75	3.75

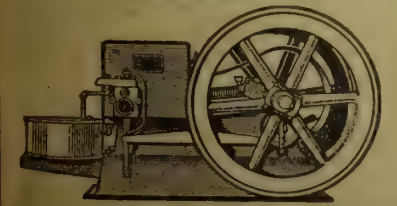
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How to Pay Debts--Keep More Livestock

(Written for the Pacific Rural Press by Thos. F. McConnell.)

In the current issue of a very popular farm paper there is a very able article on "How to Borrow Money." This is a very widely discussed subject, but it seems as though in reality it is not nearly as important to know "how to borrow money" as it is to be able to pay a person's debts. In fact, there is no question but what the idea of most farmers who want to borrow money is generally with the purpose to pay off a number of small debts, to buy more land, machinery or livestock. It has been the observation of many authorities, and the writer as well, that the farmer or rancher who keeps livestock and even cares for it in a reasonably good manner, does not have to borrow money, and if he does think it necessary he has no difficulty in getting all he needs at his bank on as long "time" and at as reasonable a rate of interest as anyone.

Swine Solves Some Problems.

The hog is known as the "mortgage and tax-payer," and has pulled many a farmer out of the "slough of despond" of debt for the reason that pork fresh, and more particularly the cured, is so universally used on the tables and in the kitchens of the American housewife. Not only is there always a ready market for the hog, but the rancher's land is not made appreciably poorer by selling hundreds of hogs from off the place, but if feed is bought the farm grows richer with the farmer, for the larger proportion of the nitrogen, potash and phosphorus in the feeds consumed are retained on the farm in the form of manure. Then, too, if the swine are handled properly, at intervals of two or three months there are hogs ready for the market, and in this way money is coming in at frequent intervals, instead of once a year, as is the case with the majority of the grain and fruit ranchers.

The hog is somewhat of a scavenger and will eat waste that otherwise would be lost. Some weeds, if the ground is mellow enough, will receive somewhat of a set-back if not actual eradication by the busy "rooters." This is true of the "wild morning-glory" that is such a pest. Do not expect the hog that is given all he will eat of concentrates, or has good alfalfa pasture, to pay much attention to the "morning-glories," but if forced somewhat the young growing shoters will "root out" many of the bad weeds.

Sheep as Scavengers.

The sheep also is somewhat of a scavenger and will eat almost anything, even to its detriment sometimes, and eat some of the poisonous plants. The same thing is true of the sheep that is of the hog, only more so, and that is that the mutton carcass or the wool contains but little of the fertility content of the food consumed. The fertilizing constituents are returned to the soil through the manure. In fact, sheep are noted for cleaning and reviving weedy "and run down" farms.

Lewis county, Idaho, was a wonderful barley, oat and wheat region, but through constant cropping to small grains became very badly infested with all sorts of weeds from the most luxuriant annual to that very persistent perennial "quack grass" (*Agropyron repens*). Summer fallowing helped some, but sometimes the "fallow" ground would be neglected and enough of the weeds grow to cause some trouble the following year. Some of the ranchers procured small flocks of sheep that kept the ground clean "as a whistle" and yielded an income as well. There are many ranches in California where sheep could be used as weed scavengers, as well as in Idaho and other states. It does not take much of a woven wire fence to "stop" sheep either, so the expense in that direction would be of the smallest.

The income from sheep is bunched more than with hogs, but the income is distributed somewhat, as there are several sources, such as the fat lambs for market, fat yearlings and even "two-year-olds." The wool that is generally considered the main source

of income is clipped from twice a year to three times in two in California. A flock of sheep is always considered a reliable source of income by bankers.

Dairy Returns Come Often.

The dairy cow that furnishes a constant, almost overflowing source of income, is always to be considered as one of the mainstays of the livestock industry. They are not the scavengers that either the swine or sheep are, but they certainly furnish one, or we might more truly say, several of the principle articles of food for the people of the United States. Again, we can say that the fertility is retained on the dairy farms and grain crops continue to be abundant and even with proper management gradually increase in yield until the maximum is reached. While there have been some arguments against the prosperity of the dairy farmer by some good authorities, still, taken as a whole from one end of the country to the other, the communities in which dairying and hogs are kept are generally communities in which the banks are noted for large deposits.

The cream check comes twice a month and if a milk route is supplied more or less, all the time. Where hogs are kept there is an added source that makes the banker even more willing to lend money if it is necessary, for the simple reason that they can see a way for the dairyman to pay his debts if he has reason to contract any.

Beef Cattle an Excellent Resource.

The dairy cattle are not the only ones that offer a more certain return than just plain grain and fruit ranching. We must not forget the beef and the dual-purpose cattle. In the same county of Lewis, Idaho, mentioned above there was a certain rancher who wanted to borrow some money. He called upon a banker and enumerated several hundred acres of grain that would be ready to harvest in 60 days and would be almost certain to yield heavily. However, the banker could not quite see his way to make the loan until the rancher mentioned the fact that he had quite a bunch of Short-horns from calves up to cows that were looking well. The banker told the borrower that he should have mentioned the cattle first. Suffice to say that the money was loaned because the banker could see an almost positive asset in the livestock.

It might also be well to mention that the particular locality was visited by a hail storm that very materially reduced the yield of grain on this ranch, as well as others in the vicinity, and was used by the banker mentioned to emphasize his position with regard to the safety of loans made to ranchers carrying a reasonable number of cattle.

Therefore, when we see the wise men of the nation telling us "How to Borrow Money," just remember that the banker is really willing and glad to loan money for a long time and at a low rate, if there is a good lot of stock to back up the rancher in his work, or even if he wants to borrow money to start in the livestock business, if there is evidence that the purchase is to be a reasonable and a just venture.

In support of what we have said above there are bankers that are backing boys on their individual notes, without the signature or O. K. of the parent or guardian, to the extent of \$200 to each boy for the purpose of buying purebred hogs. This is not in one locality alone, but is increasing and promises to be a very excellent demonstration of "how to pay debts."

There is no greater cause for loss and drudgery on the farm than a lack of business principles. System and good sense make long days shorter, hard work easier, mortgages lighter and the family life more easy and free.

Quicklime is good to put in the graves of animals that die from contagious diseases. In using it the carcass should be surrounded and covered with twice its weight of the quicklime.



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AT LOS ANGELES LIVE STOCK SHOW:

3rd on Senior Bull Calf, 1st on Cow (4 years old or over), 1st and 4th on Cow (4 years old or over), 1st on Junior Yearling Heifer, 2nd and 4th on Senior Heifer Calf, 3rd on Junior Heifer Calf, Senior Champion Cow (2 years old or over), Senior and Grand Champion Cow, 1st on Calf Herd, 3rd on Get of Sire.

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Imported Itchen May King
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Senior Herd Bull, many times
Grand Champion, and sire of
12 A. R. daughters.

Junior Herd Bull ROYAL ROSE KING,

By Itchen May King, out of
Belladia, A. R., 19,631 lbs. milk,
934.05 lbs. fat.

PENCOYD'S GOLDEN MAY SECRET

By Longwater Pencoyd, out of
Nellie Jay 4th, A. R., 20,709 lbs.
milk, 1,019 lbs. fat.

WE WON AT LOS ANGELES:

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- 2nd on Junior Bull Calf.
- 1st, 2nd on Cow (4 years old or over).
- 1st on Cow (3 years old and under).
- 1st, 3rd on Heifer (2 years old and under).
- 2nd on Senior Yearling Heifer.
- 1st, 2nd on Junior Yearling Heifer.
- 1st, 2nd on Senior Heifer Calf.
- 1st, 2nd on Junior Heifer Calf.
- 1st on Aged Heifer.
- 1st on Young Heifer.
- 1st on Calf Heifer.
- 1st, 2nd on Four Animals, (Either sex—any age, get of one sire).
- 1st on Two Animals (either sex, any age, produce of 1 cow).
- 1st on Five Cows in Milk.

ALL CHAMPIONSHIPS.

And at the National Dairy Show—
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Grand Champion in Guernsey Bull Class
with.

"ITCHEN MAY KING"

**Bull Calves for Sale
at Reasonable Prices**

**W. H. DUPEE, Owner
Santee, Calif.**

PUREBREDS, CROSS-BREDS, OR GRADES?

(Written for Pacific Rural Press by Thos. F. McConnell.)

The question as to which of the classes of livestock is the most profitable to feed is an old one and has been discussed pro and con ever since the purebred animal came into existence, particularly among the breeders and growers of the meat-producing animals. The same question has been brought up regarding the dairy animal, but it is not as persistent as it is in the meat-producing animals because it is possible and also has been even compulsory to a certain extent to measure the results of feeding dairy cows a certain amount of feed, and the yield therefrom generally reduced to the form of butter fat. As the feeding for records has gone on year in and year out with the dairy animals and results are generally in favor of the purebred, we do not hear so much about the value of the grade or cross-bred in this direction. Again, it is generally conceded that a purebred sire of any of the dairy breeds used on grade herds will show improvement in the milk production in the offspring so marked as to leave no question as to the value of this practice.

Purebred Superiority Generally Recognized.

Another indication that the value of the purebred is becoming more evident is the agitation in favor of laws compelling the use of purebred beef sires on the range, showing that many of the range men have become convinced of the importance of the use of registered sires.

It has also been quite a fashionable thing for some swine raisers to cross-breed for one generation, claiming better results in growth by this method. At a recent sale a former advocate of cross-breeding made the statement that six purebreds in a carload of cross-breds raised the price on the carload three points; and that it was the purebreds for them after this. A carload of purebred hogs at Hanford some time ago topped the Farm Bureau Auction Sale of market hogs due to their uniformity in every way.

It is conceded that in the past, and it will probably happen again in the future, that certain breeds of livestock at times have deteriorated from their one-time excellence, due to their following some color fad or other characteristic really foreign to the economic value of the particular breed. This in most cases has been corrected and the breed returned to their former position of usefulness and popularity.

The Chief Objection.

The chief objection on the part of the owners of grade herds to the use of purebred sires is the initial cost as it is commonly admitted that it costs no more to grow (in fact really costs less) and maintain the purebred than it does the scrub. The extra ten to one hundred dollars first cost looks too large and the grade or scrub sire that may look very fine and good but has not the generations of prepotent ancestors back of him is bought instead. For this really paltry amount the sire that would produce more and quicker growing offspring is turned down when in one crop of pigs, calves or lambs, the difference would be made up ten times over by the use of the purebred sire. There is an old saying that "blood will tell," and there is no place where it is more certain of demonstration than in the use of a purebred sire in a grade herd or flock or by the use of a well-bred registered sire in a purebred herd or flock over one of more or less indifferent breeding.

Sore and watery eyes of animals may be relieved by a solution of ten per cent boric acid and ninety per cent pure water. Apply it on absorbent cotton and use a fresh piece every time the eyes are treated.

Advertising livestock is not a gamble. The breeder who tries to get along without it is taking all the chances.

Santa Anita Rancho

ANOAKIA BREEDING FARM

ARABIAN THOROUGHBREDS

Out of our choicest Thoroughbred mares, and sired by our famous imported Arabian stallion, Ibn Mah-russ, we are offering some splendid two and 3-year-olds. Also some especially desirable young saddle stock sired by Ibn Mah-russ, world renowned Arabian desert stallion, and by Don Castano, five-gaited saddle stallion, winner in many prominent shows.

REGISTERED PERCHERON HORSES

The Percherons at Santa Anita were selected with strict regard to quality, and the type to meet California demand. Our stallions and mares have been prominent and consistent prize-winners wherever shown, and we are now in position to offer a few very desirable young stallions at attractive prices.

REGISTERED MAMMOTH JACKS

The foundation of this herd was laid with big, broody jennets and headed by "King Bersheba," the best jack that money could buy. We now have for sale a number of two and three-year-old jacks of exceptional breeding and quality.

REGISTERED HOLSTEIN CATTLE

The herd is headed by PRINCE WALKER CORNUCOPIA, the highest record son of Prince Gelsche Walker. Prince Gelsche Walker justly ranks as the greatest Holstein sire yet developed on the Pacific Coast. His daughters have broken more state and world's records than those of any other Pacific Coast sire, and have proved themselves producers and breeders of the first rank. In public sales in California, seven sons, seven daughters, four grandsons, and five granddaughters of Prince Gelsche Walker, have sold for a total of \$28,670.00, or an average of \$1,246.00 per head for the twenty-three head, an average not closely approached by a like number of descendants of any other bull in the West. The dam of PRINCE WALKER CORNUCOPIA is Alba Sadie Cornucopia Creetia, the only cow in California with a record above 36 lbs. butter in 7 days having a previous record above 34 lbs. butter in 7 days. She also has a record of 866.28 lbs. butter from 18,849.4 lbs. milk in 338 days. She is sired by Sir Sadie Cornucopia, whose dam was the first cow to make over 30 lbs. butter in 7 days, Sadie Vale Concordia, and she is the dam of the 40-pound cow, Sadie Vale Concordia 4th, who is the dam of one 38-pound daughter, and the great sire King Korn-dyke Sadie Vale, who has also sired a 40-pound daughter.

Among the females in our breeding herd are twenty-three daughters of Prince Gelsche Walker, some of them just now coming into milk; a large number of good record cows and heifers of substantial breeding; and a choice lot of granddaughters of Winnie Korndyke Cornucopia De Kol, the first cow in California to make over 1200 lbs. butter in one year.

We are blending and developing the blood lines that have produced some of the greatest animals of the breed, and offer a number of young bulls that should work improvement in your herd.

REGISTERED POLAND-CHINA SWINE

Our swine breeding is not confined exclusively to one breed—Poland-Chinas. The herd is headed by "Quality Bob"—1st and Junior Champion at Wisconsin State Fair. Same at La Crosse. 5th at National Swine Show. Miss Big Price, 3rd at Wisconsin State Fair. 1st Senior and Grand Champion La Crosse. 6th at National Swine Show. Miss Big Price 2nd, won 6th at Wisconsin and 3rd at La Crosse. "Quality Bob" will be used on daughters of "Superba" and "Banker's Boy."

OPEN AND BRED GILTS FOR SALE

Santa Anita Rancho

Anita M. Baldwin, Owner
Santa Anita, California

Los Angeles Livestock Show a Big Success

(Written for Pacific Rural Press.)

The attendance on the last three days was lessened somewhat by rain, that old bete noir of fair managements east of the Missouri River. However, the show was so good, from massive stallion to the miniature doe and from the harness racer to the "galloper," that nothing but success can be made out of it. Drafters, dairy and beef cattle, sheep, swine and goats were all looked at by the public, inspected by the judges and pronounced "good and perfect" and awarded ribbons to the glory and edification of their owners and friends. Manager Thomas deserves a great deal of credit for the way he planned and carried out this immense undertaking and every one knows that he is a wonder when it comes to making a show a success.

Hampshires Have High-Class Stock.

Exhibitors: L. A. Denker, Saugus; Roy E. Fisher, Lincoln, Nebraska; C. J. Gilbert, Lancaster; Gordon and Langdon, Ferris; Fairbanks Ranch, Redlands; Conejo Ranch, Newbury Park; Geo. I. Lytle, Perris; I. F. Stone, Perris. Judge, C. R. Doty, Charleston, Ill. Prizes in the blue were pretty well distributed with Conejo Ranch winning five, Denker, four; Fisher, three; Gilbert, two; Gordon and Langdon, two and Fairbanks Ranch, one.

Senior champion boar, Harvey's Choice, Fairbanks Ranch. Reserve senior champion boar, Liberty, Conejo Ranch, Junior champion boar, Chong, Denker.

Senior champion sow, Florine 2nd, Conejo Ranch. Junior champion sow, Mother's Choice, Gordon & Langdon.

Grand champion boar, Harvey's choice, Fairbanks Ranch. Reserve grand champion boar, Chong, Denker.

Grand champion sow, Florine 2nd, Conejo Ranch. Reserve grand champion sow, Mother's Choice Gordon and Langdon.

Aged herd: First, Conejo Ranch; second, Fisher; third, Gilbert; fourth, Fairbanks Ranch. Young herd: First, Denker; second, Fisher; third, Gilbert; fourth, Gordon and Langdon.

Breeder's herd: First, Gilbert; second, Denker; third, Gordon and Langdon; fourth, Fairbanks Ranch.

Get of sire: First, Conejo Ranch; second, Fisher; third, Gilbert.

Produce of dam: First, Conejo Ranch; second, Gilbert.

Guernseys Are Good Ones At Los Angeles.

Exhibitors: W. H. Dupee, Santee; A. B. Humphrey, Escalon; James Marwick, Santa Barbara. Judge, Ed Carey, Carlton, Oregon. Three exhibitors only, but then if quality is considered at all Los Angeles had the greatest Guernsey show so far this year. W. H. Dupee's herd fresh from winning at the National Dairy Show at Chicago won the most blue ribbons with the Grape Wild Farm herd closely following. Marwick won first on senior yearling bull.

Senior champion bull, Imp. Itchen May King, Dupee. Reserve senior champion bull, Escalon Challenger, Humphrey. Junior champion bull, In-

spiration of Edgemoor, Dupee. Senior champion cow, Cheminante 11th, Dupee. Reserve senior champion cow, Merry Lady of Edgemoor, Dupee. Junior champion heifer, Victorius of Edgemoor, Dupee. Reserve junior champion heifer, Patroness of Edgemoor, Dupee. Grand champion bull, Imp. Itchen May King, Dupee. Grand champion female, Cheminante 11th, Dupee.

Aged herd: First, Dupee; second, Humphrey. Young herd: First, Dupee; second, Humphrey. Calf herd: First, Dupee; second, Humphrey.

Get of sire: First, Dupee; second, Dupee; third, Humphrey.

Produce of dam: First, Dupee; second, Humphrey.

Cows in milk: First, Dupee.

Los Angeles Has Big Jersey Show

Exhibitors: Grant A. Brown, El Monte; E. S. Haas, Downey; Frank Reed Sanders, Chandler, Ariz.; J. E. Thorpe, Lockeford; University of California, Davis; J. E. Wherrell, Riverside; Winsor Ranch, Bonita. Judge, Ed Carey, Carlton, Oregon. J. E. Thorpe of Mossdale Farms won the most blue ribbons, with nine to the credit of his herd; F. R. Sanders winning four; Grant Brown, three and University of California, one.

Senior champion bull, Jolly Senator Raleigh, Thorpe. Junior champion bull, Biddy's King of Mossdale, Thorpe. Reserve junior champion bull, Jolly Ben of Mossdale, Thorpe.

Senior champion cow, Shy Lady Viola, Brown. Reserve senior champion, cow, Desert Honeysuckle, Sanders. Junior champion heifer, Owl's Mermalden Fern, University of California. Reserve junior champion heifer, Oxford's Nora's Pretty Daisy, Sanders.

Grand champion bull, Jolly Senator Raleigh Thorpe. Reserve grand champion bull, Biddy's King of Mossdale, Thorpe. Grand champion cow, Shy Lady Viola, Brown. Reserve grand champion cow, Owl's Mermalden Fern, University of California.

Aged herd: First, Thorpe. Young herd: First, Thorpe; Calf herd: First, Brown; second, Thorpe.

Get of sire: First, Sanders; second, Thorpe; third, Brown; fourth, University of California.

Produce of dam: First, Sanders; second, Thorpe; third, Sanders; fourth, Thorpe.

Cows in milk: First, Thorpe.

Excellent Hereford Show At Los Angeles.

Exhibitors: Conejo Ranch, Newbury Park; Wm. Henn, Kansas City, Mo.; D. H. Ogden, Alpine; The Hereford Corporation of Wyoming, Cheyenne, Wyoming. Judge, Wallace Good, Kansas City Mo.

The Hereford Corporation of Wyoming won all firsts except one. Will Henn won first, second, third and fourth on senior yearling bull and second, third and fourth on bull 2-years-old. The Conejo Ranch won second, third, fourth and fifth on heifers 2-years-old with a beautiful string and second and third on get of sire. D. H. Ogden gathered in second

MILKING SHORTHORN BREEDERS' MEETING CALLED.

Santa Rosa Stock Farm, Santa Rosa, Oct. 27th, 1919.
Pacific Rural Press, San Francisco:

Gentlemen: As a result of my advertising in your paper, I have received so many letters from people all over the Pacific Coast desiring to purchase Milking Shorthorns, that I have been unable to supply the demand. I have taken the matter up with Alexander & Kellogg, and other well known breeders of this strain, and found the same condition to exist.

We have, therefore, come to the conclusion that it would be best to call a meeting of all interested to discuss ways and means for supplying the demand, either through the organization of an association or club, and would, therefore, request that you run a notice in your paper requesting all owners of Milking Shorthorns (no matter whether they own one bull or a herd), and all those who contemplate purchasing Milking Shorthorns, to meet with us at Convention Hall in the California Building at the International Live Stock Show on November 4th, at 2 o'clock.

W. B. Ayre, President of the Eastern & Western Lumber Co., of Portland, Ore., the veteran breeder of Milking Shorthorns on this Coast, has consented to be present at this meeting, and will, undoubtedly, be able to make many suggestions of great value to all who attend.

THOMAS HARRISON.

GEO. A. SMITH & SON'S DISPERSAL SALE

CALIFORNIA'S LARGEST SALE OF
Registered Holstein-Friesian Cows

At Geo. A. Smith Ranch—CORCORAN, CALIFORNIA

Wednesday and Thursday
November 5 and 6, 1919

OUR FOUNDATION HERD

100 Young Registered Holstein Cows. Not One Over 3 Years Old.

GETTING BETTER ALL THE TIME.

Some Fresh—Others Will Freshen Soon.

ALL TUBERCULIN TESTED

They Are Real Holsteins

measured by every standard you wish to apply, including TYPE-BREEDING and ACHIEVEMENT. Visitors who have seen this herd pronounce it "One of the Best They Have Ever Seen." They are the CREAM of 140 Head that we purchased in New York, Ohio, Wisconsin and Michigan.

BREEDING

They are sired by Sons of KING OF THE PONTIACS, HENGVERELD DE KOL, PONTIAC, AAGGIE KORNDYKE, RAG APPLE KORNDYKE 8th, PONTIAC KORNDYKE, COLANTHA JOHANNA LAD, KING SEGIS PONTIAC, SIR PONTIAC RAG APPLE, BEAUTY PIETERTJE BUTTER KING, JR., and MANY OTHERS whose names are famous for Great Milk and Butter Production. YOU may PAY MORE but You will GET NO BETTER.

PROVEN WORTH

Is what thinking men tie to no matter what they buy. It is something real—it's dependable, and you can rely upon it when you want results. If you are building a FOUNDATION HERD of REGISTERED HOLSTEIN CATTLE for Both Pleasure and Profit, it will PAY YOU to secure Cattle that have PROVEN THEIR WORTH at the PAIL and CHURN.

68 of these Cows are NOW on YEAR'S TEST. Several have FINISHED THEIR TEST and MADE GOOD RECORDS on ordinary Herd Feed and Care.

THE BULL

Nearly all of these cows are bred to Our Great Herd Sire—FINDERNE SOLBENE PONTIAC VALDESSA—the Bull with the Phenomenal Backing—a son of a WORLD'S RECORD COW, and his Sire is a Son and Grandson of WORLD'S RECORD COWS. Calves with this breeding will be very valuable.

COME — IT'S YOUR OPPORTUNITY — COME

A Sale that will please you, no matter whether you want ONE or a CARLOAD. SEE the Cattle before the Sale—SEE their Records—SEE their Calves. We are keeping their calves for our future Foundation Herd.

Autos will meet all trains sale days.

Good Hotel Accommodations.

TERMS

Arrangements can be made for Time by Responsible Parties before the Sale.

GEO. A. SMITH & SON, Owners

CORCORAN,

CALIFORNIA

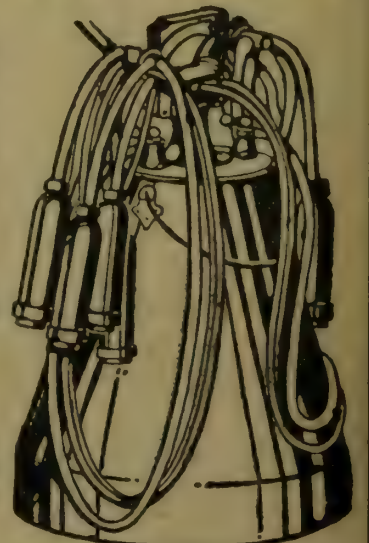
Universal natural milker

Right now good dairy help is hard to get and wages are mighty high. Why stick to the old-fashioned, laborious, time-wasting, hand-milking method while other dairymen are saving time and making bigger profits by using the Modern Universal Natural Milker?

One Universal lasts a lifetime. It alternates, milking two teats at a time, while it is massaging and relieving the other two.

Write for Catalog

Learn about this simple, dependable mechanical milker that enables one man to do the work of three, and do it better.



CALIFORNIA HYDRAULIC ENGINEERING AND SUPPLY CO.
68 Fremont Street, San Francisco
Dept. A, 420 E. Third Street, Los Angeles

on aged bull, second on junior bull calf, second and third on senior heifer calf, second on calf herd and second on produce of dam. The Hereford Corporation of Wyoming won all championships with their great exhibit from the "high country."

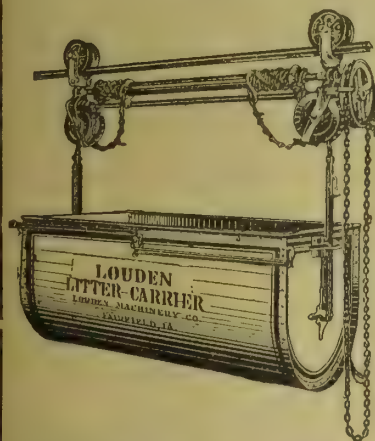
Ayrshires Are Attractive.

Exhibitors: A. MacMinn, Phoenix,

"I've saved enough time since
I installed a

LOUDEN LITTER CARRIER

To Pay For It
3 Times Over!"



That's what one dairy farmer recently told us. And time is not the only factor in cleaning a barn. Shoveling manure every day requires man-power and means labor. A Louden Carrier will save the labor of at least one man. Makes barn cleaning easier, cuts labor, cuts cost.

Send for Catalog and
Free Book of "Barn Plans."

CALIFORNIA HYDRAULIC ENGINEERING AND SUPPLY CO.

68 Fremont St., San Francisco
420 E. Third St., Dept. A,
Los Angeles

AN-FO

AN-FO Calf Meal contains rich, nourishing vegetable fat. Doesn't scour. Calves drink it without coaxing. Raises sturdy calves.

Sold by feed dealers, or
ANIMAL FOOD CO., OAKLAND.



Lump Jaw

The farmer's old reliable treatment for Lump Jaw in cattle.

Fleming's Actinoform

Sold for \$2.50 (war tax paid) a bottle under a positive guarantee since 1896—your money refunded if it fails. Write today for FLEMING'S VEST-POCKET VETERINARY ADVISER. A book of 197 pages and 57 illustrations. It is FREE.

FLEMING BROS., Chemists, 327 Union Stock Yards, Chicago

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal
R. D. "A," Box 457.
Two miles out North First Street.

Ariz.; J. Henry Meyer, Watsonville; University of California, Davis. Judge Ed Carey, Carlton, Oregon.

The Elkhorn herd owned by J. Henry Meyer, San Francisco and Watsonville, was very much in evidence, taking all firsts except one, all seconds except two and all championships as well. The University of California won first on produce of dam. The winning of nearly all ribbons by one herd is not interesting and exciting as where the competition is more keen, but in this case it was a great Ayrshire show, as the cattle of the Elkhorn herd are typical of the very best of the breed and always in show shape. We hope to see more of these excellent Scotch "coos" in the state in the near future.

BERKSHIRE BREEDERS SHOW AND SELL AT LOS ANGELES.

Exhibitors: Mrs. F. M. Connor, Pasadena; F. L. Hall, Perris; A. B. Humphrey, Escalon; Italian Vineyard Co., Guasti; J. Francis O'Connor, Santa Rosa; University of California, Davis; Mrs. A. B. Walters, Perris.

Judge, E. J. Barker, Thorntown, Indiana.

The first prize places went nearly all to two breeders, with A. B. Humphrey winning the most, J. Francis O'Connor coming next, with F. L. Hall and Italian Vineyard Co. getting one each.

Senior champion boar, Grape Wild Emblem, Humphrey. Reserve junior champion boar, Choice Goods 10th, Italian Vineyard Co. Junior champion boar, Escalon Type, Humphrey. Reserve junior champion boar, Grape Wild May Star 2nd, Humphrey.

Senior champion sow, Emblem Escalon Belle, Humphrey. Reserve senior champion sow, Leader's Invincibella 2nd, O'Connor. Junior champion sow, Castleview Premier Belle, O'Connor. Reserve junior champion sow, Castleview Rival Duchess, O'Connor.

Grand champion boar, Grape Wild Emblem, Humphrey. Reserve grand champion boar, Escalon Type, Humphrey. Grand champion sow, Castleview Premier Belle, O'Connor. Reserve grand champion sow, Escalon Emblem, Humphrey.

Aged Herd—First, Humphrey; second, Italian Vineyard Co.; third, Humphrey; fourth, Hall. Young herd—First, O'Connor; second, Humphrey; third, Italian Vineyard Co.; fourth, Hall.

Breeder's herd—First, Humphrey; second, Humphrey; third, O'Connor; fourth, Hall.

Get of sire—First, Humphrey; second, Humphrey; third, Hall.

Produce of dam—First, Humphrey; second, Humphrey; third, O'Connor.

Barrow—First, Humphrey; second, O'Connor; third, University of California. Pen of three barrows—First, Humphrey.

On the afternoon of October 22, at the Los Angeles Live Stock Show, the Western Berkshire Congress held one of their promotion sales. Generally stockmen will advise and vote against holding a public sale at a fair where its varied attractions are pulling the buyers and bidders away from the more necessary business of purchasing hogs, but the Berkshire men held one on the above date and it was a good one, too.

Some of the finest individuals coming directly from the show ring, where competition was of the keenest, carrying the highest ribbons, with best of breeding, the kind, too, that speak for themselves were offered and sold. The public were given an opportunity seldom found of buying at their own price, champions of the show.

The sale averaged \$135.51 with 29 sold. The top of the sale was J. Francis O'Connor's grand champion sow, Castleview Premier Belle. This sow was also junior champion at the State Fair. She was bought by F. L. Hall of Perris. Three from Mr. O'Connor's consignment sold for an average of \$380, but at that they were worth the money. The gilt, Superior May 59th, consigned by Anchorage Farms, Orland, brought \$300. She was bred to a son of Star Leader and was bought by Geo. A. Stingle of the Lark Meadow Ranch, El Monte.



DE LAVAL the world's standard CREAM SEPARATOR

There are more De Laval's in actual use than of all other makes combined.

A De Laval purchased now will pay for itself by spring.

Ask nearest agent
for a demonstration—ask nearest
office for his name

DE LAVAL DAIRY SUPPLY CO.

61 BEALE STREET
SAN FRANCISCO, CAL.

What
does it
cost to
fill the
milk-pail?



JERSEY\$

IT'S not how much milk you get, but how much it costs you to get the milk that counts. Jerseys feed for their well-rounded udder—not beef and bone.

Jersey Milk is of the richest quality with a butter fat average of 6.37%. Jersey milk, Jersey butter and Jersey cheese sell for more on the markets.

Jerseys are adaptable to any climate. They are an asset to their owners, for they mature earlier for milking and are still producing long after other cows have gone dry. Let us tell you more about Jerseys. Write for our free literature.

THE AMERICAN JERSEY CATTLE CLUB
324-A W. 23rd St., New York, N. Y.

LEONARD FARM JERSEYS

Bulls for sale from Register of Merit
Cows. Write for information.

W. J. HACKETT,

Ceres,

California

Col. Ord L. Leachman of Sacramento cried the sale, to the satisfaction of all.

BLACK AND WHITE BREEDERS BANQUET AT LOS ANGELES.

One of the most enjoyable affairs of its kind ever held anywhere was the banquet of the Holstein-Friesian breeders at the Los Angeles Athletic Club, Los Angeles, Wednesday evening, October 23.

Fifty guests were present, including prominent breeders of Holsteins and their wives, officials of the livestock show, newspapermen and others. R. A. Condee, superintendent of livestock at the California George Jr. Republic, Chino, acted as toastmaster.

The need of a Southern California Holstein-Friesian Association working as an auxiliary of the State Association, was manifest from the sentiments expressed by the various speakers, and Geo. M. Brown of Burr Farms and R. A. Condee were appointed as committee to work up such an organization.

Among those speaking were John B. Irwin of Minnesota, judge of Holsteins at Los Angeles; C. R. Thomas, secretary-manager of the Live Stock Show; Ed Carey, Carlton, Oregon, judge of

T. B. PURVINE & SONS

PETALUMA, CALIFORNIA.

Breeders of

Registered JERSEYS

Young bull calves for sale. Fine individuals with Register of Merit backing.

FOR LARGE AND ECONOMIC PRODUCTION

Get one of my young Jersey bulls from a high producing dam. They are rich in the blood of Gertie of Glynlllyn and Lady Letty Lambert. Occasionally one old enough for service.

A. A. JENKINS,

Tulare, Cal.

Jersey cattle at Los Angeles; F. H. Scribner, assistant farm adviser of Los Angeles County; W. H. Taylor, manager of Santa Anita Rancho; Sam H. Greene, secretary of the California Dairy Council; Secretary Chas. M. Paine of the State Agricultural Society and others.

CALIFORNIA WOOLGROWERS ASSOCIATION.

Please be advised that a Special Meeting of the California Woolgrowers Association will be held at San Francisco, in the California Building, on Friday, November 7th, at 2 P. M., for the purpose of discussing and taking action on the Kenyon Bill, and other legislative matters.

The California International Livestock Show will be on at this time and you are urged to attend both the Show and this Special Meeting.

FRED A. ELLENWOOD, President.

Tulare Co. Poland-Chinas Sell Well

(Written for Pacific Rural Press.)

The initial sale of the Tulare County Poland-China Breeders' Association was well attended, both by breeders of registered swine and those interested only in raising hogs for market. This is not to be wondered at when we look over the list of the consignors. Some of them are young breeders, but have old heads on their shoulders. Therefore, with their initial sale behind them, and it is a success, they will go forward with the assurance that they are on the right road and that they in the future may rest confident of the support of the public that are interested in purebred Poland-China swine.

The total number sold was 52, bringing an average of \$153. The top of the sale was the sow, Big Jane, consigned by Hugh C. Shinn of Tulare and bought by Paul Sheppa of Tulare for \$405. The next highest priced sow was a gilt consigned by A. J. Elliott of Tulare and bought by H. G. Ball of

Tulare for \$330.

The highest average of the sale was obtained for the consignment of Hugh C. Shinn, nine head selling for \$2,110 or \$233.33 each. A. J. Elliott obtained the next highest average with his consignment of seven head, bringing \$1,330 or \$190 each. R. F. Guerin of Visalia received \$350 for nine head or \$150 each. W. E. Martin of Visalia consigned twelve head, receiving \$1,525 for them or \$135.42 each. Thos. E. Jacob & Bro. received \$630 for five head or \$126 each. F. E. Fay of Tip-ton sold five head for \$500 or \$100 each.

The sale was a success of the kind that lasts. The stock was good and the averages of some of the consignments were high and none of them low. They certainly have laid a good foundation for future business.

Col. Geo. W. Bell of Tulare cried the sale with Col. Cy N. Clark of Modesto assisting.

Poland-Chinas' Great Showing

(Written for Pacific Rural Press.)

While the exhibit of this breed was not as large as might be, they were represented by some of the best herds of the State and were of the very highest quality. One of the most noted herds of California, that of M. & A. L. Bassett of Hanford, was the only herd from north of the Tehachapi. Mrs. Viola L. Renwick of Santa Barbara showed her widely-known El Profito herd. Baldwin Park Pig Bassett of Hanford, was the only J. L. Hall, Lomita; M. L. Montgomery, Simi; University of California, Davis, and E. Avery Newton of Los Angeles, also made good exhibits. C. R. Doty, Charleston, Ill., awarded the prizes. M. & A. L. Bassett of Hanford won most of the blue ribbons. Mrs. Viola L. Renwick won first and grand championship on the senior yearling boar, El Profito. The University of California won first on fat barrow, and Bassett won first on pen of barrows.

Senior champion boar, El Profito, Renwick. Reserve senior champion boar, Model Fellow Jr., Bassett. Junior champion boar, Big Smooth Gerst-

dale, Bassett. Reserve junior champion boar, Golden Model, Bassett.

Senior champion sow, Hopeful, Bassett. Reserve senior champion sow, Bobdale Edith, Bassett. Junior champion sow, Big Princess Model, Bassett. Reserve junior champion sow, Gerst-

dale, Bassett. Grand champion boar, El Profito, Renwick. Reserve grand champion boar, Big Smooth Gerstdale, Bassett. Grand champion sow, Big Princess Model, Bassett. Reserve grand champion sow, Hopeful, Bassett.

Aged herd—First, Bassett. Young herd—First, Bassett; second, Newton. Get of Sire—First, Bassett; second, Newton.

Produce of dam—First, Bassett; second, Newton.

The breeder who adopts close culling will add to his reputation, get repeat orders, and extend his business continually.

Wyman N. Lovjoy, Roscoe, Ill., judge of the Berkshire swine, at the

M. and A. L. BASSETT

ADVANCED TYPE POLAND-CHINAS

WINNINGS AT LOS ANGELES:

2nd on Senior Yearling Boar. 1st and 2nd on Junior Yearling Boar. 1st on Senior Boar. 1st and 2nd on Junior Boar. 1st on Aged Sow. 1st and 2nd on Senior Yearling Sow. 1st on Junior Yearling Sow. 1st, 2nd and 3rd on Senior Sows. 1st and 2nd on Junior Sows. Junior and Reserve Junior Championship Boar. Reserve Grand Championship Boar. Sows—All Championships. 1st Aged Herd. 1st on under 1 year Herd. 1st on Herd bred by Exhibitor. 1st on Get of Sire. 1st on Produce of Dam. 2nd and 3rd on Single Barrows. 1st on Pen of Barrows. Reserve Senior Championship Boar.

While at the California International Live Stock Show, San Francisco, do not fail to see our exhibit.

M. & A. L. BASSETT

HANFORD,

CALIFORNIA

Promote Pork Profits

With Better Poland-Chinas breeding

I have a few young boars by Joe's King just ready for service. They will make your spring crop of pigs profitable in spite of high price of feed and labor. They are the big type, with easy feeding and quick-maturing qualities. I have priced them very reasonably for a quick sale. Write at once for prices and particulars or call and see them.

WAUKEEN FARM

LES McCracken, Prop.

RIPON, CAL.

California State Fair, 1919, says "that outside of one ring the Berkshire exhibit surpassed the exhibit at the Illinois State Fair of two weeks ago."

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Our last carload shipment dressed 72.30 per cent and brought 1½c above the market price.

Largest Herd on the Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

PURE HAWAIIAN CANE MOLASSES

PORK PRODUCTION

By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

MILK PRODUCTION

One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars for shipment anywhere.

Attend the California International Livestock Show, San Francisco, November 1 to 8.

W. H. YOUNG COMPANY

Holbrook Bldg.,

San Francisco

AUCTION SALE OF POLAND-CHINAS

60 HEAD

BRED SOWS AND GILTS, OPEN GILTS, BOARS.

Sale starts at noon at Fair Grounds

FRESNO, November 19th

plucking committee

Every animal consigned must pass inspection of
For further particulars write

Free lunch served before the sale.

FRESNO CO. POLAND-CHINA BREEDERS' ASSOCIATION

ALFRED BUCKLAND, Fresno.
President.

WALTER C. FICKLIN,
Secretary

Auctioneer, COL. GEO. W. BELL, Tulare.

FEEDING RAISINS FOR FINE, CHEAP PORK.

(Written for Pacific Rural Press by D. J. Whitney.)

The vineyards of the Fresno district do not provide satisfactory places for hog raising unless some land is taken out for alfalfa, but there are a lot of hogs in Fresno and neighboring counties that are hard to beat and raisins have a big lot to do with it. However, the raisins are cull raisins from the packing-house and now that bad raisin prices are a thing of the past, they do not come direct from the ranch. As a result many of the finest herds of swine are near, but out of, the vineyard district, where alfalfa is grown.

One successful breeder is Guy McClune, a few miles west of Fresno, who has some finely bred, fine-looking Durocs. They run on about an acre of alfalfa, get the milk from a small dairy, and, except that the brood sows are given a little middlings, their only other feed is raisins, and they are a fine-looking, quick-maturing, prolific bunch of animals. McClune's herd boar is Model Dell 2d. He has now only three aged brood sows, but has litters from several younger animals. Two of his old sows are from Iowa stock; the third is Satisfaction, a first-class daughter of Elmer Lamb's great show sow, American Beauty.

McClune thinks raisins are hard to beat as a concentrate. They are rich in sugar and other valuable materials, make an ideal combination with alfalfa and milk—as the animals prove—and are not so heating as corn and barley. In addition, they are extremely cheap. Cull raisins, exactly as good

for swine as any raisin, are secured at the packing-house at about \$10 a ton; stems, which usually contain a lot of raisins and so provide good food, can be had at \$1.50 a load. McClune buys stems only when they are rich in raisins. If fertilizer was a big item, as it would be with the fruit-grower, stems would be excellent.

To indicate the merits of the raisins for swine one bunch of pigs averaged 136 pounds when three months old on the feed described. If a man would raise that kind of hogs for the pork barrel he could slaughter 200-pound hogs at six to eight months old and a hog killed a short time ago a few days over a year old, weighed 335 pounds. The sows raise practically 10 pigs per litter and farrow twice a year. The Satisfaction sow had farrowed 48 pigs by the time she was 2½ years old; one of the other sows farrowed 16 two litters ago, but only ten the next. Combine such prolificacy with such quick maturity and present prices and it is easy to see why hog-raising in the Fresno district, whenever a man will provide a little alfalfa pasture for his animals, is the next thing to a gold mine.

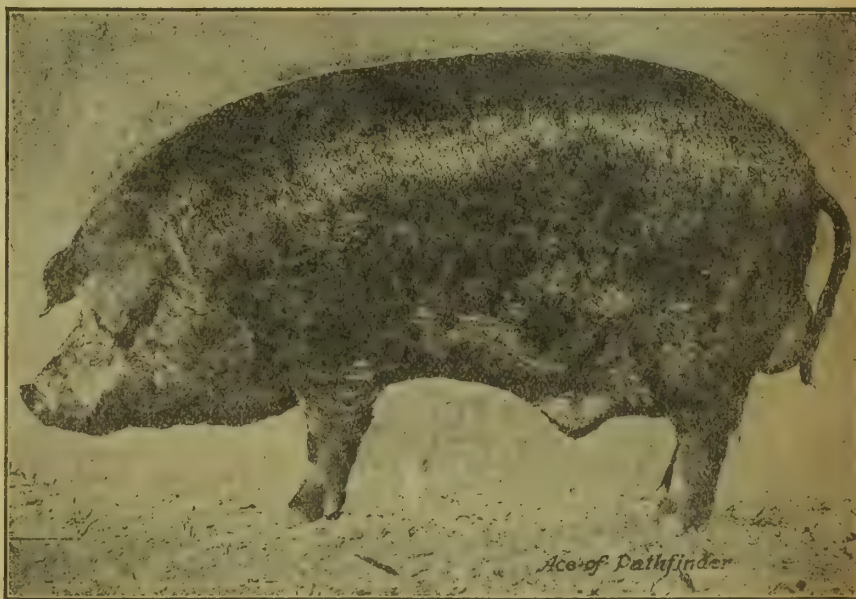
H. H. Allen, a few miles beyond McClune, also has some A-1 Durocs which he handles in the same way and also figures that the combination of climate, feed and good breeding is hard to surpass.

That Fresno hog men are awakening to their possibilities is indicated by the recent organization of two flourishing county breed associations, the Poland-China and Duroc men both organizing to promote the interests of their respective breeds to the best of their ability in blood lines and in methods of production and sale.

Diamond Bar Ranch

BIG TYPE

DUROCS



Ace of Pathfinder

We own, and have on our Ranch, the only Herd in the United States—with 3 Grand Champion Boars.

"ACE OF PATHFINDER"

Winner at the National Swine Show. Grand Champion at the Los Angeles Live Stock Show. Heading Get of Sire and Aged Herd at both National Swine Show and Los Angeles.

"MAMMOTH SENSATION"

Senior and Reserve Grand Champion at Sacramento State Fair. Senior and Grand Champion at Southern California Fair, Riverside, 1919.

"CALIFORNIA GREAT WONDER"

Was Grand Champion at Sacramento, 1918. 1st Aged Boar at Riverside, 2nd Aged Boar at Los Angeles Live Stock Show, 1st and 3rd Aged Herd, 1st and 2nd Get of Sire.

Strong Blood Lines Predominate in our Sows—They Are

PATHFINDER
SENSATION
MODEL CHIEF 2nd
CREATOR
GANO

BRED

Sows and Gilts—Young Boars of all ages for sale at all times—either singly or in car lots.

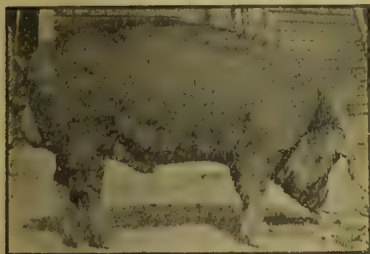
We have the largest Herd of Duroc Swine on the Pacific Coast

Diamond Bar Ranch

WALTER GATTON,
Supt. of Swine Dept.

Spadra, Cal.

FALFADALE FARM



The Sensational Duroc-Jersey Boar.

We won at Los Angeles, on 6 entries—8 ribbons:

1st Prize Senior Pig, Junior Championship. Reserve Grand Championship. "Great Orion Sensation, Jr." And 1st on Junior Yearling Sow. 2nd on Senior Sow Pig. 3rd on Senior Yearling Sow. 4th on Aged Sow. 4th on Under 6 Mos. Gilt.

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MARCH GILTS OUT OF

GRAND GOLDEN MODEL

By the famous Boars—"Rivera Col. Cherry Chief" and "Educator." Will breed to "Republic Orion King."

YEARLING RECORD HOLSTEIN CATTLE

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WINSOR'S GIANT ORION

We won at Los Angeles Live Stock Show

GRAND CHAMPION SOW
"Model Defender Lady"

And be sure you look up our other winnings

Bonita, San Diego, Co.

Address R. K. WALKER,

RANCHO DEL SUR DUROCS

ORION'S KING GANO, a wonderful grandson of Orion Cherry King and Col. Gano, and the greatest Duroc boar in the State, heads this select herd of sows. Have some spring Boars at attractive prices. Young stock for sale.

DONALD H. GRAHAM

P. O. Box 177,

Lancaster, Cal.

Livestock and Dairy Notes

Dairy.

J. W. Benoit recently sold a fine registered bull to Mrs. Wallis of Modesto.

H. E. Cornwell is showing 6 head of his superb Holsteins at the California International the first week in November, including Ciruela Walker, grand champion at the Fresno and San Joaquin county fairs.

California George Jr. Republic of China has a 4-year-old Holstein cow, Juliana Darrington of Rock, that has just completed a very creditable yearly record of over 19,000 pounds of milk and 612 pounds of butter.

Desert Honeysuckle, first prize two-year-old Jersey heifer, and the first prize junior heifer calf from the F. R. Sanders herd, were purchased by "Jim" Thorpe of Lockeford as an addition to his already noted herd.

The "aviator calf" carried from the Jeffries Ranch at Burbank to the Los Angeles Live Stock Show attracted much attention, but did not seem to realize its importance. Quite an advertisement for good cattle, though.

May Altoana Pontiac, a 5-year-old cow, owned by Santa Anita Rancho, has just completed a 27.60 pound 7-day record and a 111 pound 30-day record, averaging 80 pounds of milk daily. They have 12 head on semi-official test.

C. A. Miller, Holstein breeder of Ripon, has a bull that sires a very large percentage of heifers. Out of 19 calves 15 are heifers. One cow that had formerly produced nothing but bull calves dropped twin heifer calves sired by this bull.

Leeman & Kilgore of Ripon have recently bought 3 pure-bred Holstein cows and a heifer. One of the cows, Fayne Spring Farm Pontiac De Kol, has a 4-year-old record of 24 pounds for 7 days. This cow sold for \$1,055 at the Packwood Farm sale last spring.

W. Rhode has purchased the Evergreen Ranch at San Jacinto and is making extensive improvements, intending to eventually have a model dairy. He has completed a 36x16 feet and is building a new dairy barn and milk house. He will go in for pure-bred Holsteins.

Eleven calves shown and being awarded 12 ribbons at the Los Angeles Live Stock Show is some record. This is what happened to this number of youngsters exhibited by James J. Jeffries, and sired by his bull, King Segis Pontiac Jannek. A sire that is as prepotent as this fellow is a good one to keep.

J. E. Wherrell of Riverside has delivered two bulls since the Southern California Fair. One went to Winsor Ranch, Bonita, and the other to Mr. Rett of San Diego. Beauty of Walnut Park goes to Winsor Ranch and You'll Do Oxford Lad to San Diego. Mr. Wherrell reports starting 3 cows or semi-official test that are doing well.

Frank Reed Sanders of Chandler, Ariz., who took his share of the ribbons at the Los Angeles Show, has sold his entire herd of Dutch Belled cattle to Mr. Heaton of Las Vegas, Nevada, at a very attractive price. Mr. Sanders has sold his ranch at Chandler and has to dispose of his cattle. Holstein and Jersey breeders are getting some excellent values for their money from these herds.

The A. W. Morris & Sons Corporation are making an exhibition of fifteen head of Holstein-Friesians at the California International. Among them, as noted in another place, is the world's champion cow, Tilly Alcarra. Also the young bull, King Korndyke Pontiac Acme, whose seven nearest dams average over 30 pounds in 7 days and 1,000 pounds in one year, including the junior two-year-old record of his dam, Miss Aagie Acme Burke. Entering test at 27 months of age she produced 15.67 pounds of milk and almost 700 pounds of butter in the first 7 months. She is expected to run very close to the world's milk record for her class.

James McGillivray, owner of the Willowmead herd of Holsteins at Sacramento, is making preparations for testing on a large scale. Since

taking over the well-known Harlan herd of Woodland, Mr. McGillivray has one of the largest and finest herds on the Pacific Coast comprising over 300 registered animals.

W. M. Weigand, formerly in the dairy business at El Monte, has recently purchased a ranch at San Jacinto which will be known as the Cottonwood Dairy. He has just completed twin silos of 200 tons capacity each; also new dairy barns. He intends to be milking two full strings in the next 30 days and is installing the second Pine Tree milking machine. Mr. Weigand is enthusiastic over his prospects in this section.

One hundred and twenty-two head of dairy cows, three bulls, 15 heifers, 6 horses, a tractor, truck, milking machine, feed, etc., were sold this month by a dairyman, Eugene Biondini, lessee of the W. W. Stone ranch on Arcata Bottom (Humboldt County) for \$45,000. The buyer was another successful dairyman at Ferndale. The price was for the dairy and equipment alone and did not include the lease, which is \$4,200 a year for this cow-to-the-acre ranch. Mr. Biondini leased this ranch 6 years ago with total assets of about \$5,000. He is only giving up now as he needs a change after an illness involving an operation. Humboldt and Channel Island stock seem to agree pretty well.

Swine.

Donald Graham of Rancho del Sur, Lancaster, sold an Orion King Gano sow to F. Perkiss of Santa Maria.

Les McCracken, the Poland-China breeder of Ripon, reports the sale of a bred sow to Edwin Henry of Ripon.

Lord's Orion Cherry-King, first prize senior yearling Duroc-Jersey boar at the California State Fair this year, was sold recently by Joe N. Chinoweth of Visalia to W. M. Way & Son of Roc Stein Ranch, Modesto.

The Superior California Farm Lands Co. of Willows will have a carlot of 34 hogs at the California International. W. S. Guilford is Director of Agriculture for this company and he is the one who made the entry and will have charge of the exhibit.

W. A. Young of Lodi, the well-known Poland-China breeder, has bought of Henry Fessenmyer a boar which he has named Young's Timm Jones. This young boar is a son of the 1919 grand champion at the Iowa State Fair. Mr. Young reports an excellent demand for Poland-Chinas and states he has sold 27 head for \$4,579 since July 22.

M. & A. L. Bassett of Hanford have just received a boar from the Erhart & Sons herd of Missouri. He is one of the best to be found. He is Sensation bred from a sire that weighs over 1,200 pounds and 1,000 pound dam. Crossed on the \$3,150 gilt that traces back to Caldwell's Big Bob and Panama Black, in only two generations ought to produce something better than anything ever brought out from the East.

Diamond Bar Ranch of Spadra sold \$6,000 worth of Durocs during the first 6 days of the Los Angeles Show and not one of these was from the exhibition herd, but the orders were to be filled from the home herd. Among those sold were 6 sows, two of Pathfinder, two of Gano and two of Sensation breeding, for \$500 each. These sows were sold to the Winsor Ranch at Bonita, which herd now contains three grand champions.

In a news note of the Kings County Poland-China Breeders Association sale the consignee of the choice of Edith Rose's litter was credited to John M. Bernstein of Hanford, when this exceptionally fine litter in both breeding and individuality was consigned by H. D. McCune of Lemoore, with ranch near Stratford. The choice of the litter was bought by Les McCracken for \$1,275. The litter is really owned by Earl McCune, a son of H. D. McCune.

Santa Catalina Rancho at La Habra, E. N. Whittemore, superintendent of the Berkshire department, is planning a large breeding farm with 240 ft. farrowing barns containing 40 pens each. They expect to have at least 110 brood sows, with Kintyre Laird

and Royal Longfellow as herd sires, D. J. Bestanchury, the owner, expects to put Orange County on the map as a Berkshire center.

R. E. Smith of Delano, a new recruit to the ranks of the Poland-China breeders, has bought a boar from the herd of C. L. Newport & Son of Han-

ford. He is a litter mate to Jumbo Chief that was bought by Wm. Bernstein at the last Kings County consignment sale.

R. E. Davies of Delano, whom we will hear of later in the Poland-China world, has just received a herd sire from Paul Wagner of Norfolk, Ne-

Corn Belt Herd of Prize Winning Duroc and Hampshire Swine



Let me quote you prices on one or more Sows or Boars of either Breed.

Introduce new blood into your herd from prize winners—from these well-known Eastern herds of Duroc and Hampshire Swine.

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Send for Sensible Folder on Feeding Hogs

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PROTECTION COMFORT SERVICE
are the things that count when it rains
TOWER'S FISH BRAND REFLEX SLICKERS
have made good since 1836
Look for the REFLEX EDGE
A. J. TOWER CO.
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TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes.
Sure to please.
SWINELAND-FARM
W. O. Pearson, Prop., Woodland, Cal.

Beef Cattle Specialist
For 30 years I have been devoting my entire time to purebred beef cattle. I know the kind of cattle California needs and where and how to buy. I make regular trips to the great producing centers and will buy on order. Best of references. Satisfaction assured. Correspondence invited.
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has been known since the year 1900 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.
Write for New Data See actual figures showing you how to increase your calf profits
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LISTEN!

**Castleview
Berkshire
Winnings**

**At the Los Angeles
Livestock Show**

Grand Champion Sow.
Junior Champion Sow.
Reserve Senior Champion Sow.
Reserve Junior Champion Sow.
First Prize Aged Sow.
First Prize Senior Sow Pig.
First Prize Junior Sow Pig.
First Prize Herd under One Year Old.
Second Prize Senior Boar Pig.
Third Prize Junior Boar Pig.
Third Prize Junior Sow Pig.
Third Prize Senior Sow Pig.
Second Prize Fat Barrow.
Third Prize Herd Bred by Exhibitor.
Third Prize Produce of Dam.
Second Prize Barrow Western Berkshire Congress Show.
Third Prize Boar Western Berkshire Congress Show.
Second Prize Sow Western Berkshire Congress Show.
16 Ribbons Won
On Ten Entries

CASTLEVIEW RANCH
Santa Rosa, Calif.

braska. This boar is out of the sow, Kings A. Wonder, and by Col. Jack, a son of Surprise Prospect.

The Santa Anita Rancho has just brought out from the East a Poland-China herd sire, Quality Bob, first in class and junior champion at the Wisconsin State Fair and La Crosse Wisconsin Fair. Also fifth in class at the National Swine Show at Des Moines. With this prize winner came three premium winning young sows that will form an excellent nucleus for a herd of big type Poles.

Swine have added over \$1,000,000 to the wealth of the farmers of six counties in the Farm Bureau Marketing Association of the upper San Joaquin valley. At least, so says D. H. Bitner of Bakersfield, and he ought to know, for he is secretary-manager of the association and "keeps cases" on the hog marketing game in Kings, Kern, Tulare, Fresno, Madera and Stanislaus counties. The association has auctioned off 39,933 hogs, making up 496 carloads and bringing in "cold cash" or its equivalent, \$1,328,847.74. Some business, huh? At the annual meeting held in Hanford lately Roy M. Filcher of Corcoran was elected president; C. A. Melcher, McFarland, vice-president; D. H. Bitner, Bakersfield, secretary-manager; L. C. Trewitt, Hanford, assistant manager and grader.

Beef Notes.

Cattle loans made by the War Finance Corporation to cattlemen of the Southwest to carry them over the drought of last year have been called and only in exceptional cases will extensions be granted.

Wm. Carruthers of Carruthers' Farms, Live Oak, the home of the Shorthorn, is advertising a 30 day sacrifice sale of bred cows and cows with calves at foot. This is made necessary by the recent leasing of the Live Oak ranch and the consequent necessity for the reduction of the large herd of excellent Shorthorns. Now is an excellent chance to get into the Shorthorn business right.

Miss Dale, a cow owned and exhibited by the Hereford Corporation of Wyoming, dropped a heifer calf while at Los Angeles last year and duplicated the performance this year while at the Live Stock Show. The heifer last year was named Dale's Liberty and the arrival of this year will be registered as Dale's Victory. The dam of these calves with patriotic cognomens will be shown in San Francisco this week and is consigned to the Hereford sale of November 7 during the California International.

R. H. Dunlap of Sacramento has gone East to bring out a carload of Hereford bulls for the Parrott Grant at Chico and for James O'Neill of the Flood Estate of Santa Maria.

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Rate 3½ cents per word each issue.

SWINE.

Berkshires.

CASTLEVIEW BERKSHIRES

We Offer

Young Berkshire Boars—Big-boned and smooth—By Mayfield Reekwood 2nd. sire of ALL Champion Berkshire Barrows shown this year. Our money-back guarantee makes mail ordering easy—and perfectly safe. Reasonable prices.

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SANTA ROSA, CALIF.

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that makes the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion **STAR LEADER**. We are now making a special offering of classy boar pigs.

ANCHORAGE FARM, Orland, Calif.

A SOW THAT FARROWS

10-11-15-17-11-10-9-10

Is worth her weight in gold, particularly so if she is really bred. This is the record of Symboleer Belle. I have a boar pig from her last litter that is a dandy. If you act quickly you can have him for \$75.00. San-Jerco Land Co., 23 Montgomery Street, San Francisco, in charge of Natomas Land Sales.

WRITE FOR MY BERKSHIRE CATALOG, giving names, ages, breeding of service boars, bred gilts, specially selected trios. Frank B. Anderson, Sacramento, Cal.

GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. R. J. Merrill, Morgan Hill, California.

LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write me. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

BERKSHIRES—Fair Oaks Ranch, Wilts, California.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

Poland-Chinas.

ELDERSLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our ½-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA.

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

"SOLD OUT" except splendid consignment to Fresno County Breeders' public sale at Fresno, August 20th, and a choice bunch of April gilts and boars. Also one yearling boar who is a good specimen of Big-Type Poland-Chinas." D. H. Forney, Route 6, Fresno, Cal.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LOVE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D., Box 180.

POLAND-CHINAS—Young boars ready for service; also a few gilts, sired by California Big Bone Bob and Ursus Jr., real 1,000-lb. boars. Prices and descriptions on application. Eugene Miner, Rt. 2, Box 105, Lodi, Calif.

TOHOQUA POLAND-CHINAS—Strictly big type. Junior and Grand Champion sow at Glenn County Fair. Young breeding stock to sell; bred right, grown right and priced right. Ferguson & McKaig, Orland, Cal.

THE PACIFIC HERD of big-type Poles. Herd sire, Hadly Wonder and an outstanding boar by Golden State King. Nettie E. Andrews, Modesto, Cal.

HOMWOOD FARM—Big type, young boars and gilts. One herd boar; also booking orders for weanling pigs. L. P. Fox, Live Oak, Cal.

POLAND-CHINAS—Young boars and gilts. Prices and description on application. Edward A. Hall, Rt. 1, Box 39, Watsonville, Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Lee McCracken, Prop., Ripon, Cal.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

10 SPRING BOARS—Tops from herd, will be sold at very low prices to close up partnership. Young and Clark, Lodi, Cal.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

POLAND-CHINAS—If you want perfect type in a March boar or gilt I have it at the right price. J. E. Thomas, Gilroy, Cal.

BIG-TYPE POLAND-CHINA, sired by a real boar. Pigs of both sex from 3 to 10 months old. W. S. Adams, Gridley, Cal.

POLAND-CHINA PIGS—Bernstein Trewitt and Ross blood. B. M. Hargis, Tulare.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

ONBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

A FEW BOARS of May farrow. Grandsons of Big Bone Bob. R. B. & L. J. Montgomery, R. F. D. No. 1, Walnut Creek, Calif.

FOR SALE—Poland-China Boar. Great herd sire of Major Hadley Wonder breeding. C. W. Probasco, Raymond, Madera Co.

POLAND-CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

Duroc-Jerseys.

HORINE'S REGISTERED DUROCS—A choice lot of oversize weanlings of either sex and a few gilts weighing 350 to 400 lbs. are ready to ship. Write for pedigrees, photos and prices. Money back guarantee on every animal leaving my ranch. Geo. L. Horine, Winton, Cal.

RANCHO RUBIO DUROCS—Two boar pigs, four months old and weaned pigs, both sexes. Stock of Orion Cherry King Pathfinder and Golden Model breeding. Sold on "Money Back" guarantee. Elmer Lamb, Ceres, Calif.

BIG-TYPE DUROCS—Herd headed by California Orion King. Am offering excellent young boars at right prices. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

REGISTERED DUROCS—We have for sale a number of March and April boar pigs sired by King Orion, Crimson Colonel and Pathfinder. Southwest Cotton Co., Goodyear, Ariz.

WE HAVE 100 YOUNG GILTS and boars, bred on the purple, which we are selling for about half their value. Money back if not satisfied. Derryfield Farm, Capital National Bank Bldg., Sacramento.

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REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brookman Building, Los Angeles, Cal.

REGISTERED DUROCS—Choice weanlings of either sex, breeding and satisfaction guaranteed. H. E. Boudier, Napa.

DUROC JERSEYS—Bred sows, gilts, service boars and weanlings. Premium stock. Ray McMillan, Ethanac, Calif.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

REG. DUROC JERSEYS—Fine spring stock, both sexes, not related. P. Hoagland, Motor A. Box 286, Ceres, Cal.

BIG-TYPE DUROCS—Gilts and boars of Orion Giant breeding. Falfadale Farms, Peris, Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Chester Whites.

CHESTER WHITES—BILIKEN TYPE—The big winners at the State Fair. 15 extra choice spring boars, sired by the Grand Champion boar and out of Biliken sired sows. A few spring sow pigs; three bred Biliken sows and two gilts; all to farrow in October. Priced to sell; a chance to get the best type in the West at farmers' prices. Write for special catalogue and price list. C. B. Cund-

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REGISTERED HAMPSHIRE—"Belted Beauties." Weaned pigs a specialty. Uneeda Hampshire Swine Farms, Gardena, Cal.

BIG-TYPE HAMPSHIRE—Herd headed by "Laddie." Am offering a few boars and gilts. M. J. Ramos, Calexico, Cal.

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LARGE YORKSHIRES—The ideal hog for the progressive farmer. Young stock for sale. A. L. Tubbs Co., Calistoga, Calif.

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A PRICE ON EVERY ANIMAL—Herd free from tuberculosis. All sales subject to sixty days' retest. Son of Findern Soldene Valdese, whose dam is not only a world record cow in seven-day division, but has two sisters holding world's records for yearly production.

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YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

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F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

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REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

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REGISTERED HOLSTEIN CATTLE—E. B. Freeman, R. B., Modesto, Cal.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif.—Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

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ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco, California.

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EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal. R. 2.

Jerseys.

SERVICE JERSEY BULL, bull calves, Financial King blood, Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Milking Shorthorns.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

DUAL-PURPOSE SHORTHORNS—registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara, or Lompoc, Calif., John Troup, Supt.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch, Esparto, California.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

THE NEVADA HEREFORD RANCH, Jno H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Wilts, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

FOR SALE—One good milk goat, and two fine young Toggenburg does, eight months old. Write or call, P. M. Peterson, R. B., Box 137, San Martin, Calif.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

FOR SALE—1500 Merino ewe lambs; 1500 yearling Merino ewes. C. G. Owens, Livermore, Cal.

FOR SALE—About 200 Purebred Shropshire ram lambs in lots to suit. R. J. Currey, Dixon, Cal.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale of the Ranch—all breeds—April 17, 1920. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn County, California.

Attend the California International Livestock Show, San Francisco, November 1-8.

ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, Grand Champion of Ormondale Maid, 2nd prize junior yearling at State Fair.

Every animal positively guaranteed.

Prices on application.

SHORTHORN CATTLE

DUROC-JERSEY SWINE

ORMONDALE CO.

REDWOOD CITY, CAL.

R. D. No. 1

Cattlemen Glad He Bought Alfalfa Land

[Written for the Pacific Rural Press.]

"A year ago last winter I scratched my head many a time where it didn't itch, trying to figure how to save my cattle from starving," says R. M. Diggs of Monterey County. "It didn't rain till the middle of January. I lost some cattle and sent others across into the San Joaquin for feed.

"I now have 1000-acre ranch with 225 acres of alfalfa. I aim to put up enough hay to keep the cattle from losing flesh in any year until grass comes. Last fall I had about 800 head on beet tops when the rains came. About 200 were fat enough to sell. About 400 were turned onto the range. These lost 100 to 150 pounds each before they began to gain about two months later. During the same two months we fed 200 head on alfalfa and rolled barley and some cottonseed meal that we had on hand. They gained 100 pounds on the average in the first 30 days and about the same the next 30 days, after which they were shipped to Eastern markets. That shows the difference between feeding and turning onto the range."

But the cottonseed meal was too expensive and it wasn't necessary anyway. It is excessively high in protein which is not necessary when we feed

alfalfa hay, for alfalfa supplies all the protein needed for fattening cattle on barley and alfalfa. Mr. Diggs tried feeding 6 pounds of barley and about 30 pounds of hay per day, omitting the cottonseed meal, and was convinced that results were just as good.

This winter he is not figuring on fattening any cattle, but he needs the alfalfa to keep them from going back while grass feed is short. Then when the grass comes on they will be in good shape to make quick gains and he can get them off early. That will make the risk less and will shorten the time his money is tied up." The extra feed is "the best kind of a paying proposition at the prices of cattle now." There is a ranch near King City where a cattleman has been feeding silage and is well pleased with the results. On the basis of this experience, Mr. Diggs planted corn this season and would have put up a silo if the corn had turned out good. He expects to try it again next year, because corn provides so much feed per acre when it is handled right. The silage also is intended simply as a carryover feed to keep the cattle in good condition until range feed is strong enough to put gains on them.

Livestock Queries and Replies

Probably Worms.

To the Editor: I have a bunch of pigs which are afflicted with some kind of a disease. They are just beginning to eat and seem to be well and hearty, then in an hour or two we may find one that can't get around right; it does not have the right use of its legs. It will stretch its front legs out ahead of it with its throat on or near the ground trying to pull itself along. A little later they will get down on their sides, stiffen out and have an awful fit which last for a few minutes. Then they get up again, but don't seem to have their right minds. By putting them up to the feed they eat very heartily. Some of them seem to partly lose control of their legs, especially the back ones. We take the sick ones up and treat them, giving them a couple of drops of turpentine and a small tablespoon of Epsom salts, feeding them diluted milk and rolled barley, which they seem to relish. Some of them have died and some are improving slowly. The mothers are being fed some skim-milk, rolled barley, green sorghum and green alfalfa. Can you tell me what is the matter with the pigs and what to do for them?—W. H. L., Rio Bravo.

(Answered by Dr. E. J. Creeley, San Francisco.)

You are describing the symptoms of a severe intestinal irritant. I am inclined to believe it to be worms. First, give a purge of castor oil in which you have placed 10 to 20 drops of turpentine. Mix the following

1 lb.; areca nut, ¼ lb.; kamala, 2 ounces; jalap, 2 ounces. After five mornings repeat the castor oil and turpentine. It is advisable to stop treatment for several weeks. Repeat if necessary.

Abortion in Cows.

To the Editor: What are the symptoms of abortion among cows? Is there any test to be made to tell for certain that they have it. If so, explain how the test is made.—W. W. P., Standish.

(Answered by Dr. E. J. Creeley, San Francisco.)

Abortions cost the stockowner millions each year. The Bureau of Animal Industry issued a bulletin describing fully preventative measures. Dr. John R. Mohler, Chief of the Bureau of Animal Industry, has worked long and zealously along these lines, and he is considered the peer of all American veterinarians in his particular department. It is hardly necessary to describe the symptoms. If one cow aborts almost every pregnant cow in the herd will do likewise, unless the aborting cow is removed and all precautions taken to thoroughly sterilize and disinfect everything connected with the cow and her secretions. Scrub, burn, cleanse and disinfect everything. Ergotized food and cryptograms may cause or predispose to abortion.

Powder thoroughly and give ½ to one teaspoon each morning, depending upon the age and size: Sulphate iron, ½ lb.; bicarbonate soda,

ripen in this section.

This is a little sample of what can be done and how it is done in Humboldt County's rich dairy section around the bay, where the dairy business is in a high state of organization, and really scientific farming by rotation prevails.

THE UNIVERSITY OF CALIFORNIA AT THE SAN FRANCISCO SHOW.

The University of California as usual is going to make probably the finest exhibit ever staged at any show or fair by an institution anywhere. It would take a whole issue of the paper to go into detail about it. Those who saw their exhibit at the State Fair cannot help but remember the magnificent four-horse team of Percheron mares and their no less magnificent colts. They are certainly a show in themselves. Then after the horses, taking the typey California breeding animals in the beef and dairy cattle, the sheep and swine and last but not least, the fat classes. Their exhibit will really beggar description. After all is said and done, California Gretel, the greatest milch goat in the United States, must not be

forgotten. Everyone that is interested in any circumstances miss seeing this in livestock at all should not under great exhibit.

Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price 25¢ per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

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have sold more than \$350,000.00 worth of registered cattle in our sales, under the most stringent requirements laid down by any sales organization in America. Satisfied buyers have been the rule in all our sales. CALIFORNIA BREEDERS' SALES AND PEDIGREE CO. C. L. HUGHES, Sales Manager, Sacramento, Cal.

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is cheaper than second-hand, dollar for dollar of cost. Come in and see what we have to offer you in **HERCULES HARNESS, Saddles, and Horse Collars.** Our own make and fully guaranteed.

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Sales Conducted in All Parts of California.

BEN A. RHOADES, Auctioneer



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Again awarded all prizes at the 1919 State Fair.



A BULLARD YEARLING RAM THAT SOLD FOR \$1,000 AT THE SALT LAKE RAM SALE.

Flock founded 48 years ago by the late Frank Bullard. Years of selection has produced the large smooth-bodied, heavy-shearing kind that gives the best results on the range or under intensive conditions.

Home of the \$3,000 ram purchased at 1918 Salt Lake Sale.

Offering yearling rams of supreme quality and great size.

Meet Us at the California International, November 1-8

BULLARD BROS.

Woodland, California

90 PUREBRED UNREGISTERED HEREFORDS

At Public Auction, Saturday, Nov. 8, at 1 p. m.

WESTERN MEAT COMPANY YARDS, SOUTH SAN FRANCISCO, CALIF.

In this sale MR. H. M. BARNGROVER, Santa Clara, Calif., will disperse his entire herd of unregistered cattle to make room for the expansion of his herd of registered Herefords. The offering includes choice cows, bred and open heifers, and bulls of various ages. Buyers will find in this sale the most desirable sort of cattle for profitable range purposes. For further information communicate with owner or sales manager.

Auctioneer—**COL. BEN A. RHOADES,** Los Angeles
Owner—**H. M. BARNGROVER,** Santa Clara, Calif.
Sales Manager—**C. L. HUGHES,** Sacramento, Calif.

IS A CALF WORTH 23 CENTS?

For 23 cents per animal you can insure your calves against loss from Blackleg by having them vaccinated with **PURITY BLACKLEG AGGRESSIN** (Germ-Free Vaccine made by the Kansas process). **ONE TREATMENT** immunizes calves for **LIFE**, and there is no danger of introducing blackleg into healthy herds. We also have **PURITY ANTI-HOG CHOLERA SERUM**, **PURITY MIXED VACCINE** for swine, and **PURITY HEMORRHAGE SEPTICEMIA VACCINES** for cattle and for sheep. For service that counts and does not end with selling, write, phone, or wire.

PURITY SERUM CO., J. L. Thatcher, Manager (Successor to Thatcher Serum Co.)
Riverside, Calif. Sacramento, Calif.

HUMBOLDT COUNTY FOR COWS AND HOGS.

[Written for Pacific Rural Press.]

I. T. Smith of Fortuna has a white Yorkshire sow 8 years old that has produced 138 pigs in 8 litters. She raised about 100 of them. Her progeny run true to type and she looks like a good bet for several more litters.

Mr. Smith keeps 15 cows on 16 acres in addition to his hogs. His dairy is a Jersey one throughout, though he has just bought a Guernsey bull which captured the ribbon at the Fortuna District Fair.

It probably sounds like a fairy-tale—this cow-to-the-acre stuff, where no irrigation is practiced, but it is true. Mr. Smith rotates his crops somewhat in this manner: clover and alfalfa 3 years, then carrots, marigold or some root crop. Then vetches and oats are sown in the fall following the roots, and these are consumed in time to seed the ground again to clover and alfalfa. The seed is sown at the rate of one-third red clover and two-thirds alfalfa. He grows from 20 to 50 tons of roots to the acre. Sometimes a patch of fodder corn is grown. This is fed green, as corn does not

CALIF. CATTLEMEN'S ASSOCIATION CONVENTION PROGRAM.

California Building, Exposition Grounds, San Francisco, Nov. 5, 6, 7, 1919.

Wednesday, Nov. 5, 10:30 a. m.—Convention called to order and opening address, Mr. L. A. Nares, President; "The Importance of the Kendrick-Kenyon Bills," Mr. Dwight B. Heard, Phoenix, Ariz. 1:30 P. M., Report of Marketing Committee. Discussion.

Thursday, Nov. 6, 9:30 a. m.—"The State Department of Agriculture and Its Relation to Cattle Protection," Mr. G. H. Hecke, Director of Agriculture; Report of Committee on Transportation; Report of Committee on National Forests and Grazing; Address by Hon. William Kent; Address by Mr. Frank D. Tomson, Editor, The Shorthorn in America; Report of Committee on Legislation. 1:30 p. m., Sale of Shorthorns at California Building, Exposition Grounds. 7:00 p. m., Banquet, California Shorthorn Breeders' Association, California Building, Exposition Grounds.

Friday, Nov. 7, 9:30 a. m.—"A Slo-

gan for the Livestock Industry of California," Mr. C. E. Rachford, Asst. District Forester; "Co-operative Marketing," Mr. H. C. Carr, Porterville; Report of Resolutions Committee, and consideration of resolutions. 1:30 p. m., Sale of registered Hereford cattle at California Building, Exposition Grounds. 7:30 p. m., Banquet, California BuBuilding, Exposition Grounds.

BRAZIL ASSISTING ITS LIVESTOCK INDUSTRY.

The Brazilian government has instituted a method by which cattle raisers wishing to import purebred cattle for breeding purposes may receive government assistance. According to a law passed by the Brazilian Congress, one-half the cost and freight of such animals imported would be borne by the government. However, the popularity of such a movement was under-estimated and an appropriation equal to only about one-third enough to cover the applications for such assistance was made.

In years past cattle were allowed to become 6 to 10 years of age before slaughtering, but "the world do move" in Brazil as well as elsewhere, and recently cattle from 3 to 5 years of age have been used by the butchers with very few of the latter age included. As indicated by the above paragraph the demand has increased for a better class of beef animals somewhat the type known so favorably in this country.

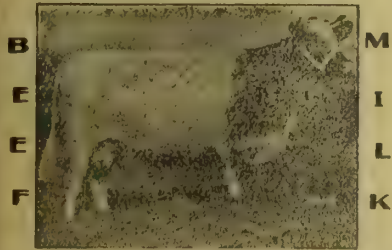
Brazil is somewhat of a swine-raising country also, although not so extensively in the business as the United States. The demand there is for an animal producing a large amount of lard rather than lean meat. The swine of the country have been developed therefore along lines of size rather than quick maturity.

There are two leading breeds in the country, one somewhat larger and coarser than the other, but the smaller yielding fully as large an amount of the desired fat. These hogs are marketed at rather an advanced age from our view-point, as most of them are 3 or 4 years of age before attaining the desired size and condition.

THE OTIS HERD

WILLOUGHBY, OHIO.

Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledge the best and most valuable individual of the breed.

Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison, Santa Rosa Stock Farm, Santa Rosa, Cal. California Representative.

30-DAY SACRIFICE SALE
Registered Shorthorns

On account of having leased my Live Oak Farm, will sell at private treaty about 60 head, including between 30 and 40 head of cows with calves at foot by Count Glory and Hallwood Village; also 20 high-class young bulls.

Write at once or call and see them

Carruthers Farms
LIVE OAK CALIFORNIA

FOR SALE

One of the best bred foundation herds of Aberdeen-Angus cattle to be found in the United States, consisting of herd bull; three young cows with two heifer calves at foot. While these cattle are high-priced for the reason that they are highly bred, I offer them at a reduction, owing to the fact that I have decided to sell my ranch property. The cattle are on my ranch, which is located 8 miles east of Oakdale, Stanislaus Co., Cal.

Address Owner,

DR. VERDO B. GREGORY,

323 East Weber Avenue,

Stockton, California

Brighton Farm Herd Shorthorns and Berkshires

We have a very fine yearling bull for sale sired by Sir Type and out of a Laurel Frantic cow. This is an ideal bull for a breeder of Dairy Cattle. Also some very choice cows and heifers.

H. L. & E. H. MURPHY,

6 miles east of Sacramento.

Perkins, Calif.

BIG DOUBLE DISPERSAL SALE

Mr. G. W. Emmons, Proprietor of Diablo Stock Farm, Danville, Calif., has instructed us to make a complete dispersal at public auction of his registered herds of horned Hereford cattle and Duroc-Jersey hogs at

WESTERN HORSE MARKET

297 Valencia Street,
SAN FRANCISCO

MONDAY, NOVEMBER 10, AT 9:30 A. M.

We shall start selling the Duroc-Jersey hogs promptly at 9:30 A. M. on the above date and sell the Hereford cattle immediately afterward. Come early, as some of the best things will be sold first.

52—REGISTERED HEREFORDS—52

The Hereford offering consists of 20 cows, 15 heifers, and 17 bulls, of excellent breeding and some good show prospects among them. Mr. Emmons is selling these only to make room for the development of his herd of registered Polled Herefords, upon which the farm will specialize hereafter.

BERTRAM FAIRFAX, by a son of the famous Perfection Fairfax, will be sold, together with some of his sons and daughters and a large number of cows and heifers bred to him. These cattle will be sold in just good thrifty range condition, and they should prove first-class investments for foundation purposes. Every animal positively guaranteed to be a breeder; every animal over six months old tuberculin tested.

100—REGISTERED DUROC-JERSEYS—100

Seldom has a better bred offering of Duroc-Jerseys been made in the West. There are 60 sows and gilts of breeding age in the sale, and practically all of them are daughters of the great show and breeding boar, CALIFORNIA'S DEFENDER, Junior Champion boar at P. P. I. E. Many of the sows and gilts are bred to CALIFORNIA ORION CHERRY KING, a richly bred boar of good type who will himself be in the sale.

Everything immunized against cholera by the double treatment.

Remember the Sale Starts at 9:30 A. M.

Catalog free on request. Management—

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Auctioneer—COL. BEN A. RHOADES, Los Angeles.

RANCHO SAN JULIAN SHORTHORNS
Santa Barbara, Calif.



BASHAN AUGUSTA—Grand Champion 1919 State Fair.

FOUNDATION OF THIS HERD is the very best that can be found and represents the principal Scotch Shorthorn families, the breeding dams being of such popular families as Princess Royal, Augustas, Lavenders, Mary Anne of Lancaster, Imp. Eliza, Ruby, Queen of Beauty, Orange Blossoms, Village Princess (Imp. from Canada), Ury, Alexandrians, Acanthas, Rosemary, Seosets, Butterflies, Missies, Marr Bessie, and Marr Roan Ladys.

HERD BULLS.

BASHAN AUGUSTA, by Right Stamp and out of Baron's Delight by Augusta Baron. HALLWOOD FLASH, Grandson of Hallwood Village, out of a Choice Goods cow, First prize and Senior Champion bull at State Fair, 1919.

KING LEAR, Sired by Scotch Cumberland and out of a Queen of Beauty dam.

IMP. GRAND GALLANT—A Straight Marr Roan Lady. Full brother to the \$12,000 bull at the head of the famous herd of Mr. Thomas of Kentucky.

WILL SHOW AT THE CALIFORNIA INTERNATIONAL—NOV. 1-8,

AND WILL CONSIGN 3 HEIFERS TO THE SHORTHORN SALE—NOVEMBER 6th.

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Note the Low Cost

Stock No.	Width	Depth	Length	Price
720	10 1/4 in.	5 1/2 in.	24 in.	\$2.95
721	"	"	30 in.	3.30
722	"	"	40 in.	3.70
723	"	"	60 in.	4.50
724	"	"	120 in.	6.95
715	14 in.	7 1/2 in.	24 in.	4.55
716	"	"	30 in.	5.00
717	"	"	40 in.	5.60
718	"	"	60 in.	6.55
719	"	"	120 in.	9.60

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4th on Aged Boar; 4th, 5th on Junior Yearling Boar; 2nd on Junior Boar Pig; 1st, 2nd and 5th on Aged Sows; 5th on Junior Sow Pig; Reserve Senior Champion Sow; 3rd on Aged Herd; 2nd on Herd under 1 year old; 1st on Herd Bred by Exhibitor; 3rd on Get of Sire; 3rd on Produce of Dam

C. J. GILBERT,

Lancaster,

California



UNEEDA QUEEN MODEL,
Grand Champion State Fair, 1918.

UNEEDA GLENN COUNTY HERD OF Duroc-Jersey Hogs

KEY HERD OF PACIFIC COAST

Went at Sacramento:
Grand Champion Sow, Senior Champion Sow, Junior Champion Boar, seven Firsts, 23 other prizes.

CLASSY STOCK FOR SALE.

40 sows and gilts, many bred to our great eastern boar, Experimental Defender, by old Defender. Also a few choice service boars, and some toppy pigs of King's Col. and Defender breeding. Just the kind you need.

H. P. SLOCUM & SON
WILLOWS, CAL.

Going!! Going!! IN OUR BIG FALL Nov. 11th PUBLIC SALE 24 SPRING BOARS—6 SPRING GILTS Duroc-Jersey Spring Boars

- 2 by Uneeda Orion by High Orion.
- 5 by Uneeda King of Orion 8th, by King of Orions.
- 3 by Valley View's Orion, Grandson of Orion Cherry King Jr.
- 3 by Sammy King's Col.—our herd boar.
- 6 by Uneeda Model Col., litter brother to the Grand Champion sow, Cal., 1918.
- 4 by Crimson Col., by Uneeda King's Col.
- 1 by Invincible King's Col., dam by Cherry King Orion.
- 6 Gilts by Sammy King's Col., Dam Granddaughter of Orion Cherry King Jr.

Dams of these pigs are by Cherry King Orion, High Orion, King's Model, and other noted boars.

Auctioneer ORD L. LEACHMAN.

Write for catalogue.

BOX 505,

W. T. HOLLINGSHEAD & SONS

ORLAND, CAL.

PROGRAM SAN FRANCISCO LIVE-STOCK SHOW.

People who are interested in agriculture or any of the phases of livestock industry should not fail to visit San Francisco during the days (November 1 to 8 inclusive) that it will be in existence. Over 1,000 head of pure-bred livestock, including all the principal breeds from giant draft horses to the Lilliputian milk machines, the milk goats, poultry and rabbits. Those who live at a distance and contemplate a visit to San Francisco in the near future should make it a point to make the trip at this time and see the stock exhibit in the daytime and the horse show at night. It will be a trip much enjoyed and never forgotten. You will have to hurry, though, as by the time you read this the gates will be open and the show in full swing.

Following is a list of the various breeders' meetings to be held throughout the show. All meetings will be in the California Building, Exposition Grounds, unless otherwise noted.

Saturday, November 1.—Central California Milk Goat Breeders' Association, 1:30 P. M. Important.

Monday, November 3.—California Poland-China Breeders' Banquet, 7 P. M. Western Berkshire Congress Banquet, 7 P. M. California Jersey Cattle meeting, 7:45 P. M.

Tuesday, November 4.—Milking Shorthorn Breeders' meeting, 2 P. M. A meeting of the breeders of pure-bred livestock for the purpose of procuring legislation favorable to the execution of plans for improvement of the State Fair grounds at Sacramento, 3 P. M. California Swine Breeders' Association, 6:30 P. M.

Wednesday, November 5.—California Cattlemen's Association, 9:30 A. M.; all day. California State Agricultural Society.

Thursday, November 6.—California Cattlemen's Association in A. M. Shorthorn sale, 1:30 P. M. Pacific Coast Hereford Breeders' banquet, 7 P. M. California Shorthorn Breeders' Association banquet at Palace Hotel, 7 P. M.

Friday, November 7.—California Cattlemen's Association, A. M. Pacific Coast Hereford Breeders' Association sale, 1:30 P. M. California Wool-growers' Association, 2 P. M.

Saturday, November 8.—American Bankers' Association.

SMITH HOLSTEIN-FRIESIAN SALE AT CORCORAN.

Geo. A. Smith & Son of Corcoran in announcing their coming Holstein-Friesian auction sale of 100 cows, say that "The sale of 100 registered Holstein-Friesian cows to be held by us on our ranch at Corcoran, Wednesday and Thursday, November 5 and 6, is the largest sale of exclusively registered cows ever held in California. A few sales have been larger in point of numbers, but in every case there have been young cattle included. Neither are these cattle old cows, but all about three years old. Sixty-eight are now on semi-official yearly test. "The animals are free from tuberculosis, having been tested five times during the past 2 1/2 years."

MILKING SHORTHORNS ARE GOOD BUT SCARCE AT LOS ANGELES.

There was but one exhibitor of this worthy and deserving strain of the great breed of Shorthorns, F. L. Hall of Perris. He showed an aged herd that was truly deserving of the prizes awarded them by Ed Carey of Carlton, Oregon. It is to be hoped that a larger showing of the dual-purpose cattle will be made another year.

The Grand Champion Berkshire boar of the State Fair this year was Natomas Baron Duke, 272313, owned and exhibited by the Sandercock Land Co. This boar was sold to The Anchorage Farms, Orland, for \$1,000. Mr. Sandercock sold a great boar, and the Anchorage Farms are to be congratulated in getting this animal.

The Fresno County Poland-China Breeders' Association have another auction sale scheduled for Wednesday, November 19. Their consignments will include 60 head of bred sows and gilts, open gilts and boars.

Attend the California International Livestock Show, San Francisco, November 1st to 8th.

PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS

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Beef Scraps of Uniform Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

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Poultry and Rabbits for Profit

POULTRY ON THE SMALL FARM?

To the Editor: In your issue of October 11 you say that farm poultry, and not poultry farming, is the proper thing. In Tulare it is necessary to have 40 to 70 acres of alfalfa to make poultry pay, or, in other words, by this system a man makes double pay. Now, do you mean to say with four acres of run, fenced around, and one acre of alfalfa to be cut all year round and fed by hand, a person cannot keep 500 laying hens and make money when he sells in the open market and buys feed in not less than ten lots? "One who wants to know."—P. McG., Oroville.

(Answered by D. J. Whitney.)

You rightly judge that the sentiments of the writer of the article referred to are in favor of making farming pay double by keeping a proper number of hens on free range in connection with regular farming, rather than trying to go into the poultry business on a few acres and doing nothing but look after hens; but that is not saying that a person might not make a good living on the plan you suggest. It seems to be done in poultry centers like Petaluma and Haywards. However, it is the judgment of the writer that it would be far simpler and better to have alfalfa on the five acres and to let them harvest it themselves than to carry green stuff in by hand. Also, for all we can see on five acres, and doing nothing but attend to fowls, a man ought to be able to keep 1,000 hens instead of 500. Our advice would be for you to visit successful five-acre poultry farms and get exact methods in detail. Our own taste, considering your location and with a good five acres, would be to keep about four good cows, the cream from which should, at present prices, bring in about \$80 a month, and the skim milk could supply animal protein for your hens. Being in a real farming center you ought to be able to get milo maize in the head from the grower at a moderate price; also wheat and barley from the same quarter, with some loose hay for your cows, if necessary, to make up what you could not otherwise grow, and then you would be better off than the strictly poultry raiser buying through middlemen. You see we like to boost for regular farming, with poultry an important side line. Of, if you could get about four of your acres into fruit of several kinds, so arranged that you could turn the fowls from parts where the fruit was being harvested, you would provide shade for the fowls and make the land work double. If a man has not pasture enough to provide free range for his fowls, it is a convenience if they can range partly off the neighbors' land. It all depends upon the location of the piece (and more yet, on the man who is running things). A little later we hope to describe the way other Tulare fowls are kept.

THE RABBIT AS A FUR-BEARING ANIMAL.

Heretofore Great Britain and Ireland have enjoyed pre-eminence as rabbit-producing countries. California now threatens the supremacy of these countries in this line of production. Our native wild fur-bearing animals are decreasing very rapidly, while on the other hand the demand for furs is becoming greater year by year. Modest bunny is now producing furs that imitate very closely and rival in beauty the costly furs of the fox, the chinchilla, the ermine, the electric and Baltic seal and other skins of that class. The "ermine rabbit" grows a pelt that very closely resembles and white-furred weasel of Siberia. In richness of quality and color it can hardly be distinguished from the original. Other types of fur which it closely imitates are the lynx, silver fox, and red fox. Some of the best specimens of these fur-bearing rabbits were exhibited at the "California Industries and Land Show," recently held in this city, and will be shown at the California International Livestock Show, which opens in San Francisco today (November 1) and

remains open to November 8.

Hitherto it has been customary to ship the raw pelts to France and England for dyeing and dressing. This preliminary preparation is now being practically transferred to this country, and the industry gives great promise for the future.

EGG-LAYING CONTEST — CHANGE OF DATE.

In order to allow Poultrymen from all over the State to make entries, the California Farm Bureau Egg-Laying Contest will begin at Santa Cruz on November 15 instead of November 1st as previously announced.

New modern houses are being completed, and Max Kortum of Calistoga has been induced by Prof. J. E. Dougherty of the University of California to take charge of the contest. The contest is under the Advisory Supervision of the University of California.

Each entrant will send a pen of twelve pullets of one breed, two of these birds to be alternates, but all to be trapnested. This feature, alone, is worth the entrance fee of \$2.00 per bird. Advertising the fact that he has good birds and knowing how much better his birds are than the average are both matters that the careful poultryman considers.

Detailed information can be obtained from S. L. Gibson, chairman in charge of the contest, Santa Cruz, or direct from the Farm Bureau office, 4 Cooper street, Santa Cruz, Calif.

TURKS HAVE SWOLLEN EYES.

To the Editor: About a month ago I noticed one of my turkeys with swellings in front and below the eyes, especially noticeable on one side. On opening the swellings the mucus was discharged from the wound, mouth and nostrils. Afterwards the swelling remained and in about five weeks the turkey died. Now there is another one in the same condition. The flock is fed wheat night and morning and have open range. Please advise treatment.—F. B. N., Vacaville.

We cannot determine what caused the swellings and the mucus. They may be due to a local cause, such as catarrh, or from internal disorders. At this season of the year it is not likely to be from catarrh. As they are fed nothing but wheat and what they can find on the range it seems reasonable to attribute the trouble to unbalanced ration. Both wheat and dry grasses, etc., are fattening and lack the elements of meat, bone, bran and most green feeds, that are necessary in providing a ration that promotes health and vigor. Growing and breeding turkeys require bulky feed and an abundance of greens.

A NIGHT MARAUDER.

To the Editor: Can any of the readers of your paper tell me how to get rid of a pest which I think is a chicken tick? They look about like bed bugs, only larger. They are never seen in daylight, but take a lantern about nine of ten and visit the chicken house and they are crawling by the million on the whitewashed walls.—Mrs. C. S., Escalon.

These insects are ticks. When a house becomes so badly infested with them the best remedy is to saturate the house and nearby ground with oil and burn it, unless it is quite a valuable building. We advise sending to the U. S. Department of Agriculture, Washington, D. C., for circular No. 170, which contains many suggestions and plans for exterminating these pests and to prevent their breeding in poultry houses. It is sent free on request.

So many grasshoppers invaded the mills orchards in Glenn county last year that they stripped 40 acres of trees, even eating the bark from younger ones. About twelve hundred turkeys were bought or hatched and they have been fed nothing since the youngsters were able to pick up the half-grown hoppers last spring. Only ten acres of trees were badly injured this season and the turkeys which protected the rest will have grown into a

big wad of money when the holiday marketing is past. Next year the Mills people hope to have enough turkeys to protect their entire planting of some 850 acres of orchard.

SPECIAL RABBIT CONGRESS.

Will be held November 2, 1919, at 7 p. m. in Rabbit Exhibition Hall, California International Live Stock Show. All breeders and those interested in the rabbit as an aid in the reduction of H. C. L. are cordially invited to attend.

DR. F. W. D'EVELYN.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

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High-class, standard-bred stock.

ORDER BABY CHICKS NOW—For immediate or spring delivery. Several varieties. Safe arrival guaranteed. Write for free circular. R. I. Red, Buff Orpington and White Rock cockerels now ready for shipment. Stubbe Poultry Ranch and Hatchery, Box 67, Palo Alto, Cal.

S. C. WHITE LEGHORN CHICKS—by the 100 or 1000 from A-1 Hogenized and Trap-nested stock. Won 1st, 2nd and Special (Utility Class), Oakland and Modesto. Order early for Fall and Spring delivery. A. O. & P. M. Forster, 2918 Otis St., Berkeley, Cal.

ANDERSON'S PEEBLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels \$5 and up. 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B. 130 Willard Street, San Jose, Cal.

"WATCH US GROW"—Baby chicks. Booking orders now for January and February delivery. White and Brown Leghorns, R. I. Reds and Barred Rocks. Safe delivery guaranteed. Order early. E. W. Ohlen, Campbell, Cal.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Hatching eggs. Improve your color and egg capacity. Also Rose-comb Reds. Wm. Larm, 3915 39th Ave., Fruitvale, Cal.

PETALUMA HATCHERY. Can ship day-old chicks to points reached in three days. Four varieties. We challenge the hen, or anybody else. Free fall circular. L. W. Clark, Petaluma, Calif.

WHITE HOLLAND TURKEYS—Young breeding stock. January and February hatch. Chance to get a thoroughbred young tom reasonable. A. P. Ward & Son, Calistoga.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Volden, Box 3, Los Gatos, Calif.

"EASTMAN'S BRED-TO-LAY"—Hogenized and trap-nested Barred Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Calif.

ROCK, RED OR LEGHORN baby chicks—large or small lots. Right prices. Madera Hatchery, Madera, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GESE, GUINEAS, PEA FOWL, PIGEONS. Wm. A. French, 545 W. Park St., Stockton, California. Stamps.

SUPERB BARRED ROCK and Blue Andalusian cockerels. February hatch at \$5.00 each. Geo. I. Wright, Mokelumne Hill, Cal.

PUREBRED INDIAN RUNNER DRAKES for sale or exchange. Margaret Martinelli, Ripon, Cal., Route A, Box 2A.

PUREBRED S. C. RHODE ISLAND RED hatching eggs. \$2.00 per fifteen. E. G. Goring, Quail Ranch, Pixley, Cal.

Bronze Turkeys—Albert M. Hart, Clements, Calif.

RABBITS.

NEW ZEALAND RED BUCKS and does. Start right with does bred to registered bucks. Dixolano Rabbitry, Box 521, Dixon.

For Sick Chickens

Preventive and curative of colds, roup, canker, swollen head, sore head, chicken pox, limber neck, sour crop, cholera, bowel trouble, etc. Mrs. T. A. Morley of Galesburg, Mich., says: "Have used Germozone 17 yrs. for chickens and could not get along without it." Geo. F. Vickerman, Rockdale, N. Y., says: "Have used Germozone 12 years; the best for bowel troubles I ever found." Frank Siska, Chicago, Ill., writes: "I have lost but 1 pigeon and no chickens in the 3 yrs. I have been using Germozone." C. O. Petrain, Moline, Ill., says: "I never had a sick chick all last season." Bernard Horning, Kirtsville, Mo., says: "Cured my puniest chicks this spring." Ralph Wurst, Erie, Pa., says: "Not a case of white diarrhea in 3 yrs. I raise over a thousand a year." Good also for rabbits, birds, pet stock.

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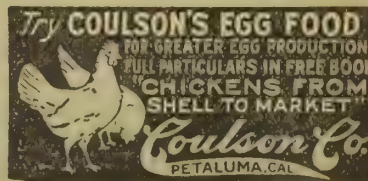
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Coulson Co.

PETALUMA, CAL.

THE HOME CIRCLE

WHAT IS LIFE?

"Life is fire and thunder,"
Shouts the fighter; "life is wild;
I have ceased to pray and wonder
Like a stupid child."

"Life is dust and laughter,"
Sneers the cynic; "life grows cold;
There is nothing waiting after
When our hearts are old."

"Life is song and magic,"
Sighs the lover; "life has wings;
Life fills love with human, tragic,
Dear, brave, tender things."

—By A. S.

TEACHING HEALTH TO GIRLS.

The establishment of health centers in communities is a step toward improving the health of the entire community.

The object of the health center is to point out the dangers to the health and to teach good living habits.

The new health center for women in New York city is preaching a novel doctrine—that of keeping well.

Dr. Meredith, who is director of the health center, has had the experience to make her an authority on the health of working women and her experience has led her to believe that heredity and environment play relatively a small part in the health of the average individual.

She contends that there is no excuse for not feeling fit, that anybody can achieve a maximum of health if she really puts her mind to it.

Keeping well, as taught by the Health Center, is by no means easy. It consists in maintaining unrestricted circulation, through proper carriage, bathing and exercise; drinking at least eight glasses of water a day; getting lots of fresh air and at least eight hours of sleep out of the twenty-four; eating substantial food (not necessarily expensive); and above all, cultivating the will to be healthy.

Dr. Meredith contends that some diseases are hereditary, but that the feature of heredity has been greatly exaggerated. Many girls have what they consider inherited disabilities, that are nothing but the results of the bad habits of their parents, which they are continuing.

When necessary, applicants at the Health Center are directed to clinics or hospitals for surgical treatment, but most of the causes of low vitality and poor health are corrected by changing the mode of living.

Much interest has been aroused in this Health Center movement and a movement is on foot to establish these centers on the Pacific Coast.

The establishment of the Health Center would tend to subdue epidemics or diseases among the classes

who do not feel at liberty to call a physician for slight disorders.

The Infirmary on the Campus, at the University of California, is an example of how a college community is kept free from epidemics. Each student must pay a small Infirmary fee, each year. This fee entitles him to free medical attention, if he does not feel well. Now, many of the cases treated there would have gone on to a satisfactory finish anyway, but occasionally there are serious diseases detected that would spread into epidemics and seriously cripple the work of the school.

The principle of the Health Center is somewhat similar to teach the community how to keep well and be in such physical condition as to be of value in the world.

UNDERFED CHILDREN.

There have been disquieting disclosures of late regarding the malnutrition of many American school children. Recent researches show that about 5,000,000 of them are suffering from nutritional defects.

Other defects are noticeable among the children of America, but underlying all of them and of most importance as a key to the general problem, is the question of malnutrition.

The great majority of babies come into the world healthy. Helpless, it is true, but with a capacity for vigorous growth, if a fair chance be given. Then, too often, follow malnutrition and the long list of nutritional disorders.

Many of these children lose ground physically, because of a deficiency in the milk ration. Milk is a food which children must have, if they are to develop properly. It is not only a splendid food in itself, but it possesses a protective value in the dietary—making up for various deficiencies in food elements. It is a great balancer of the child's diet.

To substitute tea and coffee for milk in the case of growing children is, in the eyes of the medical profession and food experts in general, one of the meanest kinds of neglect, if milk is procurable, and one of the saddest, if it is not procurable.

HOUSEHOLD HELPS.

A delicious dessert for winter is made with a crisp, short biscuit crust. Bake, cut with a hot knife, butter and spread with any favorite jam as you would spread a larger cake.

Egg stains can be easily washed from dishes if a little salt is sprinkled over them before washing them.

Sweet potatoes fill a very real want in sugarless dinners—they can be used

for pies and puddings as well as vegetables.

To clean white enameled furniture, use a solution made by dissolving one tablespoonful baking soda in a pint of warm water. Saturate a soft cloth and wipe the furniture.

Blankets which are not in use should have small pieces of thoroughly dried yellow soap scattered in the folds when they are put away. This will keep moths out.

Candle grease on a carpet may be removed by means of blotting paper and hot irons.

To keep cheese fresh, wrap it in a cloth that has been dipped in vinegar and wrung as dry as possible. Keep in a cool place.

Grass stains on clothing should be soaked in paraffine. The garment may then be washed as usual.

Carpets or rugs may be brightened by first sweeping thoroughly and then going over them with a clean cloth and clear salt water. Use a cupful of coarse salt to a large basin of water.

MORE LIGHT THAN 20 OIL LAMPS

AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electricity
More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The



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No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over—will last a lifetime

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The Holidays bring added responsibilities of Hospitality.

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Whether its needs are little or much, Barker Bros. will serve you quickly and well with every kind of Furniture, Home Furnishing or Household Appliance.

Our unusual and efficient Mail Order Service places every article in our immense stock at your call. You can select by mail as surely as in person. May we show you how this sure and satisfying Personal Service will help you, wherever you are?

Or, if you are undecided as to your Home's needs, but want suggestions, let us send you a copy of the Holiday Number of our beautiful magazine, **BETTER HOMES**, just issued. It is not sent broadcast.

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PUT in a Mueller Pipeless Furnace and flood your house with moist, healthful heat at a saving of $\frac{1}{3}$ to $\frac{1}{2}$ on fuel cost.

The Mueller Pipeless is guaranteed to heat every room in your house comfortably. And thousands of installations prove the sincerity of this written guarantee. The Mueller

Pipeless is so designed and constructed that it never fails.

Mueller heating engineers designed a better pipeless furnace because they had 62 years' experience in the building of heating systems. No wonder then that the Mueller Pipeless scientifically and correctly applies the laws of air circulation and gives the utmost satisfaction to home owners.

MUELLER PIPELESS FURNACE

It is properly and accurately proportioned throughout. Eight sizes—one to fit every home. Easy and inexpensive to install. Burns all fuels.

The interesting book, "The Modern Method of Heating Your Home," explains in detail the many features of construction that make it possible for the Mueller Pipeless Furnace

to give such dependable heating service and still save you tons of fuel. We'll gladly send it to you FREE—just fill out and mail in the coupon—NOW!

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Makers of Heating Systems of All Kinds Since 1857

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We have yet to learn of a family that would be willing to go back to wood after using our Burner and enjoying the comforts of its clean gas. That is but a natural result for several good reasons—the Burner always works, it is always ready. A piece of paper and a match starts it quicker than a wood fire. There is no pumping to do—the natural "fall" of the oil is the pressure, just natural, and that is why the Burner works

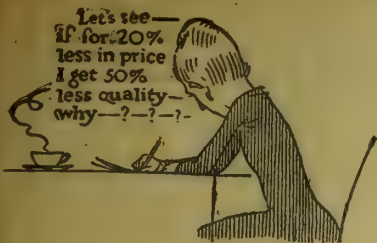
year in and year out, because it is natural in every detail. Give the oil a chance, and it will naturally turn to gas—properly dry this gas and you have the most wonderful, clean and satisfactory fire it has ever been your privilege to enjoy. Best of all, you keep the same stove, making no changes in it whatever—the heat is even and needs no watching. All of this for less money—do you wonder why they never go back to wood? No work, more comfort and pays a dividend. Write for our circular. Remember, we are the inventors, sole owners and manufacturers of everything we sell to meet every need from the home stove to steam boilers.

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"Cheap" tea isn't cheap, not really; it makes fewer cups per pound than good tea, and you don't even get what you pay for—the rich full-flavor of fine tea. You do get tannin, which is bad for the health.

Your really cheap tea is Schilling Tea. It costs only $\frac{1}{3}$ cent per cup, and you get what you pay for—the true tea-taste.

There are four flavors of Schilling Tea—Japan, Ceylon-India, Oolong, English Breakfast. All one quality. In parchment-lined moisture-proof packages. At grocers everywhere.

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A white porcelain enameled bathtub will make bathing a pleasure. Pacific Bathtubs are most modern. Their designs are simple and beautiful.

And they give a lifetime of service.

Although Pacific Plumbing Fixtures are equalled in quality by only one other brand, you pay no more for Pacific Plumbing Fixtures than you would for inferior brands.

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DIRTY POWDER PUFFS.

Now that the use of powder is so general and sad to relate, the public application of it so common, the traveling public even may criticize the condition of the powder puff used.

There are still some people who consider that powdering a shiny nose should be done in private, just the same as cleaning one's finger nails or combing one's hair. But the consensus of opinion is against them, if one may judge by the number of young, attractive, well-bred girls who use a powder puff on any occasion.

If it must be done, let the puff or chamois skin be clean, not resembling in color a cloth to wash windows.

There is a trick about washing them that is worth passing on that will leave the puffs light and fluffy and the chamois soft.

Make a rich suds of any good soap and when the water is warm, not hot, stick the puffs in; let soak for a couple of minutes and wash; then rinse in warm, soapy water. This last feature is the thing to remember. If you rinse in clear water, the article will not be pliable and fluffy.

Wash the puffs frequently for the protection of the skin—using a dirty puff ruins the pores of the skin.

A SUGGESTION CONCERNING POMEGRANATES.

Editor Home Circle: Some time ago I read an article concerning pomegranates. Some one was asking what to plant on alkali land, stating that some one had suggested pomegranates; and you stated that they were not profitable—in fact, no market for them. I have had very little use for them, and know of no one who has; but recently my husband and I experimented as to their food value and we found they would make a splendid juice, such as grape juice. This juice contains a lot of sugar and would be splendid for fruit punch, lemonade, etc. We crushed the pomegranates and strained the juice. Would be glad to learn of the experience of others in this line.—M. G. S.

APRICOT AND PINEAPPLE MARMALADE.

Wash and put through meat grinder ten pounds of dried apricots; cover with water, when almost cooked, add eight pounds of sugar and let simmer for two hours. Take one large or two small pineapples, core and remove the eyes, cut in thin pieces and put on stove with just enough water to keep from burning. When tender, weigh and add three-fourths of a pound of sugar to one pound of fruit. Cook half an hour, then add to the apricots and cook until thick. Canned pineapple may be used if more convenient.

EASY MONEY FOR MAGGIE.

"My sister Maggie is a very fortunate girl."

"Yes? Why?"

"Dunno. But she went to a party last night, and played blind man's buff all the evening. The gentlemen hunt around and find a girl, and then they must either kiss her or give her a shilling."

"Yes?"

"Maggie came home with thirty shillings and a war bond."—Tit-bits.



THE refreshment tray can always thank Ghirardelli's Ground Chocolate for its magic aid. Creamy hot chocolate to drink; cakes with possibly a chocolate filling and frosting; waxy squares of chocolate fudge—not to mention countless other "goodies"—appear in a twinkling when the hostess summons the ever-ready can of Ghirardelli's.

Never sold in bulk—but in cans only.

In $\frac{1}{2}$ lb., 1 lb. and 3 lb. sealed cans—at the store where you do your trading.

Say "Gear-ar-delly"

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GHIRARDELLI'S Ground Chocolate



*Keeps baby warm
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Pearl Oil in a good oil heater keeps dampness and chill from the home. It gives warmth and coziness without smoke or odor, dust or dirt. Portable. Economical.

Pearl Oil is refined and re-refined to be pure and clean burning. Sold in bulk and five-gallon cans. Save money by buying in bulk. Order by name—Pearl Oil.

We recommend Perfection Oil Heaters

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The Premier Burner

You're going over in your mind just how to meet the fuel situation. This has been a burning question for the past few years, and is getting more serious all the time.

The Premier makes its own gas from Kerosene (common coal oil)

Does not smoke or soot, Operates on gravity feed,
Is guaranteed indefinitely, Starts with a paper.

COMPLETE OUTFITS:

\$12.50—for No. 6 and smaller stoves.

\$22.50—for No. 7 and No. 9 stoves.

VAUGHAN & MATTISON,

Pacific
Coast
Rep.

San Francisco, Calif.

225 Market Street,



NEVADA NEWS NOTES.

P. A. Simon of Mina has made application to the State Engineers' office for the right to use the East Walker River for the generation of electric power. It is estimated that 6000 horse power can be generated. The water is to be impounded behind rock and concrete dams at a cost of \$600,000, the plant to be constructed within three years.

The State Engineer is to investigate the feasibility of hooking this project up with the proposed storage system promoted by the Smith and Mason Valley ranches.

A private dam is being constructed on the East fork of the Carson River by the H. F. Dangberg Company, Fritz Schacht, G. Fetic, F. Settlemeyer and F. W. Cook. This dam is to be a permanent division dam to replace the one of rock and willow construction, which has been washed out many times in years gone by.

A recent report of the State Tax Commission shows that Agriculture and stock raising furnishes the majority of the funds for meeting the expenses of the State government.

The tax rolls show that there are 1,778,827 acres of privately owned lands, 304,118 head of cattle, and 1049,999 sheep.

Richard Kirman of Reno and Chas. Lewis of Carson City have ordered three pair of foxes from Canada, which are to be placed on the Pomine Ranch near Tallac, where it is thought conditions of altitude, climate and water will be ideal for fox farming.

This being rather a dull period on the hay farms in northern Nevada, Mr. Frank Eston of Battle Mountain has just leased 100 head of work horses to the rice farmers of Colusa, California.

Owing to a shortage of rail stock cars many cattle and sheep are being trained to Battle Mountain from points in Nye and Lander counties.

J. M. Barry of Santa Rosa, California, has just shipped 90 head of range horses to his California ranch. The horses are of a very cheap class and will be slaughtered for chicken feed. The shipment was made from the Battle Mountain country.

Geo. B. Williams of Fallon sold and delivered 4000 head of prime mutton lambs to the Western Meat Company of San Francisco. It is said he received in excess of \$30,000 for the entire lot.

The Gorat ranches on Bull Run Creek, near Whiterock in Elko County, has gathered and shipped forty-two cars of beef cattle, which were sold to the Western Meat Company of San Francisco.

Mr. Geo. W. Short of Nevada will have a public sale of Shorthorns on November 28, at Sacramento. The cattle consigned will consist of heifers from 10 months to 2 years old and 10 head of young service bulls. Those who wish to purchase something for foundation herds should not miss this opportunity. Details of the sale will appear in a later issue. Col. Leachman will cry the sale.

LIVE STOCK DATE SALES.

November 6. California Shorthorn Breeders' Association, San Francisco. Consignment sale.

November 7. Pacific Coast Hereford Breeders' Association, San Francisco. Consignment sale.

November 11. W. D. Hollingshead & Sons, Duroc-Jersey boar sale.

November 28. Geo. W. Short, Shorthorn Cattle, Sacramento.

January 15. California Duroc-Jersey Breeders' Association, Davis. Consignment sale.

January 16. Harvey M. Berglund, Dixon. Duroc-Jersey swine.

January 31. Ireland Ranch, Owensmouth. Fifty bred Duroc-Jersey sows and gilts.

February 12. San Joaquin County Poland-China Breeders' Association, Lodi. Sixty bred sows and gilts.

February 14. Castlevue Ranch, Santa Rosa. Fifty bred Berkshire sows and gilts.

February 17. Sandercock Land Co., Sacramento. Berkshire sale.

February 21. J. F. McSwain, Merced. Poland-Chinas.

February 23. J. H. Cook, Paradise. Poland-Chinas.

April 17. Butte City Ranch. Shorthorns, Berkshires, Shropshires and Shetlands.

THE MARKET REPORTS

SAN FRANCISCO.

San Francisco, October 29, 1919.

BARLEY.

There is so little business in barley that the street does not agree on quotations. If one wants to sell the quotations below would be all that a dealer would offer. On the other hand, if a buyer appears in the market, the price asked is likely to be from 10 to 25 cents higher, according to what the seller thinks he can get. The market is entirely one of bargaining.

Feed \$2.90 @ 2.95
Shipping \$3.15 @ 3.20

OATS.

The same condition prevails in oats as in barley. Some dealers are offering red feed at \$3 flat, but the buyers claim that no sales except possibly for a few sacks have been made at higher than \$2.85.

Red feed, per cwt. \$2.75 @ 2.85
Red for seed Nominal
Black for seed Nominal
Recleaned Red or Black for seed Nominal

CORN.

Like the other grains there is no activity in corn. While some Egyptian sold a week or two ago as high as \$3.50 it is reported that \$3.25 was the best offer of the past week.

California \$3.50 @ 3.80
Egyptian, choice \$3.15 @ 3.25

HAY.

Receipts of hay for the past week were 1,338 tons compared with 1913 the previous week. The drop in receipts was caused mostly by lack of transportation. As the fields are practically cleaned up by this time, hay from now on will probably come from warehouses. This hay must command a better price to pay the expenses of storage, otherwise it would not be withdrawn at this time. With the car situation as acute as it is, very small receipts may be looked for and no doubt firmer prices on the hay placed on the market will result.

No. 1 Wheat, or Wheat & Oat \$17.00 @ 21.00
No. 2 Wheat, or Wheat & Oat \$16.00 @ 18.00
Choice Tame Oat Hay \$19.00 @ 22.00
Wild Oat Hay \$15.00 @ 18.00
Barley Hay \$15.00 @ 19.00
No. 1 Alfalfa Hay \$17.00 @ 22.00
Stock Hay \$12.00 @ 15.00
No. 1 Barley Straw, per bale 50 @ .80

FEEDSTUFFS.

While there were no changes in the feed-stuff market this week higher prices may be looked for as the price of hay advances. However, if the grains continue as dull as during the past few weeks little advance may be expected on this description of feedstuffs.

Rolls Oats \$81.00 @ 82.00
Rolled Barley \$81.00 @ 82.00
Cracked Corn \$78.00 @ 79.00
Alfalfa Products \$38.00 @ 45.00

POTATOES, ONIONS, ETC.

Onions have been strong throughout the week and registered several advances in prices, both on the wharf and on the street. Potatoes are somewhat firmer, but as yet show little change in price. The market is practically bare of garnets and no more shipments in quantity of these are expected. Oregon potatoes will be on the market within the next week or so. Tomatoes were not in such great quantity and an advance of 25 cents was made. Some extras sold even higher. Hubbard squashes and pumpkins are becoming plentiful and range from \$1.25 to \$1.50 per sack for the former and 75c to \$1.00 for the latter. The season for green corn is about over and only a few sacks remain on sale.

String Beans 8 @ 12 1/2 c
Peas 9 @ 11 c
Carrots, per sack \$1.00 @ 1.25
Rhubarb, Strawberry, box Nominal
Cucumbers 75c @ 1.00
Eggplant, box 75c @ 1.00
Lettuce, per crate 75c @ 1.25
Tomatoes, Early Annas 50 @ 75c
do, Stone 1.00 @ 1.25
Summer Squash, lug, Alameda \$1.00 @ 1.50
do, Hubbard \$1.25 @ 1.50
Pumpkins 75c @ 1.00
Green Corn, Alameda, sack None
Potatoes, local whites \$2.25 @ 2.50
do, Rivers \$2.25 @ 2.50
do, Sweets, new, lb. 3 1/2 @ 4c
Onions, new red Nominal
do, Browns \$4.00 @ 4.25
do, Yellow \$3.50 @ 4.00
do, Green, Alameda \$1.00 @ 1.25
Garlic 20 @ 22c

BEANS.

Prices on the new crop of Mexican reds were announced this week. There was some demand for new cranberries and a slight advance was made. Limas are still held at \$14.50 by the association, but outside growers are selling them freely at \$13.50. The market as a whole is quiet.

Variety Old crop New crop
Bayos \$6.25 @ 6.50
Blackeyes \$5.75 @ 6.00
Cranberry \$6.50 @ 6.90
7.50 @ 7.75

Pinks \$5.75 @ 5.90
Red Mexican \$5.00 @ 5.75
Tepary \$2.50 @ 2.75
Garbanzos 9.50 @ 10.00
Large Whites \$5.75 @ 6.00
Small Whites \$4.50 @ 6.75
Limas \$14.50
do, Baby 13.00

POULTRY.

Three cars of Eastern came in during the week and another is scheduled to arrive before the end of the current week. This has had the effect of lowering the price of smooth young roosters and these prices may go still lower. There is something of a scarcity of small broilers, and all broiler prices are firmly held. Hens are inclined to be stronger, but higher prices are hardly looked for in the immediate future. Dressed turkeys came in somewhat in excess of the needs of the market and the top prices were shaved to move them promptly. A good demand for young ducks developed during the week which caused that description to advance. On the whole the market is in a healthy condition.

Broilers, 1 1/2 lbs. and under 37 @ 40c
do, 1 1/2 to 2 lbs. 32 @ 35c
Fries, 2 to 3 lbs. 32 @ 33c
Hens, extra, per lb. 35 @ 36c
do, Leghorns 31 @ 33c
Smooth young roosters, per lb. (3 lbs. and over) 31 @ 32c
Old oostes, colored, pe lb. 22c
Turkeys, dressed, young spring, lb. 50 @ 52c
do, live 43 @ 45c
Geese, young, per lb. 26 @ 27c
do, old, pe lb. 22 @ 23c
Squabs, per lb. 60 @ 65c
Ducks, young 26 @ 28c
do, old, per lb. 23 @ 25c
Belgian hares 15 @ 16c
Jack rabbits \$2.50 @ 3.50

BUTTER.

Trading in butter was quiet during the week and there were no changes in conditions noted. Prices showed but little change from day to day and the high of last week. The high price day and the high of the week was not in effect for butter for the month of October was 65 cents, which compares favorably with the high price of 64 1/2 for the same period last year. However the low price this month was 61 1/2 compared with the low of 56 1/2 a year ago. So the average price will show somewhat higher for October this year.

Thu. Fri. Sat. Mon. Tu. Wed.
Extra 61 1/2 63 1/2 61 1/2 62 1/2 62

EGGS.

Extra eggs continued on their upward path, reaching 79 1/2c to the growers on the 28th. This high price of the month is still 2 cents less than the high of October a year ago. Like butter, however, the low of a year ago was much lower than the low of this year, and the average price for this October is therefore higher than a year ago. As the price of extras continued to advance the dirties were withdrawn from the market, the accumulation of this description apparently being exhausted. A remarkable feature of the market is the differential between extra pullets and extras of the highest grade. A year ago there was a difference of only 9 cents between the two descriptions. This year the difference was 18 1/2 cents on the day each touched the top prices. The most plausible explanation of this seems to be that the pullets are not shipped East, and the home consumption is not enough to push them ten cents higher than their present quotations. This explanation is weakened by the fact that last year these pullets brought ten cents higher than the high of the present year, while to date extras brought only two cents higher last year.

Thu. Fri. Sat. Mon. Tu. Wed.
Extras 73 1/2 73 1/2 77 75 1/2 77 1/2
Dirties No. 1 69 1/2 69 1/2
Ex. pullets 60 1/2 61 61 63 1/2 62 1/2
Undersized 54 1/2 54 1/2 55 1/2 57 57 1/2

CHEESE.

The cheese market continues quiet with slow movement at the quoted prices.

California Flats, fancy 30c
do, Firsts 27c
Y. A. Fancy 32 1/2 c
Oregon Triple 30 1/2 c
do, Y. A. 33c

FRESH FRUITS.

There were few changes in the prices of fruits during the week. Apples continue to grow in favor, and with grapes practically dominate the market. Berries continue to come in and strawberries sold at higher quotations this week.

Apples, Jonathan \$1.50 @ 2.75
do, King \$1.80 @ 2.00
do, Bellflower \$1.50 @ 1.75
do, Pippins \$2.00 @ 2.25
do, Oregon \$3.00 @ 3.50
Quinces \$1.00 @ 1.50
Pears \$2.00 @ 4.00
Strawberries \$18.00 @ 20.00
Raspberries \$13.00 @ 15.00
Peaches, Oregon \$1.25 @ 1.50

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, October 27, 1919.

There has been very little change in Eastern markets this week from the week previous. Prices on sound fruit of all varieties have ruled high, with a continued strong demand.

There is every indication that conditions will remain about the same throughout the remainder of the season and though there has been a little inactivity in the purchase of drum and keg Emperors on account of the high prices asked by the growers, considerable stock has been placed in storage, which will probably be put upon the market as soon as crate and lug grapes have been disposed of.

Shipments of grapes from California are lightening up and there will be a noticeable decline in the offerings from now on. Ship-

ments, however, should continue, with favorable weather conditions, for at least three weeks.

Averages for the week:

NEW YORK: Malaga Grapes, \$2.32; Emperors, \$2.10; Cornichon, \$2.44; Alicante Bouschet, \$2.78; Tokaya, \$2.07; Mission, \$2.31; Muscats, \$2.12; Zinfandel, \$2.24; B. Clairveau Pears, \$3.70; Winter Nelsa, \$3.94; Comice, \$4.38; Glout Moreau, \$3.60.
BOSTON: Tokay Grapes, \$2.22; Emperors, \$2.47; Malaga, \$2.18; Cornichon, \$2.25; Zinfandel, \$1.77; Alicante Bouschet, \$1.82; Muscats, \$1.56; Mission, \$1.92; Clairveau Pears, \$5.30.
CHICAGO: Malaga Grapes, \$2.12; Zinfandel, \$1.49; Cornichon, \$2.51; Tokaya, \$1.92; Emperors, \$2.30; Mission, \$1.60.

Grapes \$1.50 @ 2.00
Figs \$1.50

CITRUS FRUITS.

Arizona grapefruit continues to arrive in good quantity and is selling better than the first arrivals. The rest of the citrus market is unchanged.

Oranges, Valencia \$5.25 @ 5.75
Grapefruit, old \$6.00 @ 6.50
do, Arizona, Los Angeles lug \$1.75 @ 2.00
Lemons, fancy \$7.00 @ 7.50
do, choice \$6.00 @ 6.50
do, standard \$5.00 @ 5.50

DRIED FRUITS.

The dried fruit market continues strong and while there have been no advances in prices changes to a higher level may be expected any day.

Apples 16 @ 18c
Pears 16 1/2 @ 18 1/2 c
Apricots 21 @ 28c
Prunes 11 @ 13c
Figs, Adriatic 12 @ 18c
do, Calimyrna 15 @ 21c

HONEY.

The Honey Association is reported to have been shipping some honey and the market for light amber was firm up a cent in consequence. Local conditions in honey show no change.

Water White 18 @ 20c
Light Amber (Mountain) 16 @ 18c
do (Alfalfa) 14 @ 16c

RICE.

There were no changes in rice quotations either for spot or futures this week. The market is regarded as steady and little variation from present prices is expected before the crop is about ready to move.

LOS ANGELES.

Los Angeles, October 28, 1919.

BUTTER.

This market is down 1c since quoted last week. Receipts also slightly under a week ago, but demand is keeping up at quotations. Receipts for the week, 267,900 lbs.

Fresh California, extra creamery 64c
do, prime first 62c
do, first 61c

EGGS.

Receipts for the week show a slight increase since last report. Offerings are light, but demand is very good. Receipts for the week, 501 cases.

Fresh ranch, extras 73c
do, case count 87c
do, pullets 57c

POULTRY.

Receipts are only fair. Broilers in good demand and hens selling fairly. Turkeys are lower and slow sale for them. Ducks reported in fair demand.

Broilers, 1 to 1 1/2 lbs. 42c
Broilers, 1 1/2 to 1 3/4 lbs. 43c
Fries, 2 to 3 lbs. 32c
Roosters (soft bone), 3 lbs. and up 33c
Stags and old roosters, per lb. 19c
Turkeys 35 @ 37c
Hens 31 @ 35c
Ducks 25 @ 27c
Geese 27c

HAY—F. O. B. Los Angeles.

This market reports lighter receipts, but the demand is fair for all offerings. All prices remain the same as quoted a week ago.

Barley hay, ton \$18.50 @ 21.50
Oat hay, ton \$22.50 @ 25.00
Alfalfa Northern, ton \$21.00 @ 23.00
Alfalfa local, ton \$25.00 @ 27.00
Straw \$ 9.00 @ 10.00

FRESH VEGETABLES.

Offerings are lighter since last reported. The demand is very good for all fresh stuff at quotations, while stale is very hard to move. Potatoes still advancing, and onions are also higher. Lettuce higher and scarce. Slow sale on limas. Green peppers in good demand.

Potatoes, Northern Burbanks \$2.70 @ 2.80
do, Idaho Russets, cwt. \$2.60 @ 2.70
Sweet Potatoes \$1.75 @ 2.00
Onions, Stockton, yellows, cwt. \$3.75 @ 4.00
do, White Globe, cwt. \$3.50 @ 3.80
Cabbage, per 100 lbs. 90c @ 1.50
Lettuce, crate \$1.40 @ 1.25
Rhubarb, per 30-lb. box 75c @ 1.25
Summer squash, lug 50 @ 60c
Peas, per lb. 10 @ 12c
Kentucky Wonders 6 1/2 @ 7 1/2 c
String Beans, wax 6 @ 7c
do, Green 6 1/2 @ 7 1/2 c
Tomatoes, lug box 40 @ 80c
Lima Beans, local, lb. 6 @ 7c
Cucumbers, local, lug box 60 @ 75c
Watermelons, local, lug box 75c @ 1.00
Corn, lug box 60 @ 75c
Peppers, Bell, lb. 1 @ 1 1/2 c
Casabas, lb. 1 @ 1 1/2 c
Celery, crate \$3.50 @ 3.75
Cauliflower, crate \$1.75 @ 2.00

FRUITS.

This market reports all choice to fancy in very good demand at present quotations. Slow sale for all poor stuff.

Strawberries—
30 basket crates, fancy \$5.75 @ 6.00
Poor to choice \$5.00 @ 5.25
Blackberries, case 30 boxes \$4.00 @ 5.00
Grapes, Malaga, lb. 6 @ 7c
do, Tokaya 6 @ 7c
do, Muscat 4 @ 5c
do, Cornichon, lbs. 5 @ 6c

Crabapples 3 @ 7c

Apples, White and Red Astrakhan, lb 4 @ 7c
Pears, Bartlett, lb. 4 @ 6c
Japanese Persimmons, lb. 7 @ 12c
Apples—Bellflowers, 4 tier \$1.60 @ 1.70
do, Jonathan, packed box 2.75 @ 3.00
do, Red Permain, packed box \$1.60
do, White Permain, packed box \$1.70 @ 1.75
do, Yellow Newtown Pippin, pkd box \$1.75
do, Spitzenburg, packed box \$3.00 @ 3.25

BEANS.

Not much doing in this market. Prices the same as reported last week. The market is dull.

Limas, per cwt \$12.50 @ 13.50
Large white, per cwt \$18.25
Small white, per cwt \$16.50
Blackeyes, per cwt \$5.00 @ 5.25
Tepary, per cwt \$3.00 @ 3.25
Pink, per cwt \$4.25

do, Muscat	4 @ 5c
do, Tokays	3 @ 7c
do, Rose Peru, lb.	3 1/2 @ 4c
do, Hamburgs, lb.	3 1/2 @ 4c
do, 4 1/2 tier	\$1.30 @ 1.40

Special Citrus Market Report.

Los Angeles, October 28, 1919.
The Valencia orange market showed a steady demand this week for sound fruit. There has been a big improvement with regard to refrigerator car shortage. With probably 3,200 cars remaining the trade is assured of a good supply of oranges well along toward the middle of December. Due to present labor

conditions lumber mills have been somewhat handicapped, and have been unable to turn out the needed amount of box shooks.
Judging from the present outlook the new crop of navel in Tulare county will be much better than what was first anticipated, which will probably mean an increase of from 15 to 25 per cent over last season's production. Prices have ranged from \$4.75 to \$5, f. o. b., on best grades.

Prices have eased somewhat with regard to lemons, due to the fact that the foreign lemon markets have entered into competition with the southern markets. Prime lemons have sold from \$5 to \$6, f. o. b. California points. The total number cars of oranges shipped for the season commencing November 1 have been 34,605 and 9,564 cars of lemons.

Special Livestock Market Report

San Francisco, October 29, 1919.

CATTLE—Cattle prices have receded a fraction of a cent in the past week. The proportion of prime stock in the beef cattle receipts on this market is not large, and buyers are beset with a redundancy of cow stuff and other undesirable varieties. The cattle markets East continue to be congested, and the price trend is downward.

Steers, No. 1, 1200-1200 lbs.	10 1/2 @ 11c
do, No. 1, 1200-1400 lbs.	10 @ 10 1/2c
do, 2nd quality	8 1/2 @ 9c
do, thin	6 1/2 @ 7 1/2c
Cows and Heifers, No. 1	8 1/2 @ 9c
do, 2nd quality	7 @ 7 1/2c
do, thin	4 1/2 @ 6c
Bulls and Stags, good	5 1/2 @ 6 1/2c
do, Fair	4 1/2 @ 5 1/2c
do, Thin	3 1/2 @ 4 1/2c
Calves, lightweight	11c
do, medium	10c
do, heavy	8 @ 9c

SHEEP—The sheep market is quiet and steady. A fair trade is being done over the retail counter, and good fat lamb stock is especially in demand. Quotations are practically unchanged.

Lambs, yearling	10c
do, milk	12 @ 12 1/2c
Sheep, wethers	9 @ 9 1/2c
do, ewes	6 1/2 @ 7c

HOGS—Hogs are still on the toboggan, though the decline is less rapid than a few weeks ago. It is felt in some quarters that prices cannot go much lower at present in the face of high feed prices, labor costs and transportation charges. The widespread strikes and corresponding scarcity of money in circulation has restricted demand somewhat. A slight lowering of quotations is noted.

Hogs, hard, grain fed, 100 to 150 lbs	\$13c
do, 150 to 225 lbs.	12 1/2c
do, 225 to 300 lbs.	11 1/2c

PORTLAND LIVE STOCK.

Portland, Ore., October 28, 1919.

CATTLE—Market steady; receipts, 31. Steers, best \$9.50 @ 10.50; good to choice, \$9 @ 9.50; medium to good, \$8 @ 9; fair to good, \$7 @ 8; common to fair, \$5.50 @ 6.50; good to choice cows and heifers, \$7.50 @ 8.50; medium to good, \$6 @ 7.50; fair to medium, \$5.50 @ 6.50; canners, \$4.75 @ 5.75; bulls, \$5 @ 7; prime light calves, \$14 @ 16; heavy calves, \$8 @ 13; stockers and feeders, \$7.50 @ 9.25.

HOGS—Market steady; receipts, 295. Prime mixed, \$13.75 @ 14; medium, \$13 @ 13.50; smooth heavies, \$12 @ 12.50; rough, \$11 @

WEEKLY BUTTER AVERAGES.

Week Ending	San Francisco	Los Angeles
Jan. 2...	58.40	66.19
9...	51.08	61.00
16...	52.33	61.70
23...	52.50	55.83
30...	53.00	44.91
Feb. 6...	50.80	43.58
13...	52.00	46.80
20...	51.41	51.58
27...	51.30	53.90
March 6...	50.06	56.16
13...	51.16	55.58
20...	47.83	54.41
27...	46.30	56.41
April 3...	43.16	54.23
10...	39.25	57.16
17...	40.50	52.41
24...	40.50	52.41
May 1...	40.83	52.41
8...	40.66	52.91
15...	40.46	55.16
22...	40.33	57.91
29...	42.30	57.91
June 5...	43.90	54.12
12...	44.92	53.58
19...	46.50	53.16
26...	47.42	52.83
July 3...	48.08	52.37
10...	48.90	52.12
17...	50.83	52.71
24...	52.66	54.24
31...	52.19	55.03
August 7...	52.16	55.50
14...	51.66	52.33
21...	52.25	52.66
28...	53.00	52.66
Sept. 4...	53.00	56.20
11...	54.90	58.70
18...	57.80	59.70
25...	61.33	60.58
Oct. 2...	64.75	62.70
9...	64.50	63.41
16...	62.59	61.00
23...	61.75	62.00
Nov. 6...	59.50	59.50
13...	59.00	58.83
20...	61.00	57.00
27...	61.60	57.25
Dec. 4...	62.60	58.75
11...	63.00	60.00
18...	63.50	61.01
25...	64.60	62.00

Care is never wasted on stock. Sheep are particularly quick to respond to kind treatment, and there is more money in the tame flock than in the wild one.

11.50; pigs, \$12 @ 13.

SHEEP—Market steady; receipts, 20. Eastern lambs, \$11 @ 11.50; valley, \$10 @ 10.50; feeders, \$8 @ 9; yearlings, \$7.50 @ 9; wethers, \$7.50 @ 8.50; ewes, \$5 @ 6.50.

Los Angeles, October 28, 1919.

CATTLE—Prices are firmer and good demand. Cows are plentiful and the market for them is dull.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 @ 1100 lbs. \$9.50 @ 11.00
Prime cows and heifers \$8.00 @ 9.00
Good cows and heifers \$7.50 @ 8.00
Canners \$5.00 @ 5.50

HOGS—Sharply lower. Receipts reported only fair. Demand is fair at the decline.

Per cwt. f. o. b. Los Angeles:
Heavy overage 275 @ 350 lbs. \$8.50 @ 10.00
Heavy average 225 @ 275 lbs. \$10.50 @ 11.50
Light \$11.50 @ 12.50

Rough docked 20 lbs., piggy sows 40 lbs. and stags, 40 per cent.

SHEEP—Lambs in good demand. Wethers and ewes reported to be slow sale. All prices the same as last week.

Per cwt. f. o. b. Los Angeles.
Prime wethers \$8.50 @ 9.50
Yearlings \$8.50 @ 9.50
Prime ewes \$8.00 @ 8.50
Lambs \$12.50 @ 13.50

EASTERN.

Chicago, October 28, 1919.

HOGS—30,000; estimated tomorrow, 20,000; estimated tomorrow, 20,000; mostly 25c higher, closing weak. Bulk, \$13 @ 13.85; top, \$14. Heavy, \$13.25 @ 13.75; medium, \$13.15 @ 13.85; light, \$13.35 @ 13.75; light light, \$13 @ 13.50; heavy packing sows, smooth, \$12.75 @ 13.25; packing sows, rough, \$12.50 @ 12.75; pigs, \$12.25 @ 13.25.

CATTLE—27,000; estimated tomorrow, 17,000; weak. Beef steers, medium and heavy weight, choice and prime, \$16.75 @ 19.50; medium and good, \$10.75 @ 16.50; common, \$8.25 @ 10.50; light-weight, good and choice, \$14 @ 19; common and medium, \$7.50 @ 13.75. Butcher cattle—Heifers, \$6.75 @ 14.75; cows, \$6.50 @ 13; canners and wethers, \$5.25 @ 6.50; veal calves, \$17 @ 18.50; feeder steers, \$6.75 @ 13; stocker steers, \$6 @ 10.25. Western range—Steers, \$7.75 @ 15.50; cows and heifers, \$6 @ 13.

SHEEP—37,000; estimated tomorrow, 35,000; firm. Lambs, \$12.25 @ 15.35; culls and common, \$6.50 @ 12; ewes, medium, good and choice, \$6.75 @ 8.25; culls and common, \$3 @ \$6.50; breeding, \$6.75 @ 12.50.

"In Humboldt County, where there is one acre of apple land there are ten acres of land suitable for pears," says Albert Etter, Horticulturist. He says the Snyder pear does very well there and he finds it a good canner.

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FOR SALE—Complete refrigerating plant; 6 H. P. gas engine, compressor, shafting, piping, milk cooler. Everything nearly new and in first-class condition. Reasonable terms. Write Coast Dairies & Land Co., Davenport, Cal.

FOR SALE—California Wonder Corn for seed. A new white Dent. Has averaged as high as six good ears per stalk. The greatest yields of any corn known. Order now. Prices quoted. James McKee, Riverside, Calif.

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FOR RENT—Ninety-acre apple and pear orchard on shares; location, Paradise, Calif. Dr. C. A. Oliver, Chico, Cal., Box 942.

FOR SALE BY OWNER—Ten-acre apple orchard 3 miles south of Bishop, Cal., in Sunland District. Just coming into bearing. Lays under head of Mesa canal with ten inches of water—none better in America. Climatic conditions are unsurpassable. Orchard is in good location on main traveled road with ideal view of mountains and valley. Varieties of fruit are Winesaps and Jonathans, the leading varieties for Owens Valley. Phone 5F4. No trade. Clyde Hall.

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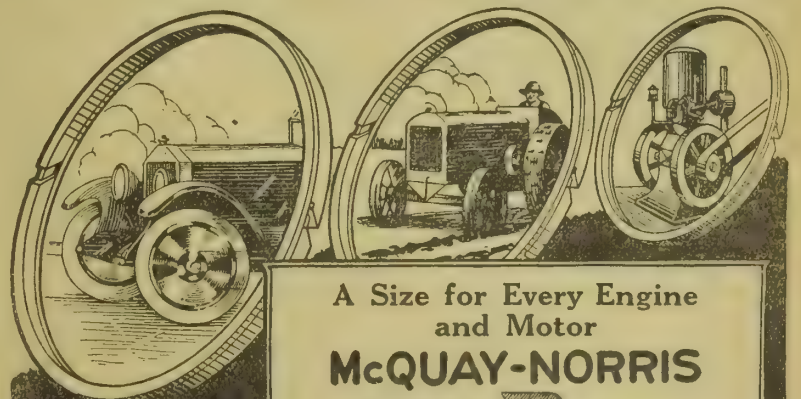
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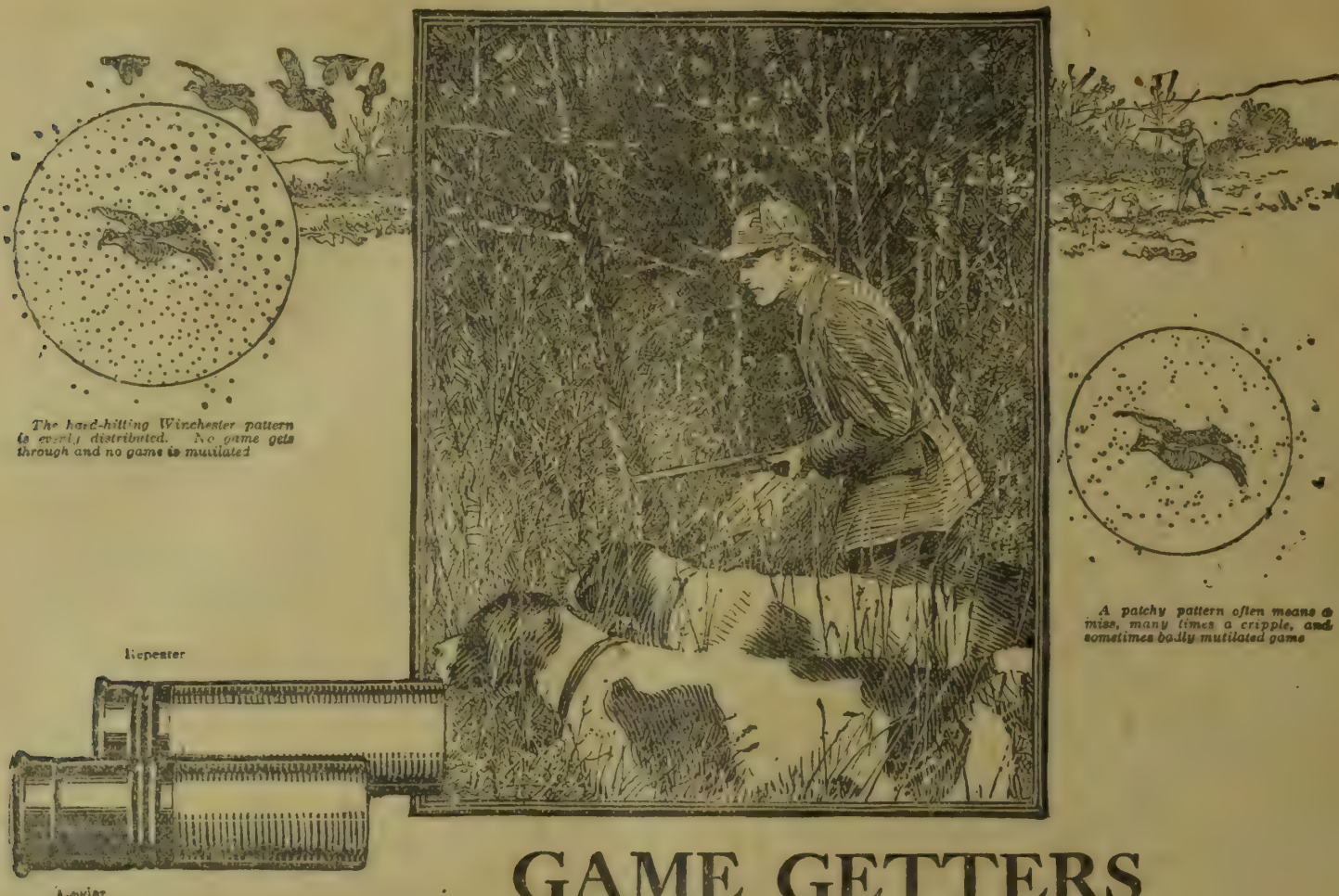
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A patchy pattern often means a miss, many times a cripple, and sometimes badly mutilated game.

GAME GETTERS

THE steady game-getting qualities of Winchester Loaded Shells have made them the favorite shells of experienced shooters.

Under all weather conditions they play true to form, shooting a strong, even spread of shot. The Winchester waterproofing process prevents swelling from dampness; special lubrication of the paper fibres prevents brittleness and splitting in dry weather.

The secret of the famous Winchester Shot Pattern is in the control of the gas blast from the exploding powder. This in turn depends upon the wadding in the shell.

The Winchester gas control system

The Winchester system of wadding and loading is the result of repeated experiments to determine the most effective control of the gas blast. The base wads of Winchester Shells are constructed to give what is known as progressive combustion to the powder charge. The ignition spreads to the sides, in all directions, as well as forward.

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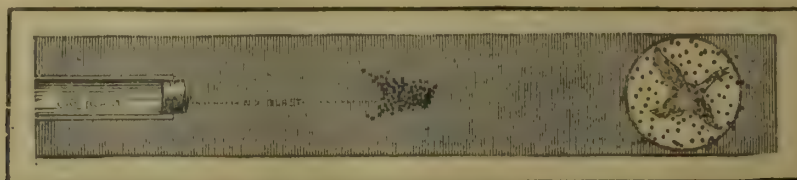
the full energy of the whole powder charge is developed at the muzzle. Thus none of the shot charge leaves the gun until it is being driven by the maximum energy and velocity possible from the load.

At the muzzle, the expanded, snug-fitting driving wad is slightly checked by the muzzle choke or constriction, while the shot cluster travels on unbroken by gas blast or wadding, making the hard-hitting uniform pattern for which Winchester Shells are world famous.

Uniform shells. From primer to crimp, Winchester Shells are so balanced in construction as to insure the maximum pattern possible from any load. The broad fish-tail flash from the primer gives even and thorough ignition; the driving wads completely seal in the gas behind the shot; the stiffness of the crimp or turnover at the shell head is varied exactly according to different loads, great care being taken never to stiffen it to such a degree that it offers undue resistance to the powder explosion.

Clean hits and more of them

To insure more hits and cleaner hits in the field or at the traps, be sure your shells are Winchester Leader and Repeater for smokeless; Nublack and New Rival for black powder. Leading hardware and sporting goods dealers in every community carry Winchester arms and ammunition. They will be glad to assist you in determining the particular load best suited to your purpose. Upon request, we will send you, free of charge, our interesting booklet on Winchester Shotguns and Loaded Shells.



The Winchester system of wadding. The wadding expands evenly, sealing in the gas blast all the way to the muzzle, where the wadding is checked by the "choke" or constriction. The shot cluster travels on ahead unbroken. Actual test target 320 pellets out of 431 or 74% of the shot charges (1 1/4 oz. of 7 1/4 chilled) inside a 30-inch circle at 40 yards.

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WINCHESTER

World Standard Guns and Ammunition

THE PACIFIC RURAL PRESS

SAN FRANCISCO

NOVEMBER 8, 1919

LOS ANGELES

A Livestock Show Which Surpasses

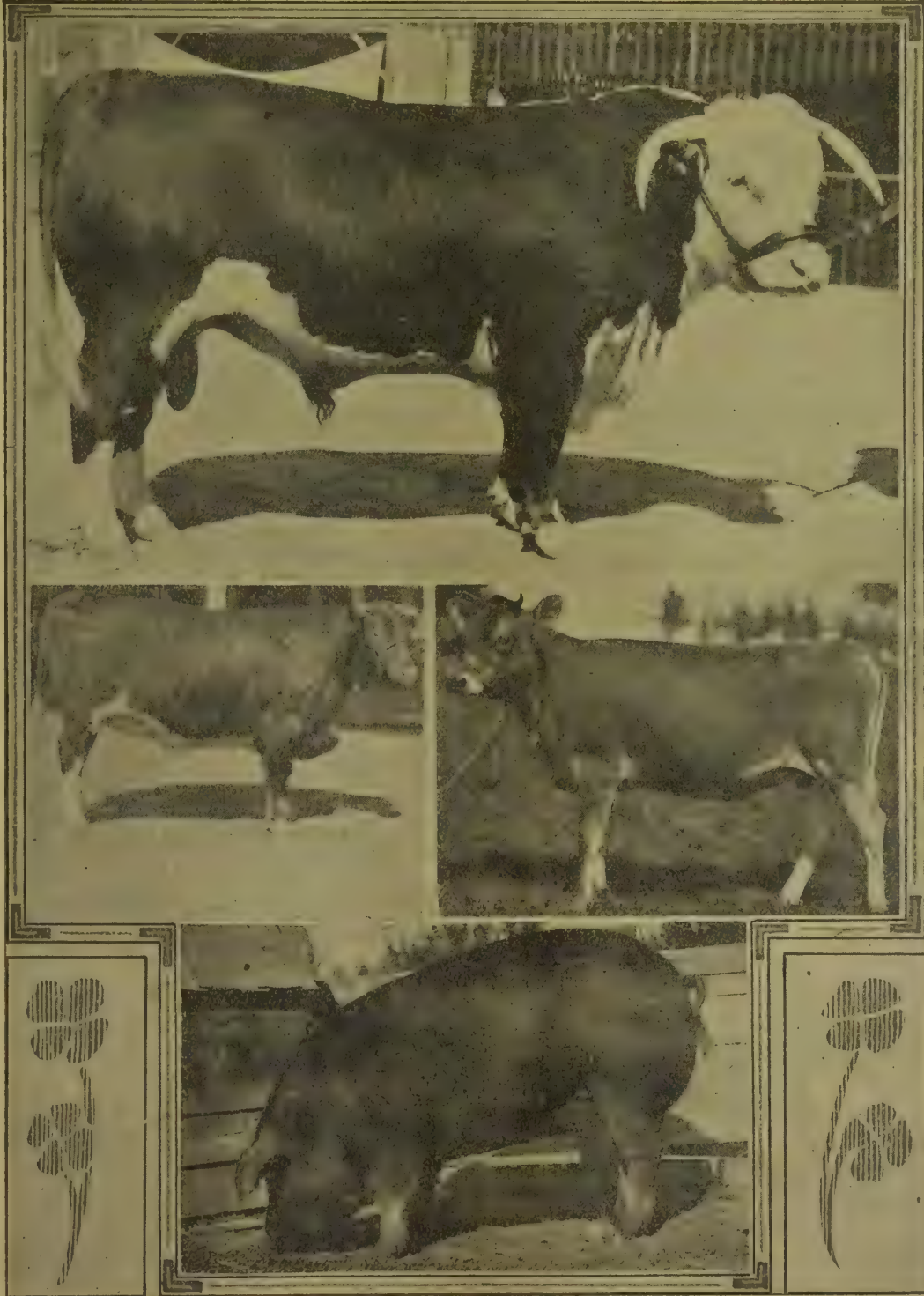
Written for Pacific Rural Press by Thos. F. McConnell.

FOUR ACRES of purebred livestock and there was not space enough. When the use of the California Building on the old Exposition ground was secured for the show there were many who wondered how it ever would be filled, but some of the stock had to be housed in tents outside. Draft horses, light horses, scores and scores; beef and dairy cattle, sheep and swine, milk goats poultry, rabbits and pigeons, until it was impossible to rest and see it all in one day. Even the space intended for one of the judging rings had to be given up for pens. Never again will it be said that California can not have a real livestock show, for the demonstration has been made.

All undertakings, large and small, first have their beginning in thought and in this case the minds of the breeders of purebred livestock in California and the business men of San Francisco combined in planning and working out the detail of this wonderful exhibition. From the very start there has never been a moment but what the organization as a whole knew we were going to have this great stock show. Individuals may have thought differently, but it has all come out as it should, and we have had a glorious show and a glorious time, and now can go ahead with the confidence begotten of success to a livestock exhibition that will be looked forward to and talked about by breeders of purebred stock on the Pacific Coast from Alaska to the Panama Canal. The First California International Livestock Show has passed its way.

We are not going to stop here and say, "This is perfect," but soon we will have stock coming to this event from all over the western half of the North American continent to the best show of its kind west of Chicago. Neither will exhibitors be confined to this territory, but will eventually come from eastern United States and Canada. There is every reason for California to be included in the itinerary of breeders exhibiting at other big shows.

The first event of the show was really the combined luncheon of the San Francisco Advertising Club, Rotary Club, Home Industry League and Downtown Association at the Palace Hotel on Wednesday, October 29, at which



Top picture—Wyoming Prince, 1st prize Hereford bull at Los Angeles, property of Hereford Corporation of Wyoming. Left center—Little Sweetheart, Grand Champion Shorthorn female property of T. S. Glide, Davis. Right center—Jewel of Tintagel, Junior Champion Jersey heifer, property of M. Fortini, Orland. Bottom—Big Kate 4th, \$3,150 Poland-China gilt, property of M. & A. L. Bassett, Hanford.

Tilly Alcartra, the world's record Holstein cow, California Gretel, the world's record milk goat, a champion sow and pigs, and a blue-ribbon sheep were guests — which was a feature in creating and keeping up enthusiasm for the great stock show. The animals were attended by an attractive corps of farmerettes from the Fairmont Follies. As a boosting and advertising scheme, this was a crackerjack stunt and helped the big show amazingly.

From Saturday to Saturday, a full eight days of livestock, dairy and horse show enjoyment, with two great cattle sales to add profit to the game, in which the best of Shorthorns and Herefords passed under the hammer to the advantage alike of vendor and vendee. Such a show and such sales are great stimuli to the purebred stock business, and as such should receive the hearty support of the stock breeders.

One of the features of the Dairy Products exhibit was the "Milk Bar," where all the latest drinks of milk and its derivatives dispensed by beautiful bar maids, prettily costumed, could be obtained, so both the palate and eye were pleased at one and the same time. This exhibit, or demonstration, as it might be called, was intended as largely educational, without the idea of making anything directly from the sale of the milk. This is part of a campaign of advertising and education that is being carried out by the Associated Dairymen of California, to show the

possibility of substituting healthful, nourishing beverages with economical esthetic advantages for those formerly passed over the bar.

The great advantage of such a show as this was this year, and will be in the future years, cannot be too forcibly impressed upon the minds not only of the breeders of purebred livestock, but also the business men throughout the State. The livestock business is so large a part of the economic life of the nation and world that every chance of placing the best side of it before the public should be taken advantage of and made to do its part to the utmost. We have had this one opportunity here at San Francisco this year, and now we must keep it up in the future. There is no limit to the development of our livestock interests by this means.

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J. N. J. FOX - - - - - Horticulture
THOS. F. McCONNELL - - - - - Livestock

EDITORIAL.

STOCK SHOW SCORES SUCCESS.

AS WE write on Tuesday the California International has played three diurnal innings and is piling up a great score. It has everything in its favor, but that is just what it is entitled to have and that also is just what its constructing directorate built upon in their generous lay-out. The weather is glorious: for November gives San Francisco days which of all the year are best deserving the epithet "delicious." November days in San Francisco are full of zip and sparkle—all the sunshine which is clipped from the beginnings and ends of them is heaped up in the middles; or, speaking astronomically, all that the southern ecliptic denies us is gathered on the equatorial. It is a very interesting meteorological phenomenon—giving us the unique characters of California's autumnal springtime. But the show has more than weather for the sun shines upon throngs of people eager to patronize the industrial objective which is involved and the moon illumines the pathways of the throngs which gather to enjoy the exhilaration of the evening horse-shows—than which San Francisco has never before seen a series of events so socially and equinely brilliant. And the show has also a wealth of exhibits which, in volume and quality, were never surpassed on this side of the Rocky Mountains—more than a thousand of the larger animals with blood as blue and predominating as the azure of the sky which canopies them. Thus the event gathers beneath and above it the three great fundamentals of success in a livestock display, viz.: good weather, generous, popular patronage and richness and amplitude of exhibits. Each one may arrange them in order of precedence as he sees fit; the show has them all, and therefore scores a great success!

We are glad to write thus joyfully of the success of this significant event in the history of California, which will be counted a starting point of progress for many years to come. It is a new and greater demonstration of the attitude of the metropolis toward rural development than has been had hitherto, and will be the first of a series of demonstrations which will be greater as they grow into the future. We are proud of the effort which this journal has made for months past, both by its proprietary and scriptorial staffs, toward the success which is now realized. The Pacific Rural Press is gladdened by the thought that, as it approaches the close of its 49th year of continuous and progressive effort to knit together true manhood and real prosperity in the urban and rural development of California, its servants of the present day have been enabled to assist in a public enterprise which the founders of this journal would have enthusiastically promoted. As we write these words we feel the glow and impulse of our predecessors of half a century ago: fervor and effort for the full and enduring upbuilding of the commonwealth of California!

GOING DOWN INTO THE SEA IN SHIPS.

As one muses beside the California Building in which the stock show of 1919 is spread, the thought

turns irresistibly to the sea for the structure almost overhangs the beautiful waters of the Golden Gate, and its window-views are of this wonderful pathway of maritime commerce and travel. As one recalls the history of this gateway to the greatest and most secure harbor of the Pacific Coast and thinks of how for several centuries it was a question as to which of three maritime nations of the olden time—Spain, England and Russia—should gain it to have and to hold, and how, through prompt, dramatic venture, it became the western portal of the United States, and thinks also of the efforts of two generations of American poets and artists to adequately express appreciation of its beauty and importance to mankind, the consciousness comes that at this moment a new era in the realization of the commercial potentiality of the Golden Gate is dawning. The opening of the Panama canal five years ago was really the dawn; but the clouds of war, strangely enough, both delayed and brightened it. The opening of the canal scheduled direct sailings of steamers from several Atlantic and Mediterranean ports to San Francisco, and there would have been great growth of traffic forthwith, but the war cancelled this and at the same time developed ship-building and interest in maritime undertakings to such an extent that the coming of world-peace will give the port of San Francisco immediate entrance into a volume of ocean-coursing which would have probably come dawdling through several decades under the old piping times of peace. We are no sailor nor even a striking stevedore, and therefore claim no expert knowledge of the sea and doings upon the surface of it. We can get seasick over a picture of a storm-tossed ship, if it is reasonably realistic. But we have, frequently, landsmen's dreams of the greatness of our geographical sitting by the sea, and in them can picture its importance to our seashore industries in both producing and manufacturing lines. And it seems to us very significant that Californians are taking such a leading place in the maritime affairs of the whole country. Take, for instance, the management of the shipping corporation through which the United States government managed everything that floats—except Secretary Daniels' grape-juice flotillas. One would, of course, suppose that some rolling mariner from Cape Cod or Sandy Hook would be selected for such a job, but was it not wonderful that a Golden Gate tar should have been endowed with this wave-riding job; that is, Mr. Rosseter of San Francisco? And surely, when Mr. Rosseter goes officially to the bottom, some Atlantic sea-lawyer would get his berth! But no, Mr. Cushing, another San Francisco sea-dog, is chosen to do the government barking! And recovering from this blinding phosphorescence on the Pacific side, what do we see but Captain Robert Dollar of San Francisco staking off the water-front of New York City to get a landing for his outfit, which makes all oceans one and inseparable! But we find our interior becoming restless with so much sea motion. All we know about the whole bunch of marine phenomena is that California mariners are doing things in a world-way as they never did before, and so long as they keep active in moving products in and out through the Golden Gate to the world-parts which need them, we can go on developing our agricultural industries in all lines with confidence that all the apprehension which we have had in the past about our pent-up condition may be abandoned.

BARLEY AFTER BEANS.

Turning now from the waves of the Golden Gate to the pens of finished steers which are anchored on the sands near by, one comes naturally to thoughts of barley—which has always been the feed-grain in California and likely always to largely be. We overheard recently the conversation of a bright cattle-man of the northern Santa Barbara district in which barley was glorified beyond all other feeds for finishing cattle and hogs, and great satisfaction was expressed that the southern coast bean district would go largely to barley this winter and determination was asserted to have a good bunch of feeders to benefit by the crop. It struck us that the declarations were very rational from several points of view. The fact is that all kinds of beans but Limas are "in the soup" this fall—which may be a very good place for a few pounds

of beans but not for the thousands of tons which are now lying in warehouses, either after being soaked for all the loans they will absorb or otherwise, as the case may be. It is, of course, possible that some one may make a good turn on beans if the reports which are now current are true, viz.: that the Orient will ship no beans of 1919 crop because Orientals must eat them up to fill the deficiency in rice. If that is so California beans may be worth something, but we are distrustful of tales told by the Orient and nothing but a good and sufficient protective tariff, such as the California Bean Growers' Association is not working for, will make California safe for any such free production of beans as we have recently been indulging in. Aside from all that, however, is the current disposition in the bean belts to change to barley. It will be fortunate for all kinds of stock-feeders whether they grow their own feed or depend on buying it, because the turn from beans to barley is right in the line of rational crop-rotation and has been demonstrated by ample experience to result in record yields of barley whenever moisture is adequate. If, then, we have plenty of fair-cost barley to use wisely in connection with generous allowance of alfalfa hay, we shall have a good foundation for turning out produce from everything that grazes—from carloads of meat or milk to crates of eggs or fur-rabbits! And we can make a lot of barley profitably for a fraction of the labor-money blown in to bean crops and never blown out again. It really looks as though barley might be the "thanksgiving bird" for 1920, and though we are not in the prophetic line there are two things which gladden us about barley in addition to the rotation and feeding advantages already mentioned. One is the fact that the less drunk-seed they put in beer the more beer and therefore the more barley and hops the thirst of the country promises to require and the farther the middle west and mountain states turn away from barley (as they are likely to do) the more chance there is to sell the grain from California, the State which can grow most of it at least cost—when the season is favorable.

WHAT WILL THE SEASON BE?

We should think the weather-prophets would be tired of their job, and we are surely tired of their prophecies and are very glad of it. For some of them prophesied that the early rains would swamp the State and others denied it—which is the normal way with prophets. The result of it all is that on all good ranges which are not over-stocked there has been a good bite of dry feed and some cattlemen say they never saw their herds look better or handle better on the hair and hide. Even as late as this they do not want rain unless it is heavy enough to carry the new grass which it will start. The result is that, except in starvation camps where last winter's shortage of rain scanted the season's growth, there has been an unusually good run of dry feed, a good lot of market cattle and a grand time for the live stock shows and sales—all of which rather a late beginning of the rainy season favors. Although some are waiting for rain to start the plows, according to the old system, there has been a vast amount of tractoring done during the run of fine days and the area already plowed and seeded or held for disking out weeds before seeding is larger than usual. The signs are set for a good year so far as one can now see them, and all the work that can be done in the dry for field, orchard, vineyard and garden should be pushed to completion while the sun shines.

A FAR-SEEING DEACON.

We apprehend that the traditional New England deacon must be absolved from the charge of penuriousness in connection with his well-known preference for home-made hard cider over all brands of boughten booze. He may now be credited with great foresight in choosing that which cannot be taken away from him. E. C. Yellowley, internal revenue collector, who has charge of the prosecution of offenses under the new law of Congress to enforce aridity, is credited with saying this:

"Cider, if made of pure apple juice, with no added alcohol or other fortifying substance, is a lawful beverage. If in the process of time it becomes otherwise than non-alcoholic and does so without the artificial addition of alcohol, it remains a lawful beverage, and any one may make it."

This is, of course, pretty good for the deacon and for the price of apples, because it will be practically impossible to get an apple for eating if the juice of it can be allowed to get as hard as it likes, providing it does it all by itself in nature's way. But really we cannot see why the apple should have this advantage over the grape. Grape juice can become wine all by itself, just as apple juice becomes hard cider. It is not necessary to add "alcohol or any other fortifying substance," and the "setting up" which one can get from hard grape cider has less craziness and less durability than the same state of mind produced by hard apple cider. We apprehend that Mr. Yellowley's decision will not hold long, and that if one wishes to get full of hard apple cider he should be reasonably quick about it.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Almonds and Underflow.

To the Editor: I am wanting to plant almonds this winter. I have good soil, but water gets within three feet of surface for a month or six weeks during the irrigation season. The moisture has never come to surface. Will that be too much water for the almond on the almond root? Do you think they would do at all? I have understood that the almond on the almond root makes a longer-lived tree than on the peach root. When the water lowers in winter will the roots go on down, and then when the irrigation seasons opens, do you think the water rising will injure the root or tree?—G. B., Modesto.

One cannot always predict what will happen to fruit trees over underflow. Sometimes they seem to be greatly advantaged by it and show great growth and fruiting; sometimes they quickly show die-back and soon afterwards perish. The former case is manifested by the great success of orchards on what is called "sub-irrigated land"; the latter is shown by groups of dead trees or empty spots in irrigated or swampy-land plantings. Whether this diversity of behavior is due to the amount or duration of the underflow or to the nearness to the surface of the rise of ground water or whether it is determined by the fact of whether the water stands and excludes air, or whether it is "live" or moving water, and therefore brings in air with its movement, has never, so far as we know, been experimentally determined, but the difference is clearly demonstrated by experience as the trees themselves have shown what they would do in different places. It is common experience that the almond and the peach are very sensitive about excess of moisture on their roots—under conditions which cause fruit trees to rebel, and therefore you will take more chances of failure in planting almonds on either root on such soil as you describe than you would in planting pears on pear root or prunes on myrobalan root—for both these roots are more tolerant of underflow than any other roots used for deciduous trees. For these reasons we cannot tell what will happen to the almonds you propose to plant. We should be inclined to give the trees a chance to declare it for themselves if you are sure that they will have three feet of soil above the water. As for the water never overflowing the surface, it might be safer if it did for a brief time—provided it was drawn by drainage so as to soon free the soil to a depth of three feet. A short run of mud on the surface is less injurious to a tree than a long standing of mud below.

Fertilizing Orchard Trees.

To the Editor: When is the best time to apply a commercial fertilizer to an old peach orchard, with the especial object to make the fruit grow larger? The soil is a sandy loam? What is a good combination of fertilizer to use? Is dry kaffir corn, or milo maize fodder of much value as a fertilizer?—M. W. X., Hemet.

For deciduous trees operated by rainfall, it is best to apply slowly-soluble fertilizers just before the fall or early winter plowing, or in cases where no plowing is done until the heaviest rains are over (late winter or spring), it is desirable to apply early in the rainy season so that the rains may act upon them and carry down into the soil what they dissolve. This early surface application also encourages growth of natural weeds and clovers to be plowed in by later plowing. Soluble stimulating fertilizers, like nitrate of soda, should usually be applied toward the end of the rainy season. On

irrigated orchards later application of slowly soluble materials (spring or early summer) may be made because moisture to render them available is provided by the irrigation.

A good combination of fertilizing materials for orchard use may be: nitrate of soda, 150 lbs. (or sulphate of ammonia, 100 lbs., or dried blood or high-grade tankage, 300 lbs.); superphosphate, 300 lbs.; sulphate or chloride of potash, 200 lbs.; sulphur, 100 lbs. It is the nitrogenous fertilizers (the first three named above), which are chiefly promotive of growth and of size in fruit. For example, for this particular purpose, nitrate of soda may be used at the rate of two to five pounds per tree (according to age and size of it), evenly scattered over the area covered by the spread of the branches and chiefly away from the trunk itself. But to get size in the fruit any such application will be ineffective unless the soil has adequate moisture. The application of a fertilizer to a tree which is famishing for moisture is as unreasonable as to give a man a dose of bitters when he needs a square meal—for water is really not only the chief food of the plant, but it makes all other foods available.

Coarse fodders, like corn and sorghum stalks, are more likely to do harm to trees than to help them unless there is surplus water to cause them to decay. They are much more likely to benefit a heavy soil than a light one, because they decay more rapidly and there is less danger of their drying out the soil.

Family Orchard in Alfalfa.

To the Editor: I have a small family orchard of deciduous trees planted in alfalfa. There is a plot of ground about each tree that is four feet square that we cultivate and add manure from time to time and irrigated when the alfalfa is. The trees are 2½ years old. Is it best to leave the trees growing in the alfalfa or had we better plow alfalfa up and put in a crop that requires cultivation. Will alfalfa choke out the trees? They are doing well and the soil is a rich, sedimentary loam, well drained.—B. G., Menlo Park.

It is perfectly feasible to grow a family orchard as you now have it on such soil as you describe. The alfalfa will not choke out the trees so long as you keep the cultivated plot well dug and summer hoed. There is no need of fertilizing these trunk-plots unless you use the manure as a mulch to check evaporation. For the growth of the tree it will be better to spread the manure over the alfalfa-middles. The alfalfa will keep the soil in better condition than the cultivation you are likely to give an inter-crop. This suggestion is largely based upon what you say of the soil as a well-drained loam, which will readily distribute excess of water which would otherwise perhaps occur in irrigated alfalfa.

One Dose for Three Pests.

To the Editor: What is the best formula to spray for peach blight and red spider on prunes, and scab on pear trees? Can I get a good one for all three? If so, what is it and what time to spray?—H. M., Hopland.

You can come nearer to getting these three with one spray than you can most other pests, and the one stuff which will do it is lime-sulphur. For peach blight (providing you mean the blight which makes gumming pustules on the new twigs) spray with lime sulphur (1 to 10) as soon as the leaves fall and up to December 15. For apple scab, spray with lime-sulphur (1 to 20) just before the blossoms open and again with lime-sulphur (1 to 35) when the blossom petals are falling. These treatments will get a good many red spider eggs, but you will have to watch for the mites early in the summer and if they are showing up well give them lime-sulphur (1 to 50), or use dry sulphur instead, if you prefer.

When Does Tar-weed Sprout?

To the Editor: When does our tar weed start in this locality? Some say in the summer or late spring, and others say it is one of the first grasses to sprout in the fall and come right up.—H. M. B., Hopland.

We are not sure about your "tar-weed," for there are many different plants which are called "tar-weeds," because of their glutinous excretion or their smell, and they have different times of growing. Our tar weeds in Berkeley start growth late in the spring or early in the summer and keep growing all during the dry season when they are

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about the only green things on dry slopes. We discredit your neighbors who attribute such direct action to tar weeds. Any one who will call a tar weed a "grass" ought to be watched.

Crop for an Old Feed Lot.

To the Editor: I have a small piece of river loam land that has been used for a number of years for a feed lot for winter feeding cattle. Last spring I broke this ground in February, reseeded in May, and planted to corn, but was too dry to germinate the seed. Would you advise seeding either wheat (club) or rye on this land in the next few weeks? Some say if it is a wet winter I will have a crop of poor straw.—R. D. W., Colusa.

Why, yes; if you have too much water and manure you are apt not to get much of anything and pretty yellow, too. With average rainfall you are apt to get a whale of a crop of straw which will either lie down on you or get rusty, or both. It depends also upon how long the piece was used as a feed lot and how much excess manure has leached out because the soil favored it. You will have to take some chances. We should chance it on wheat or oats rather than rye, and aim at a hay crop getting in the mower ahead of the rust or of lodging and if it looked well for grain in the spring keep the mower out and get the grain. If you cut for hay and there is moisture enough left you can get a corn crop. We should cut out the rye because the land is probably too rich and rye does not give you a chance for a hay crop though you may feed it off green.

Old and New Land for Fruit.

To the Editor: I have in mind a farm that had a twenty-five-year-old Bartlett pear orchard. The trees were taken out and grape vines planted instead. When the vines were eight years old they were taken out and prune trees planted instead. Will the prune trees bear as well as they would on new land?—H. M., Santa Rosa.

We cannot answer definitely. There is possibly some new land which is poorer than the piece you have in mind has become by a third of a century of fruit growing. In that case the prune trees might bear better than they would on the new land. If you mean to ask whether they will bear on this land as well as they would when it was new, the chances are that they will not—though they may still be profitable, for we have some deep, rich land which is still strong for fruit after about two-thirds of a century of it. It depends on the land how long it can stand it. The trees will have to show you that. If you have an idea that changing from one kind of fruit to another will help the land to come through, there is not much in that. Land does not get much help by changing from one kind of fruit to another; they are all too much alike in their requirements for that.

Picking Oranges—New Maturity Tests

Written for Pacific Rural Press by D. J. Whitney.

The law properly tells the orange shipper how ripe his fruit must be before it will qualify for the market. This protects the consumer and assures him that the fruit he buys will be really fit to eat; consequently, it also protects the producer by keeping premature shipments from disgusting the consumer and injuring the market.

Naturally, therefore, the navel orange grower is anxious to know how soon he can ship, particularly when he is in an early district. As the early bird catches the worm, so the first shipments usually catch the high prices, and the grower wants to get his fruit into the market as soon as it will stand the legal test; and he does not want to pick a lot of fruit before it will be good.

Legal requirements are based on two things: the proportion of sugar to acid in the juice; and color. Formerly only the first qualification was required—there must have been eight parts of sugar to one of acid in the juice. Certain flaws existed in this standard and to remedy them partially a color test was added: that an orange must also be 25 per cent colored. Quite immature oranges could occasionally creep in by the sugar test alone, just as they could by a color test alone; but the combination was adopted to overcome the weak points in both tests.

How to Tell Maturity.

The 8 to 1, or sugar test is definite; it is a chemical test and absolute for the fruits selected as average. The color test in one respect is guess work, or conjecture. One man will say that a certain orange is half-colored, that is, has half of its full color, while another will say it is two-thirds colored and a third person with strict views of ripeness will think it a quarter or a third colored. According to the official method in such cases a color standard is adopted to prevent such difference of opinion. This standard indicates what the best authorities think fits the proportion of color that the law names. A colored plate is prepared and the living fruit is compared with it. Such plates are being prepared by the State Department of Agriculture and will doubtless be in use by the time this reaches our readers. The old "substantially colored" orange was supposed to be 70 per cent of full orange color, in spite of the fact that it was merely a sickly yellow; so people familiar with that standard can figure about what present standards are.

An orange will show color under the outside gloss. This is not true color, according to the law of the case. The true color is color that has broken through the surface, indicating that actual ripeness is beginning.

When to Begin Picking.

The law tells a man what fruit is unfit to ship, but he himself has to decide when he cares to risk his crop. Sufficient color is absolutely essential. No matter how the juice will test the grower should wait until enough gold shows on his fruit to suit the packing-house manager. Then, when safe in this respect, he should gather samples for a test.

There is an unavoidable attraction of the ripest fruit in gathering samples. Unconsciously a man will select the best when he thinks he is getting average samples, unless he watches himself very closely. To be safe he had better pick fruit from the northern half of the trees, here and there all over the orchard, and pick it rather low, for the higher fruit is usually riper. Outside fruit is usually riper than inside, but by keeping to the north side of the trees and taking outside fruit, a fair sample is usually obtained. Enough for three tests should be taken and if the packing-house manager says, "Pick," it is safe to pick.

Ship Early.

For best results financially, at least early in the season, it is usually

profitable to get the fruit off as early as possible. If, however, there is already a rush of fruit to the market, a man oftener is wiser to wait a while. The longer he waits, the better his fruit gets, and the higher the price it should bring; for although the law allows an eight-to-one fruit to be shipped if the color is right, much additional ripeness adds immensely to the eating value and also to the appearance.

Frost naturally is a big factor just here. If a man is in a cold place, safety suggests that he hurry his fruit off whenever he can satisfy the law and the shippers, whether he thinks prices might be better later or

trees and it will become a valuable product.

However, it is poor policy to risk too early picking. First, the fruit loses quality by being held in boxes to ripen. Second, in all probability its progress toward legal qualifications will be slower than if it remained on the tree. Third, there will be the extra handling and storage to pay while awaiting legal maturity. So it is best to let Nature take its course and have the oranges ripen where they grow.

What the delay will be in waiting for early picked oranges to get more sugar, it is difficult to estimate. Horticultural Inspector F. R. Brann of

enough different from good navels so that the tester could reject them, but if there are coarse navels there too, he cannot tell between them and Australians, and it is very proper when there are coarse fruits in the lot to select one or two for his test in order to strike a true average. Production and quality both demand the elimination of Australians and off-type Washingtons from every navel orchard. Then the fruit will be soonest fit for shipment and most likely to pass a good test.

Thompson's Improved navel passes a shipping test earlier than the Washington, but it is not likely to be mixed with the Washington in the boxes.

The Insufficient 8-to-1 Test.

The 8 to 1 sugar test has developed some surprising and significant facts. Through the great size and importance of his district for early shipments, Horticultural Inspector Brann of Lindsay has been in an excellent position to get valuable information. In the past three seasons he has tested for ripeness 3,000 different lots of oranges for ripeness and can easily classify the fruits into three types of quality. Of these types the earliest in some ways to reach the 8-to-1 test is the poorest type, and the latest to reach it is the finest. These types grow on the three ranges of soil nature.

The 8-to-1 test is not for the amount of sugar in the juice, but the proportion of sugar to acid. Consequently, if there is little acid, a comparatively small amount of sugar will be enough to meet the test, but if the acid is high, the sugar must be very high in order to let the fruit pass. However, low acid with low sugar means poor or indifferent quality, while a fruit with lots of acid and enough sugar to make that acid pleasant makes a fruit fit for what a king was supposed to be before the big war broke out. Consequently, the 8-to-1 test alone used to permit low acid-sugar fruits to start off while the superior, high acid-sugar fruits were waiting for still more sugar to develop. Mr. Brann advocated a sliding scale test, which would require the thin-juiced fruits to have a higher sugar test than the rich-juiced fruits. This is reasonable and the addition of the color test to the 8-to-1 sugar test is a step in that direction.

As an illustration of the difference in the three grades of fruit tests can be given. What might be called normal, or typical, or average, navels would give a 9.5 to 10.5 Brix spindle test when the sugar test would be 8 or 9 to 1. The Brix spindle shows the amount of matter, both sugar and acid, dissolved in the juice. These fruits, therefore, had juice of that degree of richness when reaching a condition of legal maturity for shipment. The second type of fruit, and the poorest for eating of the three, though from the outside they might appear smooth and nice, is usually grown on sandy loam soil and is abundantly irrigated. When the Brix spindle will show not a particle more material in the juice, such fruit will frequently test as high as 10 to 1, sugar to acid, that is, appear fairly ripe when really there was not a great deal of substance to it.

On the other extreme are the fruits grown on the heavy, dry bog soils, usually on the slopes, which normally ripen early and display a high color, but have such rich juice, with so much acid to it, that an immense amount of sugar is needed to meet the legal ratio to acid. These, for instance, frequently, will give a Brix spindle test of 15 to 16 before meeting the 8-to-1 test. Naturally, with such rich juice they are a very fine fruit and are fully as good eating when they meet a 7-to-1 test as thin-juiced fruit is when it meets an 8-to-1 test. However, since the latter are slow in coloring as a rule, the new requirement of natural color as well as sufficient sugar, helps even things up.



Interior of properly pruned Washington navel tree on ranch of Mrs. K. E. Johnson, Lindsay, Cal. Only a well-pruned tree will have much interior fruit, which almost invariably is fruit of the finest quality. Although when this view was taken, very little fruit could be seen from the outside of the tree, three boxes were harvested. The normal yield of these trees is suggested by the wires that can be seen holding the branches in place.

not, for the risk of losing all is more important than the chance of making small additional profits. This matter is one for each individual to decide for himself. It is always hard to guess when the first freeze will come and the man who has a warm slope for his trees, where he is quite well insured against frost, is fortunate both in the lack of probable injury to his fruit, and in his ability to hold his fruit until they have reached the pink of condition and the market is, in his opinion, in the best shape.

Mature Poorly After Picking.

There is one way that the orange grower is fortunate. If he guesses wrong and picks his fruit before it will satisfy the law; he still has a lot of valuable fruit. The grape grower who picks grapes too green to eat is out of luck; he has nothing but hog feed, or other cheap material. The orange grower who picks too green merely has his fruit shoved to one side until it gets ripe enough to qualify for packing. This it will do with some delay. Both color and sugar will develop when the fruit is off the

the Lindsay district in Tulare county, where the heaviest early shipments originate, states that oranges are very irregular in developing sugar after being picked. Sometimes they come along rapidly; other times they drag along very slowly. He has seen some lots develop half a point in four days—that is, go from a 7½ to 1 to an 8 to 1 test—and he has seen other lots delay for two weeks in developing only a little more than that amount of sugar. He strongly advises delay in picking until a proper test is almost certain to be obtained.

What Fruit to Use.

There are some funny angles in testing and the moral of them all is: have the finest possible fruit, in other words, rule out Australian oranges and off-type navels. A man may have a few Australians in his orchard. There is far more acid in them than in the Washington navels, but if they are mixed with them, one is very likely to be selected for the test. Then it will add so much acid to the juice that the lot will be considered very immature. Of course, Australians are

Biggest Cauliflower Ranch in the World

Written for Pacific Rural Press by R. E. Hodges.

The largest cauliflower growers in the world are the Williams Bros. of Los Angeles county. They are men of generous stature and of wide interests; but their success with cauliflower, as told by J. H. Williams, is due to a knowledge of detailed requirements of their crop and the ability to supply those requirements promptly.

"We don't count the cost. We do the work when it needs to be done. This is our fourth year with cauliflower and we are only beginning to learn," said Mr. Williams, "but we do know that promptness in doing the work when it needs to be done is the cardinal element of success with this crop."

A hundred and fifty acres of this one vegetable they are growing for themselves. Another 150 acres they are growing on shares. Besides that, because their home place is so far from the cauliflower fields, they have leased a great deal of the land around the home and the tenants are producing cauliflower. The August electric bill for pumping irrigation water was \$999.84. Electricity alone costs an average around \$900 per month throughout the irrigating season.

When we visited Williams Bros. late in September, they had already spent \$15,000 for labor and water this season on the 300 acres they are working for the 1919-20 crop. Not a head had been sold, though the early crop began to go about mid-October to the Eastern markets. To get work done at the times appointed by the cauliflower plants themselves, the Williams Bros. frequently have forty men working at once.

Succession of Planting and Maturing.

Forty men could not begin to do the work were it not for the fact that this vegetable is planted through a long season and ripens correspondingly. The "early" crop is mostly planted in June, transplanted in July, and ready for market by mid-October. The "medium" crop goes to market in November; the "late" crop is ready in January and February. The "very late" crop (broccoli) was being planted by Williams Bros. on about 50 acres around the first of October to be marketed as late as possible in spring before warm weather spoils the heads.

The crop goes East in carload lots under ventilation or refrigeration, depending on the weather en route. About 22 days is the normal time in transit. The heads, when well refrigerated, will keep perfectly for 50 days, but many a car has rolled into New York "looking like a flower garden." Such growth en route of course spoils the heads and ruins their sale. During the war, and especially in 1917-18 season, it took 36 to 43 days to carry cauliflower to New York. With imperfect care en route, growers suffered heavy losses. Williams Bros., who that year shipped 50 carloads, plowed under 50 acres because they couldn't sell it for enough to pay the cutters. The pickle makers offered prices so low that they wouldn't pay for the hauling. Yet, with all the risk of such disastrous years, Williams Bros., in their best years, never netted above 10 per cent on their investments after paying the expenses of production. Most growers borrow money to help bring their crops to maturity and market. For this money they pay seven and eight per cent interest where the bankers are satisfied as to the personal reliability of the man even in event of crop losses.

Growing Conditions.

Any good soil will grow cauliflower. This statement was repeated by Mr. Williams. But he emphasized and repeated the fact that cauliflower must have all the moisture it wants immediately when it shows the need. A day or two later will not do—the heads would be stunted. Water could be run between the rows every day for a month and not damage the plants if none is left standing on the

surface.

But conditions and seasons of planting make a virtue out of the varied soil conditions in the Los Angeles district. For summer transplanting, adobe gives the best results, partly because it holds moisture longer, and partly perhaps because it does not heat so deeply during the day. Cauliflower transplanted into sand in the heat of summer is very likely to make a poor stand even though plenty of moisture is supplied. Many plants rot off at the surface of the ground. Then if not enough water is applied, the hot sun on exposed light soil stunts the heads that attempt to develop. It makes no difference how fine are the plants you set out, they must not be neglected for a day when they need anything.

Williams Bros.' early crop from seed planted in June and transplanted in July onto heavy ground was three feet tall September 30 with many leaves 14 inches wide, growing so thick that a horse could scarce get through them and the rows could not be distinguished. Still, the best crops they ever grew were on medium loam.

The average cauliflower field shows great variation in thrift of the plants. We were easily shown the difference between plants which showed they had never lacked anything, and other plants of probably equal weight of leaves which were pointed out as defectives. The thrifty plants had big flat leaves about eight inches across and two feet long 70 days from planting of the seed. The others had more leaves, smaller, less uniform in shape.

Growing Good Seedlings.

The best seedbed is a rich loam. Six acres are required to produce plants for 150 acres in order to allow for losses, poor plants, poor stand, etc.

It is a good idea to start preparation of the seedbed in the spring. The first operation is to get it as nearly level as possible, for it must be irrigated with a sheet of water that has the same depth all over and does not miss high spots nor stand in low spots. Irrigate after leveling and then plow. If weather and time permit, irrigate and cultivate several times at intervals to sprout all the weed seed possible. Plow after the first irrigation and cultivate and pack the ground into the finest, most level seedbed practicable. Then sow for the early crop in Los Angeles county about June or July—later for the other crops. Drill the seed with a drill that does not require horses, for horses make holes in the ground. It is a well nigh universal mistake to put the seedling rows too close together. They should be no less than twelve inches apart. If closer together, they do not make the best plants, and a poor cauliflower plant is a bad investment however good the later care given it.

Williams Bros. planted 50 pounds of seed which could not be bought at less than \$10 per pound. They have raised most of their own seed and will raise all they need this year. Fifty pounds would transplant a thousand acres, if all went well, but provision must be made for at least twice as many seedlings as are to be trans-

planted. Several irrigations between the rows and cultivation with hand cultivators must follow the planting.

Transplanting and Culture.

Only the best ones are selected for transplanting to the fields. Furrows are laid out 32 to 36 inches apart, and a man walks down each one dropping plants about 30 inches to 36 inches apart. A man with a hand hoe follows and plants as fast as the first one drops. He lays a plant on one side of the furrow with a motion of one hand and covers it with two motions of the hoe in the other hand. Water is started down the furrow directly behind the planters to avoid setting back the plants due to drying out of the roots. Three to five irrigations follow before cultivation can be done, for 90 per cent of all the planting is done before the rains, and at this stage the seedlings must not be set back.

Cultivations follow, each one throwing some dirt into the furrow so that the third cultivation leaves the plants on a ridge with their roots deep buried from summer heat. Irrigation alternates with cultivation. After about the third cultivation, as an average, water is given as it is needed, but cultivation should cease. Leaves shade the ground and help prevent baking. Feeder roots ("breathing cells") grow from the stalks near the surface; and they must not be destroyed.

Packing and marketing is another story. Profits and loss would make many more stories that would justify growers in getting an occasional bonanza year.

Alfalfa Warehouses Will Stabilize Prices

(Written for Pacific Rural Press by Mgr. G. H. Emery, Alfalfa Growers of California, Inc.)

The Alfalfa Growers of California, Inc., the state-wide co-operative association of growers of alfalfa and milo maize, report splendid progress both in organization and extension work and in the actual sales service rendered to members.

The activities of the Association in assisting and organizing warehouse facilities in the producing centers for taking care of the milo maize crop have met hearty approval and co-operation on the part of the growers. This sort of constructive work is concrete evidence to the grower of the inestimable value of the association, and the whole membership is becoming imbued with the spirit of co-operation and beginning to realize that the possibilities and abilities of a strong, close-knit, aggressive association are greater than the scope of any privately-owned distributing concern could possibly be.

Before another season has rolled round the whole membership will have been provided warehouse facilities, which will prevent waste and make unnecessary the usual sacrifices of the growers in the immediate sale of their crops. One of the great handicaps of past methods has been this necessity for immediate sale on the part of many growers, resulting in exorbitant and useless profit to the dealers and warehousemen. Savings in distributing cost are for the benefit of producer and consumer.

Maximum Selling Cost \$1 a Ton.

Distributing under the association plan is at cost, not to exceed \$1 per ton. In past practice every cost and profit of the dealer and speculator has been an actual part of the selling cost, and what these costs and profits have been no one knows, but it is needless to say that \$1 per ton would be but a mighty small fraction. Economy and efficiency are the watchwords of modern business; waste is deplorable, whether it be loss and destruction of the product itself, unfair grading, or useless profits, or useless movement. The right way is the straightest line between producer and consumer, and by this is meant the shortest haul through direct sale. It is not

possible to work such a revolution overnight, and certain services of dealers will long be required, but that purely speculative element which adds to the cost without contributing a real service in the process of distribution and sale will quickly be eliminated.

The Association is not competitive. It is in the business of serving the producer by serving the consumer; it has one reason for its existence, and that is best expressed in the word "Service." The market quotation is seldom a true index to what the producer receives; the Association is not directly interested in quotations, it is interested in net results to members. Quotations can be oftentimes manipulated, but when the cost of the product is known and a price which is necessary to be fair is known, then it is the business of the association to prove the right of the producer to receive that price and to get it. The Association proposes to forestall and prevent the exploitation of its members, it proposes to avoid profitless competition—if the so-called market price is too low, if it will not permit a fair profit above cost of production, then Association products will be withheld from market, and facilities for this will be provided in all dis-

tricts.

Gamble Taken Out of Production.

Conservation of every seasonal crop is an economic necessity. A product that has intrinsic value, actual food elements of definite value, should not vary radically in price in the market. In final analysis this variation should move in harmony with general commodity prices. If the production is seasonal and the consumption constant then conservation and storage of excess should later supply the constant demand. A fluctuating market with wide and sudden changes is the joy of the speculator and the despair of the producer. Co-operative marketing will take the gamble out of production, by applying factory methods to production and business system to distribution and sale.

Growers are studying the principles of co-operation as applied to these two crops, alfalfa and milo, and today nearly 2,000 producers are enlisted in this association. The service is growing with the growth of membership, the results are becoming more apparent as the weight of influence is felt, and the satisfaction of the membership is resulting in a rapidly growing enrollment.

Potato Prices Advanced 1994 Per Cent

(Written for Pacific Rural Press by Albert Lindley, Farm Owners' and Operators' Assn.)

Almost daily, through the metropolitan press, charges are given publicity that, to a great extent, the high prices for the necessities of life may be traced to the "greed of the farmer." To establish the falsity of the charge, the California division of the Farm Owners' & Operators' Association sent out from its headquarters in Stockton several of its best men into the markets of San Francisco to buy and sell the products of the farmer wherever in that city they might be sold or purchased, wholesale or retail, or prepared for use in the hotels and restaurants. These men were instructed to submit their reports on positive and proven facts only. They were first

to obtain the contracts for the sale of his products by the farmer to the produce dealer, and then follow that product through each successive agency until it was in the hands or stomach of the "ultimate consumer." Proceeding under these instructions, contracts of sale were obtained covering a shipment of potatoes from a delta farm on the San Joaquin river below Stockton. Before following this shipment through to the consumer it was discovered by the investigators that the regular printed form of contracts supplied by the produce dealer, and which must be signed by the farmer if he would sell his potatoes to any member of the San Francisco Potato (Continued on page 636.)

State Fruit Growers' Convention

This convention, which meets at Chico (Butte county), November 10-15, under the auspices of the State Department of Agriculture, provides the following program:

November 10 and 11—Meetings for County Horticultural Commissioners.

November 12—"California Agriculture: Its Importance; the Things That Threaten It; the Need for Protection," by James Mills, Hamilton City; "Accomplishments and Possibilities of Co-operation," by George W. Pierce, President of the California Almond Growers' Exchange; "California Peach Growers, Inc.," by F. H. Wilson, President; "California Associated Raisin Company," by Wylie M. Giffen, President; "California Pear Growers' Association," by Frank T. Swett, President; "California Fruit Growers' Exchange," by G. Harold Powell, Manager; Discussion, led by George C. Roeding, Fresno; "Standard Pack and Packages," Chas. E. Virden, Sacramento, followed by discussion; "Fruit Packing Demonstration," by Dr. W. L. Howard and Prof. W. P. Tufts, University Farm, Davis; "The Status of the Rice Growers' Association," by J. H. Stevens, President; "The Function of the Junior College in Its Relation to Agriculture," by Dr. E. B. Copeland, Chico; Will C. Wood, Sacramento and Elizabeth Hughes of Oroville.

November 13—Entire day at Oroville, entailing a trip through the orange and olive groves of the district; also the canneries and packing plants.

"Packing Oranges and Maturity Standards," by F. J. Mason, Suisun; "Packing Ripe Olives," by E. W. Ehmann, Oroville; "Olive Culture with Special Reference to Pruning," by Prof. F. T. Bioletti, U. C., Berkeley. All subjects followed by discussions.

November 14—"The Effects of Irrigation, Pruning and Spraying as Factors in Frost Control," by Dr. J. C. Whitten, Berkeley; "Irrigation," Prof. F. J. Viehmeyer; "Red Spider," by E. R. De Ong; "Evaporators for Fruit Drying," E. M. Sheehan, with discussion led by Prof. W. V. Cruess; "Standardization and the Consumer," A. S. Hoyt; "Community Canneries," by Ralph W. Crary. Banquet at which the speakers will be Col. Harris Weinstock, State Market Director and Chas. Bentley of San Francisco.

November 15—Entire day at Durham, State Land Settlement, 7 miles south of Chico. Address, "Live Problems in American Agricultural Development," by Dr. Elwood Meade; Professor H. E. Van Norman; Al. Lindley, Stockton; Col. John P. Irish, Oakland. Followed by discussion.

Automobile tour of inspection of the Durham State Land Settlement.

Here and There in the Fruit Business

Profitable Orchard in Humboldt Co.

J. F. Benton will net \$5,000 from his 12 acres of apples near Rohnerville (Humboldt county) this year, the particulars of which may be both interesting and instructive. There will be well over 200 tons of apples, which Mr. Benton sold to the local drier at \$35 a ton "orchard run," picked and stacked at the roadside. The apples are clean—no worms and practically no scab, and the orchard would pack 75 per cent California Fancy. There will be 400 boxes of Bellflowers, 1800 of Greenings, 2000 of Red Pears, 800 Minklers, 400 Spitzenbergs, and 200 Wagners—practically all A-1 keepers and of rich glowing color. Our desire is to show that, given good transportation facilities, such a handsome crop of apples could have been packed to net 50 per cent more than this sum. Organization on the part of growers alone can get them anywhere in competition with organized commodities. The difficulty is that nobody wants to launch out much till they can see a chance of getting their stuff to market at reasonable rates and without an expensive fight. The writer sent an enquirer, who wanted 300 tons of apples, to Humboldt county this year with the assurance that he could buy the fruit. The freight rates were approximately \$20 a ton to his station in Sonoma county, and it knocked the deal. At present, the only thing to be done seems to be to establish individual or community evaporators, such as they have in the Mattole valley and let it go at that. But the gods only help those who help themselves, and even the gods like to draw a crowd.

Huckleberries Are Popular.

Huckleberries have been in greater demand than ever on the San Francisco market, although the supply has been above normal. Shipments from the northern counties have yielded 17 to 18 cents a pound. Huckleberries are indigenous to the thin yellow "prairie" land of the Mendocino coast where they grow among the rhododendrons and scrub cedars. Many more could be picked and shipped if there were more hands to do it. Shipments out have to be made by express or parcels post. This is an interesting region for the auto tourist to visit in summer.

A Good Apple, Well Packed.

In the market, if you sell ungraded or mixed fruit, you are paid the price of the lowest grade for the whole lot. We know one man who keeps what he calls a "Free Market," whose whole business is repacking. He gets more

for the culls than the farmer gets for the mixture. Because the culls look real good when they are graded and well packed. We heard of another man who bought quantities of mixed apples, repacked them, and sold them to the trade at two and a half times as much as the grower could get, though they contained 13 per cent of culls. That looks big, doesn't it—to make 150 per cent on your money in the pack? It demonstrates the value of standardization to meet the demands of the market. Every man that has an acre of apples should learn standard methods of packing and what the law requires. And having learned these methods he should put them faithfully into practice. Some small mountain sections that grow the choicest apples, get the bottom price because of a poor pack.

An Elaborate Prune Drier.

Ninety tons of prunes were cured in

the new drier on Mrs. Gertrude Cochran's ranch at Healdsburg (Sonoma county)—a Perfection. The operation of curing occupied an average of from ten to twelve hours per charge. We saw the cured prunes which were a fine quality of fruit. This drier consists of two ranges of compartments with a tunnel between in which green prunes are stacked for the first break. They are run in on cars the whole length. This tunnel is to utilize the returning heated air after it has passed through the drying chambers. The foreman told us that temperatures were maintained at 160 to 180 degrees—a heat which would be enough to caramelize prunes without the returning moist air. This drier takes about 12 green tons to a charge. There are 20 compartments holding 21 8-foot trays each. There is a 60-inch blast fan and a 72-inch vacuum fan, running at about 500 revolutions per minute. Stove distillate is used at the rate of 8 gallons an hour and costs 8 cents a gallon. The invest-

ment of the plant expense is an item that has to be considered in capacity tonnage.

A Profitable Pioneer Peach Tree.

Twelve dollars worth of Lord peaches were sold the past season from one of the first peach trees planted in San Bernardino county. It is now owned by Geo. M. Cooley. This tree bears fruit that is lovely to see, luscious to taste, and whose fragrance is noticeable "a quarter of a mile away." The tree grew to a foot diameter and declined, apparently due to old age. Mr. Cooley cut back, severely, part of the tree each year. In three years he had brought it back to the heavy bearing mentioned and the new growth promise as well for next year.

If we want to warm ourselves by the glow of prosperity we had better get to sawing wood right now.

This is a good time so save or spend on improvements. The sun can't shine forever.

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A LAYNE & BOWLER Turbine Centrifugal Pump will give you dependable service the year round.

Ask for Folder No. 25.

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LOS ANGELES

Orchard to Be Ruined in Three Years

(Written for Pacific Rural Press by Philip O. Keeney, Orland.)

In your issue of July 26 you answered a question of mine about orchard cultivation. I told you I was going to adopt a policy which would make my neighbors think I ought to have a guardian appointed, and you said you could judge better about that if I told you what I proposed to do. Here it is:

Most of the orchards in the "Orland System" are plowed each spring, but many are being double-disked instead of plowed. Either of these operations turns under the green winter growth. The orchards are irrigated during the summer at least twice and the majority more than twice. After each irrigation the orchard is cultivated thoroughly to hold the moisture. In this cultivation everything that is growing is destroyed, if possible, thereby cultivating the orchard as clean as possible. If any cleaner cultivation could be practiced I would like to see it. This deep stirring of the ground several times each summer helps to destroy the humus. I believe that if the orchard is only disked in the spring it will only be a few years before the humus is absolutely gone, because disking brings up no new soil from year to year. A well kept, healthy orchard is a pleasing sight to the eye of a newcomer.

Bur clover is indigenous to this soil, but its growth depends on the season. Some years it will make a wonderful growth, but this growth occurs in late March and early April, which is too late to plow under. I inoculated Whippoorwill cow-peas and planted 15 acres this year, but the ground is too poor to make them succeed. Wherever there is the least particle of manure the peas are splendid. The roots are well-covered with nodules irrespective of the size of the plant. I was in hopes this would solve my soil troubles, but a little humus is needed before cow-peas will grow. If

I had a full pocket-book I would keep planting vetches, etc., because I am certain they would grow well after a few years.

I intend to plant my olive orchard in September with barley and vetch. This crop I will let mature, and next year, spring of 1920, cut it down, leaving everything on the ground for a mulch. I find that the more water my olive trees get the better they like it, and I shall mulch my furrows with straw from the barley and irrigate as often as possible. In the fall I shall thoroughly disk all the litter remaining on the ground and repeat a similar course.

While I am doing this my orchard will look as if it were going to wrack and ruin and I can hear real estate dealers telling their clients that "there is an orchard sadly neglected."

I have given this matter careful consideration and the conclusions are these: First, give the trees all the water they will stand until humus can be supplied. Second, a mature crop, disked or plowed under, is much more beneficial to this soil than a green crop. Third, mulch your orchard with straw and as long as you cannot get the straw, raise it yourself.

My orchard is going to be neglected the next three years as far as plowing and cultivating are concerned, but the trees are going to have plenty of drinks and the soil is going to be getting humus. Do I need a guardian?

[You are starting on a course which will be of incalculable value as a demonstration. You will give your orchard a soil like that of a garden. You can do it for two reasons: first, because you have water enough to do it; second, because your Orland soil will take water like a fish and never hold a drop too much of it. You do not need a guardian, but we shall stick around and try to get the job of administering your estate.—Editor.]

HORTICULTURAL JOTTINGS.

Fruit shipments from the Vaca Valley totalled 1,045 carloads this year.

It is stated that Henry Nelson planted the first orange tree in Chico in 1852. He claims to have purchased the tree from a sailor for six dollars, and that it yields a wonderful crop of oranges each year.

Four hundred and sixty-five dollars per ton was paid to a Santa Rosa prune grower for his Imperial prunes this year. Experts state they have never seen such large ones; as twenty-four of these prunes weighed one pound.

The three principal orchard crops of the Chico district this year, worth practically \$3,000,000 to the growers, are almonds, prunes, and peaches. The crop estimates and valuations

are: almonds, 2,000 tons, average price 25 cents a pound, value \$1,000,000. Prunes, 4,500 tons, average price 12½ cents a pound, value \$1,250,000. Peaches 2,000 tons, average price 17½ cents a pound, value \$700,000.

A. B. Caldwell of Soulsbyville has several acres of 50-year-old Winesap apple trees that will average about 25 boxes to the tree this year, giving an income of \$2500 per acre. This is the result of thorough spraying, pruning and orchard management.

Great care should be given to young fig trees now to protect them against the early frost. As trees usually freeze worst just above the ground, that part should be well wrapped with corn stalks or milo maize stalks. Injury to the tips is not serious.

It is reported from Porterville that \$2.80 a box f. o. b. is being offered for Navel oranges of the coming crop by speculative buyers, they presenting labor unrest and car shortage as an inducement for the grower to relieve himself from risk by selling outright.

The hard working cannery-committee of the Salinas district are deserving of great praise for the way they accomplished what they went after in regard to the Salinas cannery. This means that Salinas will be on the map in the canning industry.

There have recently been 50 prosecutions in Oakland for violations of the fresh fruit standardization laws. The minimum penalty is \$50 for each conviction. It is a misdemeanor to "offer for sale apples which are not free from insect pests." Only spraying and doing it right will insure this.

California fancy stock grapes are being purchased by eastern buyers at the rate of \$3,200 a car. C. B. Bills of the Pioneer Fruit Company said today: "The growers are receiving for their fruit on the cars from \$1.50 to \$2.00 a crate, according to quality." The total fruit shipments for the season now exceed those of last year by about 2,000 cars. The grapes exceed last year's record by 1,600 cars. Here is a record to date. The shipment for 1918 was: Cherries, 351 cars; apricots, 433½ cars; peaches, 2,662 cars; plums, 2,389½ cars; pears, 4,424

[This is one of a series]

Early Fall

The crop is in, the leaves are off,
Now is the time to spray.
Every day's delay toughens the scale.
Your trees have served you, now
Is the time to serve them,—give them a rest;
Save their strength that the scale is sapping.

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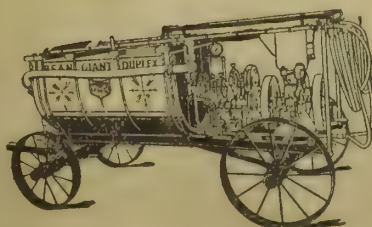
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cars; grapes, 14,627 cars; miscellaneous, 53 cars, making a total of 24,340 cars. The shipments for 1919 were: Cherries, 335 cars; apri-

cots, 419½ cars; peaches, 2,772½ cars; plums, 2,889 cars; pears, 4,198½ cars; grapes, 15,670 cars; miscellaneous, 48 cars, making a total of 26,333 cars.

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Cutting Off the Trees' Feeding Roots

(Written for Pacific Rural Press by Jno. J. Fox.)

We once asked a prune grower what his object was in plowing his orchard so shallow in the spring. He had fine stock that walked right along with the plow without apparent exertion, yet he only shaved off from two to three inches, cutting through the grass roots and not turning enough to bury a fair cover crop. The ground looked fine when it was done. There were no large clods, and a roller run over the ground to wind up which put a billiard-table finish on the orchard. Later cultivations were done with a weighted harrow which, of course, reduced the mulch each time instead of maintaining what there was of it.

His reply to our question was, that if he plowed deeper he cut off too many of the fine feeding roots of the tree, and thereby reduced its vitality and powers of reproduction. He had more or less of a cover crop to plow under each year; fertilized well and got good results from his trees—still does. He sprays faithfully, and cuts out his dead wood, but—we maintain that he had to cut out too much each year.

What Was the Reason?

He had splendid river bottom soil, ample rainfall any year to insure his crop and excellent orchard management in every respect that could be seen, except more thorough tillage. We then suggested that it might be more profitable to plow five inches deep instead of two or three even if a thin mat of feeding roots were shaved off. For it is generally considered better to cut them off than to let them dry out and stay on when they not only cease to function for the trees' benefit, but transpire moisture from the tree itself.

If the ground remains undisturbed, the feeding roots of a tree gravitate toward the grass roots during the moist warm growing season. Failing a good mulch of some kind or frequent application of moisture and stirring, those surface roots will surely dry out. The more they dry out the more results of such starvation will be observed in the tree tops. And the principal cause of dieback in otherwise healthy trees is lack of sufficient moisture to support the head.

Feeding Roots Are Reproduced Rapidly.

With the exception of the cherry tree, feeding roots are reproduced with great rapidity during the growing season, even after they have been sliced off with the plow. The cherry instead, if a root the size of your little finger is sliced off near the surface, a sucker is likely to appear, but

with other trees new feeding roots are very rapidly formed. Take a lemon tree for instance and make a basin round it and fill the basin with manure. Water this down until it forms a mat-like mulch and then take a fork and lift it up. It is hard to tell where the mulch leaves off and the mat of roots begins. Now let that mulch dry out till no moisture remains in it—perhaps only one week longer than you ought to in hot weather, and decide for yourself how to handle it. For those rootlets which have commenced to dry are exhaling moisture instead of supplying it.

How Deep Shall I Plow Then?

That is for every man to decide according to the best results attained in his own locality and on his own character of soil—only, it must be more than two or three inches. On heavy soil few men can maintain over a five-inch mulch without heavy tools and a tractor, neither does it seem necessary. A four-inch mulch is a mighty good average to hold on a strong loam.

Nothing appears to be gained by plowing too deeply in an orchard, though it will probably benefit by a few rounds with a subsoiler every few years or when a plowsole forms—so as to keep the drainage in condition. But five or six inches of plowed ground is needed to come out with a four-inch mulch. Sandy soil in hot sections may be left ridged as the cultivator leaves it instead of being harrowed or rolled, as it does not absorb heat so readily.

Six Inches of Plowing Is Safe.

Any surface roots that are cut off by plowing to a depth of six inches can safely be dispensed with, with the assurance that they will quickly be replaced at a depth from the surface that will reduce possible injury by drought or burning. Having obtained a good mulch that is dry enough not to settle back too quickly, let it alone for a while. Probably all of us have suffered from "overwork" on our land—corn men can tell you all about that.

Now as to the "bleeding of the rootlets" from being cut off. It does not amount to a row of pins. Why, an average vine pruned early in April, will bleed more from its spurs than your whole tree from its myriad rootlets being cut, yet it has been proved to suffer no injury therefrom. And it is rare to get the cultivator down any deeper or as deep as the plow ran. Doubtless it is better to cut the little roots off before the chief growing period is reached, if possible, because it always pays to avoid waste of energy, even on the part of a tree.

California Fancy Apple Pack

(Written for Pacific Rural Press.)

Because so many small growers all over the State innocently violate the Standardization Act as amended in 1919 and suffer loss and inconvenience therefrom, we publish below the requirements of the act:

The box must be a Standard box, measuring 10½ inches deep, 11½ inches wide and 18 inches long—inside measurements.

The apples must be: (1) well grown; (2), properly matured; (3) one variety only; (4) hand-picked; (5) stems retained (except Gravensteins); (6) well colored and normally shaped for variety and locality; (7) uniform in size; (8) well packed.

They must be free from insect pests and diseases, visible rot, visible dry rot, visible Baldwin spot, insect bites, bruises, frost marks and virtually free from dirt.

A variation in size not to exceed three-eighths of an inch, measured through the widest portion of cross section, shall be allowed. No apples less than 2¼ inches, similarly measured, allowed in "California Fancy," except Lady and Winesap apples, when the smallest size shall be two inches.

Three per cent of any one defect and not to exceed ten per cent of total defects shall be allowed. An exception will be made of bruises necessarily caused in packing.

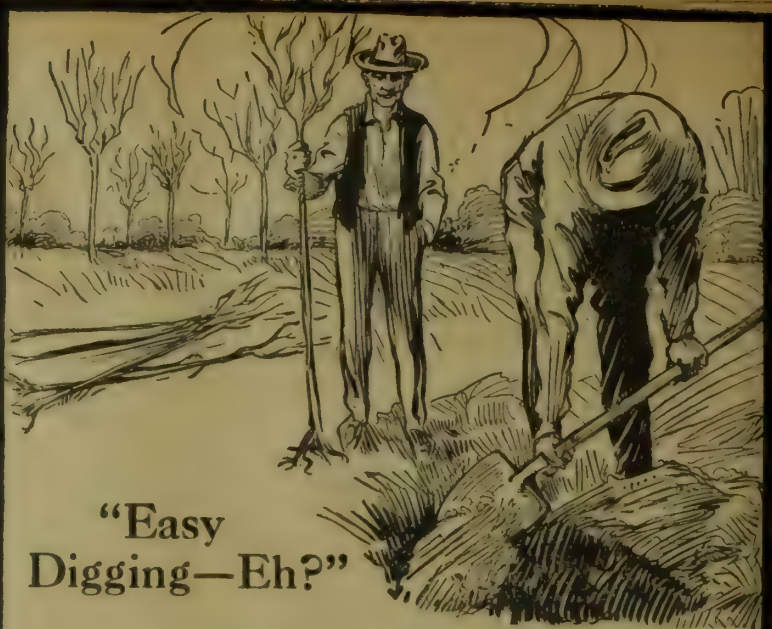
A variation of five apples more or less than the number stated on the box will be allowed.

Box Marking.

Such a pack only may be marked "California Fancy." But they must also be marked on the ends as follows: Number of apples in the box or net weight; variety (or if variety is unknown, "Variety unknown," must appear on the box); name and address of packer or repacker; date when packed or repacked; no misleading statements.

B Grade.

These apples call for the same requirement as "California Fancy" except that in "B Grade" apples, insect bites which have healed in the process of maturing and which do not cause serious deformity and slightly misshapen apples shall be permitted; the stems need not be retained and color is not insisted on.



"Easy Digging—Eh?"

"Just put a couple o' shovelfulls of rich top soil in the hole and it'll be ready for the tree. A good shot with dynamite not only digs the hole but makes the ground around it as soft as a flower bed. And how the trees will grow in that mellow earth. They'll shoot up like weeds and be bearing before you know it. Nine-tenths of the work is done when you've blasted the holes with

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FIG GROWERS' FORTHCOMING MEETING.

(Written for Pacific Rural Press.)

The next meeting of the California Fig Growers' Association will probably be held shortly after the first of the year. An extensive exhibit is planned in connection therewith to comprise figs and fig products of every description. The processing industry is increasing to keep pace with the heavy new areas coming into bearing, and the fig industry is growing like the bloom of a century plant—right up and branching out.

The meeting of fig growers will be their big event of the year, for the best-informed men will be there to speak. The exhibit will be both instructive and of great advertising value. Various methods of canning, preserving, pickle and jam-making, syrup and candy-making will be shown by manufacturing concerns and canners as well as by individuals who can at home. All will be welcome with their exhibits, and now is the time to make a special effort to turn out something good, ready to exhibit when the time comes.

Building Up Markets.

California has competed with raisin, peach, prune and citrus growers of other countries; started under a handicap, and has come out a world-beater in every instance. Now she has to build up a large market for our figs and fig products for it will not be many years before we shall insist upon supplying the world's markets. To begin with, we have to establish our superiority in the Eastern markets. Quoting from a letter by I. J. Condit, the Secretary of the Association, and well-known authority, he says:

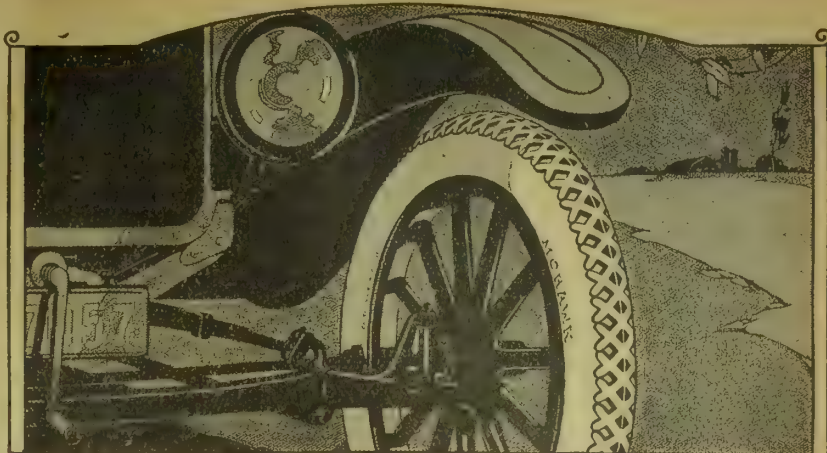
"One well-known importer and broker in Chicago wrote as follows in January, 1918: 'The Calimyrna fig, we think, in the opinion of the trade at large, compares very favorably with the Smyrna imported fig in quality and by many is preferred, because of the assumption that conditions in the packing plants in California are more hygienic than those existing abroad. The California Adriatic fig, as you know, has a poor flavor, and though it is largely used even in some instances for fancy packages that sell at high prices, it cannot, in our opinion, ever supplant the imported article except for manufacturing purposes because of its inferior flavor.'"

Must Improve Quality and Pack.

Another importer writes from New York city: "Summing the whole matter up in a few words we would suggest that the growers try to eliminate entirely the smut which unfortunately seems to be a condition in both Adriatics and Calimyrnas and endeavor to produce a fig with a thinner skin and increase the quality of actual meat inside."

Mr. Condit says: "There is no room for argument over the need for improvement in the California pack of dried figs." And it is to consummate such improvement that fig growers assemble in conclave. So much money is now invested in the industry and in a few years the tonnage will be growing in volume so rapidly that it is imperative that every grower of figs take an active interest and try to attend the fig meetings in person.

It is said that spraying fig-trees with whitewash before the buds break in spring is an aid in preventing the rotting of figs later. In any event it would protect the tree from possible sunburn and lime is cheap. A little tallow helps it to stick. Linseed oil is likely to kill the tree if used as a "sticker."



Why Mohawk Tires Do Not Deteriorate

Sometimes a tire will give a fair mileage if it is used up quickly, but deteriorates rapidly when the car is standing idle.

This may have been your experience. And you are not the only one to feel the loss—rubber deterioration is costing car owners millions annually.

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Add to this advantage an extra ply of fabric in most sizes—hand-building by expert, veteran tire builders—and you will understand why Mohawks do give better mileage and why they do not rot when standing idle or lose their life when baked by the sun.

If you are like eighty-five out of a hundred motorists who use Mohawks, you will buy no other make of tire.

Plain or ribbed, cord or fabric tires and an extra ply, hand made, Ford size, too

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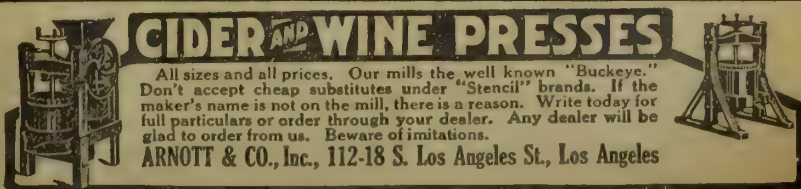
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Fresno Farm Bureau Picnic

(Written for Pacific Rural Press by O. J. Whitney.)

Co-operation is the big word in farming, particularly in California. Fresno, with its wonderful Associated Raisin Company and Peach Association, is away up in co-operation. Farm bureau work is just one form of co-operation, consequently it is not surprising that the annual picnic of the Fresno county farm bureau, on the Kearney ranch, October 30, should have co-operation as its keynote, and that the turnout should amount to a full 700 or 800 persons, in spite of the morning being windy and cold. The program included plenty talk, plenty grub, music, lots to see, lots to learn, and an election of officers. The talks were upon matters of most importance to Fresno farmers; the things to see, which were mostly parts of the Kearney ranch work, took in nearly every important crop of the county.

The talks included reports of accomplishments of the Farm Bureau for the year; an address by W. Flanners Setchell, president of the Valley Fruit Growers' Association, which has accomplished results of the highest interest and value in labor matters, and a discussion on farm management by S. P. Frisselle, manager of the ranch. Wylie Giffen, president of the raisin company, gave what was said by some to be the finest talk they had ever heard on co-operative marketing, and he emphasized particularly co-operation in hog auction sales!

Among the farm work activities were demonstrations of vineyard problems by A. E. Way on the Kearney experimental vineyard; demonstration of various field crops on the experiment station of the ranch, by J. A. Denny; judging of Poland China hogs under the auspices of the County Poland China association; judging of Durocs by the Duroc Association; judging of dairy cows by H. E. Vogel and R. N. Davis. It was said of one of these demonstrations by a visitor that it alone was worth the full day's work to him and the others were equal to it in their lines.

The Animal Husbandry class of Reedley high school worked the Babcock test all afternoon to show how boarder cows could be quickly detected; the fifty acre field of Pima cotton was shown by W. B. Camp of the U. S. Department of Agriculture; alfalfa hay was chopped and blown into the barns by the regular ranch methods; the fig processing plant explained in detail and other matters of importance seen and explained.

Farm Bureau Accomplishments.

The Fresno farm bureau has been in existence less than two and a half years, Farm Adviser Leroy Smith being the first adviser. He has three assistants: R. N. Davis, working with livestock; H. R. Keller upon horticultural matters; and J. W. Maston on agricultural clubs. Membership has ranged from 700 to 1400. There are 14 flourishing farm centers. Last year 14 special experiments in farm methods to discover best local practices were carried on, to say nothing about many private, informal experiments, of members. In one month 13 tree-pruning demonstrations were held with 457 fruit growers in attendance, and 18 vine-pruning demonstrations, with 884 vineyardists on hand to learn best methods. There are 250 boys and girls in the county working hard in agricultural clubs. Special success has followed this work.

The bureau has been working for permanent pruning experiments in different parts of the county with both trees and vines; it is working hard toward the elimination of scrub stock on the farms, with excellent success. The stock judging demonstrations at the picnic were a part of the work. In one demonstration a purebred animal in name and a scrub in fact was shown as a step in urging the purchase of quality animals in purebred ranks.

The bureau is making a special effort in the maintenance of soil fertility so that crops will both be large and permanently large. It is also working closely with the Valley Fruit Growers' Association in stabilizing

and improving labor conditions and supplies.

In the actual dollars and cents achievements, D. H. Bitner, general manager of the California Farm Bureau Auction Association, reported that the farm bureaus of the State had sold in the hog auctions from November 1, 1918, to October 31, 1919, 42,000 hogs, worth \$1,500,000. The Fresno bureau alone, beginning December 1, 1918, had sold \$150,000 worth of hogs by co-operative auction, and on August 1, 1919, a sale had achieved a price of \$21.30, the highest price ever obtained west of the Rockies. Total sales in the San Joaquin valley have numbered 155, with 4,300 owners participating—a sign of its public value and of the co-operative feature of it.

King Cotton in California.

New crops are good to be suspicious of, but there are exceptions. California boasts of her capacity to grow things that other states cannot and to grow them better. Just to grow cotton is one thing; to grow a surpassing fine and high-priced cotton is quite another thing. That is what is done on the Kearney ranch, with the long-stapled Pima strain of Egyptian cotton, worth now in the market 72 cents a pound and going a bale of 500 pounds to the acre. Get paper and pencil and do some figuring.

There are 50 acres of this on the Kearney ranch, now being harvested. It is grown on land formerly in alfalfa, pastured so long that Johnson grass was as rampant as only Johnson grass knows how to be. This hurt the stands in spots and fighting the grass kept down the yield, but the cotton over most of the field is going a bale to the acre. If planted early in April the maturing season is entirely long enough, and when frost and rain comes in the fall, harvesting can continue, for the cotton is unharmed, or hurt too little to count. Picking is easy, a fine work for women, who do well at it. Expert pickers are gathering 250 pounds a day; others from 150 to 175 a day, as a rule, and making big wages at 4 cents a pound—seed cotton. This has to be ginned and gives about 30 per cent lint; thus 1800 pounds of seed cotton will give approximately a 500-pound bale and 1300 pounds of seed, which is worth about \$60 per ton. Whatever the price of ordinary cotton is, this cotton with its long, strong fibre will be high, as there is little of it and the demand is large. Its fiber runs about 1½ to 1¾ inches long and common cotton about an inch less.

The Kearney ranch (owned by the University of California) is keeping the seed pure so that farmers can get the true Pima at cost price from it. Mr. Camp went through the whole field this spring, pulling up every plant that seemed the slightest off type, and there are no other cotton plants near to cross with it.

This cotton is suggested, not as a permanent crop, but as a money-maker in young orchards and vineyards while they are growing up. It is possible to ship the loose cotton to Bakersfield or Fresno gins for a hundred miles or more by auto truck and still to get nice profits. A number of farmers have done very well with it in young orchards.

Tractor Blows Hay into Barn.

The feed-chopping equipment came in for lots of interest. A tractor, belt connected to a feed cutter and a 22-inch blower, put several loads of alfalfa hay into the barn in short order, adding about a third to the value of the hay in the process. If a man could easily make his \$20 a ton hay worth \$30 a ton, he would think he was in luck, but that is what is done. According to Parker Frisselle, manager of the ranch, chopped hay has a third value more than ordinary loose hay. There is a great saving in feeding since the stock eat it absolutely clean and there is no waste. Also they digest it better and what they eat does them more good, so there is a double gain. Likewise there is a big gain in storage space. The hay falls from the pipe outlet in flakes, like a

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lot of shingles, and packs itself as tight as baled hay. The barn can be filled to the ridge pole, which is a different thing from toiling and sweating with loose hay and only getting the barn partly full after all.

A crew of six men working on the outfit can put nearly five tons of hay into the barn in an hour at a cost of \$2.00 per ton or less. The size of this plant is larger than would be used on most ranches, but a smaller blower and chopper would do exactly the same work, only more slowly. It is a good line of work for silo fillers.

Fig Processing.

On the ranch is a power plant—very simple—for treating the figs produced before sulphuring and drying. The figs are not dipped at all, but the water is sprayed on them. There is a small cement tank, filled with slightly salted water. An electric motor drives a centrifugal pump that forces water from this to the figs in the form of a spray, washing all the dirt off them. The motor also runs a shaker, upon which the figs move from the hopper, through the spray, over the tank and on to the trays. All the handling the figs need is simply to have them shoved a few inches back from each end of the trays so that none will fall off. Then they go to the sulphuring house and from there to the dry yard. This method gives a product quite superior to dipped figs and the cost is only half of that of the former hand-dipping method.

All the figs produced are Adriatics, but the wind carries so many fig wasps across the ranch that a very high proportion of the figs are caprifigged and have a rich, syrupy quality that ordinary Adriatics do not have, though the difference is not great. One fig grower present mentioned that he could not get results caprifigging a single Adriatic fig in a Smyrna orchard, whatever the explanation is.

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3,000 rolls second-hand roofing @ \$1.25
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sweat boxes is practiced on the ranch. In fact, sweat boxes are used for everything possible and the only sacks handled are those for wheat that is marketed. In barley threshing, the grain drops into sweat boxes, which are only filled about three-fourths full, so that they will not spill in handling, and the barley is steamed and ground on the ranch under the same roof as the fig outfit, saving hauling to town and milling charges. By the bulk handling of everything in sweat boxes (barley is merely one crop mentioned), the boxes are used all the year round and not only for raisins and figs.

Alfalfa will come through the winter better and will contain fewer weeds in spring, if it is not pastured down to the bare crowns.

Significant Agricultural Pointers

Vetch or Fallow for Barley?

To the Editor: Would you advise inoculation of vetch and planting with barley to insure a barley crop? If so, what proportion of vetch seed and what of barley would you use. I have 35 acres from which I cut hay the past two years (2½ tons per acre this year). Would you advise summer fallow for this piece or would planting with inoculated vetch and barley give same results as summer fallow?—D. F. H., Dixon.

Inoculated vetch planted with barley give same results as summer fallow in the way of increased yield, but not for the same reason nor under the same conditions. The chief value of summer fallow is to save the rainfall of two winters for one crop. Where the lack of moisture limits a crop, summer fallow rightly handled will increase the yield per acre. Planting inoculated vetch and barley would not increase the amount of moisture.

But where one winter's rain is enough to produce as good a crop as you got in the second successive dry year, we would guess that you will have enough rain this year to produce a whale of a crop, provided other conditions are good. This is where inoculated vetch gets in its good work. It seems thoroughly demonstrated that legumes growing with cereals greatly increase the cereal growth and crop. It seems also demonstrated that where nitrogen in the soil is lacking and the particular bacteria that thrive on any legume are not already numerous, inoculation before planting that legume increases its growth. For a good feeding hay, mix vetch seed two pounds to barley one pound, and drill in moist ground not later than January at the rate of about 60 pounds per acre. This gives a large proportion of vetch to balance the high-carbohydrate barley hay. If you want to get almost pure barley hay, mix the seed half and half, or even less than half of vetch. Then the barley will be likely to smother the vetch before it gets too large, granting that the seed and conditions are good.

Making Cantaloupes Grow Early.

Cantaloupe growing in Imperial Valley involves some ingenuity. Of the 13,000 acres planted to this crop last year, it is estimated by a good authority, that a paper cap was put over every hill on 8,000 acres to protect it from the cold. Imperial Valley is not hot at all times and the earliness of its cantaloupes is not all due to climate. January is planting time for the acreage that is to be capped. A ridge for each row is provided for two purposes. Irrigation can be run between them without standing on the plants. The ridges are run east and west. The seeds are planted halfway up on the slope facing south. Caps of waxed or oiled paper are set over them until the plants are well up. Then the caps are turned back to protect the plants on the north side and expose them to the south. This treatment makes a much earlier crop than planting unprotected.

Disease-Free Potatoes, Higher Prices.

Housewives were much interested in the smooth clean-looking tubers in the certified seed-potato exhibit of the State Department of Agriculture at the San Joaquin county fair, October 6 to 11. They are more generally realizing that it is more economical to pay high prices for potatoes that do not lose a large percentage in peeling out rotten spots and worms than it is to buy cheap potatoes. For this reason, it is becoming recognized that the market will be better for uninfected potatoes. Such potatoes can be grown on clean land at as low a cost as diseased potatoes; for the increased yield more than compensates for the increased cost of seed and disease prevention. With a good market for clean potatoes, it pays to plant clean seed at a higher cost. This makes a market for seed potatoes certified by the State Department of Agriculture under the law passed by the latest Legislature. Raise certified seed potatoes!

Best Tomato Pack When Prices Low.

It is peculiar, yet reasonable, that when tomato prices are ruinously low, more care has to be taken in packing only firm, large, uniform fruit than when growers are getting better prices. Those who recognize this are the ones who sell when others cannot.

Salinas Beans Fine Quality.

The Salinas-territory bean crop this year is estimated by one of the leading warehouse men at about 65 per cent of the acreage of last year with the same yield per acre as last year. They are practically all under cover, though we saw one field of good beans unharvested October 28 in the upper part of the valley. There has been no rain damage, and if the market were stronger the growers would be feeling good. One grower near Chualar said the best offer he could get was 5½ cents for his small whites. He is still holding the crops of this season and last. On October 29 the warehouses of Salinas contained over 75,000 sacks of new beans and a third as many of last year's crop. One warehouse man estimated, after rather careful investigation, that 90 per cent of all the new beans are already in the warehouses, but it is hard to estimate how many are in ranchers' barns. A great deal of new machinery for harvesting has been put into use this season. This includes cutters, side-delivery rakes, and small threshers.

Implement for Better Summer Fallow.

Many a grain man has lost a large part of the benefit of summer fallowing because he left his field cloddy all summer. The clods dried out and left the subsoil exposed to the drying winds of summer. If the surface had been refined in spring and worked occasionally whenever it crusted or got weedy, it would have held moisture better and would have yielded more per acre. There are many implements built to make and maintain a surface soil-mulch. One of the newest of these has just been put on the California market by the International Harvester Co., though it has been in use on the Dakota and midwestern grain fields for some years. It consists of a double row of duck-foot cultivators each one in the rear row overlapping slightly on the ones in front of it. The frame is supported on two main wheels with a pair of smaller wheels in front. Shovels of several shapes are available and the tool is made in several sizes from six to twelve feet wide.

Make Those Waste Acres Productive

Those low spots that need filling, those rough acres that need leveling—they can be made as productive as the rest of your land by the use of a "Caterpillar" Land Leveler.

Batteries of five, or six, or more "Caterpillar" Tractors and Land Levelers are in successful use on some of the biggest reclamation operations in the country. Single outfits are doing equally good work, on a smaller scale, for individual ranchers or contractors.

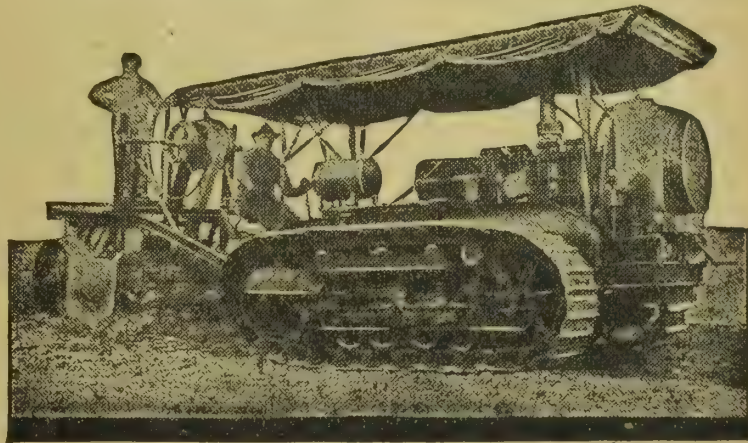
A "Caterpillar" Land Leveler, pulled by a "Caterpillar" Tractor—the leveler is built in an 8-foot size for the "45" and an 11½-foot size for the "75"—will do this work for you in better shape and at less expense than any other equipment of animal or mechanical power.

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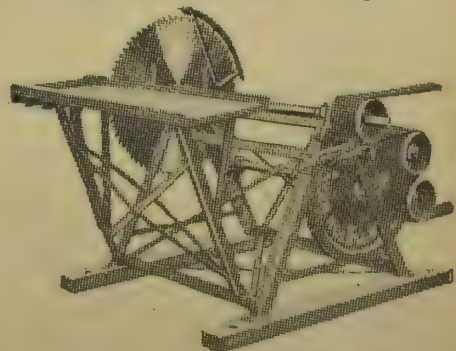
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The Sweet Potato Crop is Short

The Sweet Potato Crop in Stanislaus county in the Turlock district north of Merced river is only 43 per cent to 45 per cent normal this year. This is due to the fact that the water in the Turlock irrigation district was turned off on July 10. South of Merced river, in the Livingston district, the crop is normal.

The Hunt-Jewett-Bontz Co., who are the largest sweet potato buyers in the Turlock district, give the following figures for grades of normal crop and present year crop:

Normal, 10% over size (Jumbo).
Normal, 70% market, this year 66.8%.
Normal, 10% cannery, this year 21.3%.
Normal, 10% hog feed, this year 11.9%.

The dehydrating plant of this company has a capacity of 100,000 bushels, or 220 cars. Every effort is

being made to fill the plant at this time. The quality and size of the sweet potatoes offered on contract is far from satisfactory, but in spite of this they expect to handle 100 cars of market quality during the present fresh market season.

The price has not dropped below three cents so far this season. Last year it dropped to two cents to the grower. There are three reasons for the price holding up this year: (1) Car shortage, lack of dry reefers. After November 1 no sweet potatoes can be shipped north unless packed in dry reefers, for fear of freezing. (2) Cannery contracts have already retired 40 per cent of the crop north of the river this year. (3) Crop failure. Only 1,000 cars have been grown in the entire district this year.

Chili Peppers in Los Angeles County

One of the finest fields of Chili peppers we saw this season in Southern California was six acres belonging to Frampton Bros. in Los Angeles county. Mr. Frampton pointed to a long row of poultry houses nearby and said that they explained a great deal of the thrift of the pepper plants. Two of the brothers furnish two others with green feed for the latter's poultry, and in return the manure is given for the peppers.

Save Their Own Seed.

Stakes beside many of the vines attracted our notice. They were low-down, squatted vines with an abundance of uniform-shaped-and-sized peppers already reddened. They were being saved for seed, which was to be picked early in October. Tall vines were not selected because the wind whips such vines more than is desirable. Seed last year cost \$5 an acre at

\$2.50 per pound. There is considerable blight in certain sections so that seed raising at home is a safeguard for next year's crop. This plant selection for seed is to continue throughout the future.

Culture and Harvesting.

Seed are planted in rows in the field and thinned with hoes rather than to raise plants in a seed bed and transplant them, on account of the labor. Early planting next year will permit replanting where a poor stand may be obtained. Three irrigations were given this season, just running water through the rows and turning it off. Too much water would turn the plants yellow.

The first picking came late in September. Contract prices at the factories were \$35 a ton as against \$28.75 last year and \$40 on the open market at picking time this year.

POTATOES ADVANCED 1994%.

(Continued from page 629.)

Dealers' Association, contained conditions entirely unfair to the farmer. **Contract Calls for 116-Pound Sack.**

This contract obligates the farmer to sell his product by the sack and to put not less than 116 pounds of potatoes in each; these to be delivered on the riverbank by the farmer and held there at his risk until picked up by the San Joaquin river boat for the San Francisco market.

The contract clearly sets forth that should the farmer find it necessary to go to law to enforce any part of the one-sided agreement, he must waive his legal rights, under the constitution, to bring action in the county where the farmer lives and, instead, carry his claim to the courts in the city where the dealer has his place of business. In fact, in this contract there are two pages of terms, conditions and qualifications under which the farmer is firmly bound; yet the dealer can refuse to accept these potatoes if for any reason by so doing his interests may be better served.

The contract called for the delivery of several hundred sacks of potatoes of at least 116 pounds each, at the purported market price of \$2.40 per sack.

Produce Dealer Reduces Sack Weight.

From the moment these potatoes were transferred from the river bank to the boat and thus passed from the farmer into possession of the produce dealer, they were never again bought or sold or thought of in terms of sacks of 116 pounds each. At once they were dealt with by the hundred pounds. Sixteen pounds, or more, on each sack became the dealer's "bit," and this before the potatoes had even reached the market where, ordinarily, his regular profits would be expected to begin. He bought by the sack and will sell by the hundredweight. For every seventh hundred pounds the farmer received no pay. The extra seventh hundred pounds came free of cost to the dealer, only to be paid for by the pound by the consumer. On a dollar and cent basis, and at the purported market price of \$2.40 per

sack, the farmer received (after losing the 16 pounds per sack overweight) but \$2.07 per hundred for his spuds, and he paid 16 cents for the sack container, leaving him, actually, \$1.91 per hundred to cover seed, labor interest, taxes and substantial loss as the seasons come and go through total or partial failure of crops or a glutted market.

Following these potatoes that have cost the dealer \$2.07 per hundred, down the river to his place of business, it was found that there is **No Such Thing as an Open Market for the Farmer's Products.**

The close organization maintained by the middlemen makes it practically impossible to buy from or sell to them except through designated channels and agencies, and at their established prices.

The first sale by the produce dealer of the potatoes traced by the investigators was to a retail dealer at \$2.50 per hundredweight, and the retail dealer sold them at the average rate of \$4.16 per hundred pounds, an advance of 116 per cent on the price paid to the farmer. In the city homes one pays \$4.16 for the same amount of potatoes for which the farmer, eighty miles away, received but \$1.91.

The rural hawkshaws, determined to trace the farmer's \$1.91 potatoes along every route that carried those potatoes to their final destination, now took up the cheaper restaurants in San Francisco, where they secured regular portions, boiled, baked, and otherwise. These they carefully matched for size and weight with the raw potatoes. This developed that they were served to many thousands daily at the price of \$11.42 per hundred pounds. This was an advance of 492 per cent over the \$1.91 received by the farmer at his ranch only eighty miles away.

Following this same process into the high-class cafes and hotels of San Francisco, it was found that these delta potatoes which brought the delta farmer only \$1.91 per hundred, were being served to patrons at a cost per portion that would aggregate \$40.00 per hundredweight or an advance of 1994 per cent.



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EACH THE STANDARD OF ITS KIND

AGONIZING ONION ARITHMETIC.

To the Editor: How does a multiplier onion multiply? Do you have to add anything to make a multiplier multiply? When you plant multiplier onions do you have to carry anything? Does a multiplier onion subtract anything from the soil? How fast can a multiplier onion multiply? Do multiplier onions multiply in rows or columns? Do multiplier onions multiply like rabbits? If you plant multiplier onions in a feather bed would they grow to be sets? When a multiplier onion is planted what does it multiply by? If you plant a set can the pesky thing ever be taught to multiply? What do you call those little onions that sometimes grow on the tops of the multiplier onions, are they the quotient? If you plant a little onion that grew on the top of a multiplier onion, will it grow a remainder? Does a multiplier onion divide before it begins to multiply, or does it multiply first? Why are multiplier onions always divided? The seed book says that multiplier onions don't use a table to multiply by but do better in a bed. What kind of bedding do you use? How is cow bedding? Is it better than horse bedding? After a multiplier onion multiplies then what does it do? What has a multiplier onion been doing before it got to be a multiplier onion? In your own words give a vivid picture of the evolution of the onion; commence at the seed, carry us through the various stages of multiplicity, dwell as long as you wish on the tops and finally lay before us a bushel basket full of beautiful Bermudas.

Yours with tears in my eyes,
Geo.

USE THE WEIGHTS AND MEASURES DEPARTMENT.

"The ground work of the department is to maintain accuracy in all weighing and measuring devices employed in the estimation of quantity by a uniform system of inspection to correct mechanical defects in apparatus and to eliminate from employment such as facilitate the perpetuation of fraud," writes State Superintendent of Weights and Measures, Chas. G. Johnson.

"Every weights and measures official must be fully informed on every phase of the service. He must be thoroughly familiar with his duties, strong and able to do the physical work, and above all he must be willing to work hard constantly, for there is no room in this service for laziness or incompetency.

"The service of this department is extended to every person without any cost. The compensation of the officials is fixed by law and they must be satisfied with this compensation.

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"All wagon scales and apparatus employed by farmers are inspected regularly and at any time upon request. All complaints involving false weights, or such commercial misconduct as come within the purview of the laws, or complaints of violations of regulations, should be referred to the County Sealers, whose headquarters are in the county court houses.

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LIKE THE fabled tortoise that outran the hare, persistent improvement in any service is bound to win—"Good enough" develops speed, but somehow never keeps going. And here you have one of the main reasons why Remington UMC modern guns and ammunition are so popular.

Remington UMC has contributed more improvements to the development of shooting than any other manufacturer. The most recent of them is the wonderful Wetproof process by which shot shells are for the first time made completely waterproof in body, crimp and top wad.

The hardest rain, the longest ducking, the worst of storage, can not affect the perfect shooting of the shot shells you buy if they are Remington UMC Wetproof—"Arrow" or "Nitro Club" loaded with smokeless or "New Club" with black powder.

They will not swell up, scuff, wilt at the crimp and jam. Instead, they will work through your modern Remington UMC autoloading or pump gun as perfectly as if taken direct from the loading machine. And fire just as surely and with the same always superior Remington UMC speed, pattern and penetration.

There are more than 82,700 leading sporting goods and hardware dealers in the United States who sell Remington UMC. That also means best service to shooters.

For Sale In Your Nearest Town

Use Rem Oil to clean and oil your gun, the best combination Powder Solvent, Lubricant and Rust Preventive.

THE REMINGTON ARMS UNION METALLIC CARTRIDGE COMPANY, Inc.
Largest Manufacturers of Firearms and Ammunition in the World
WOOLWORTH BUILDING NEW YORK

vice, or complaints, the sealer will make the necessary inspection or investigation and adjust the complaint if possible, and if necessary prosecute the violator.

"The County Sealer has at all times the fullest co-operation of the State Department, and he has positive instructions that all complaints must have his concern. During the past seven years I know of no complaint that has not been satisfactorily adjusted and every prosecution has been justified and sustained.

"Minor infractions or violations, due to ignorance or unattended with premeditated intentions, have been handled with tolerance and consideration. Education has been found to be the most practical policy to obtain compliance and co-operation.

"Owing to the commercial reforms that have been permanently established, eliminating vicious practices, the faith of the farmer is justified in this department, which guarantees to him the protection of a square deal.

"The regulation of the warehousemen, the development of the public weighmaster, the inspection of weighing apparatus, all tend towards honesty and accuracy. This constitutes the sum total of the purposes of this department.

"If there are avenues in which this department can express itself with greater usefulness and service to the farmers, they have but to command me. If there is prejudice or any misunderstanding on the part of the farmers regarding the policies or purposes of this service, I want their honest criticism."

FALL PLANTING OF

ALFALFA

Fall
Planting
of
Alfalfa

BOMBERGER
SEED COMPANY
MODESTO, CAL.

Surprising results have been secured by fall seeding under the proper conditions. Fall-sown alfalfa has shown a growth the next season after planting nearly as heavy as two-year-old alfalfa.

Send for Booklet

which tells about fall seeding—how, when, and where it can be done to advantage. Sent free with Price List and booklet describing Bomberger's Seven Kinds of Alfalfa.



THE ARNOTT ENGINE HARROW

This is the strongest engine harrow of its type sold on the Coast. Heavy axles, heavy discs. Built for service. Do not accept any imitation said to be the same. Only one genuine "ARNOTT" eight, nine and ten feet wide. Write or call for full information.

ARNOTT & COMPANY, Inc.
112-18 S. Los Angeles St., Los Angeles

Notables at California International Show

Written for Pacific Rural Press by Thos. F. McConnell.

Cartoons drawn especially for the Pacific Rural Press by Elwood M. Albright.

It was not only a great stock show, but prominent breeders from all up and down the Pacific Coast were present inspecting the stock, attending the horse show and the various meetings and events throughout the week.

Practically all classes from the great draft horse to the economical milk goat and rabbit were filled, some of them to overflowing. It is hard to say which of the several departments were the best and no doubt all were in the eyes of the breeders in that department.

The Holstein-Friesian exhibit was pronounced by unprejudiced judges to be the greatest on the Coast this year. At the State Fair this year it was thought that the showing of this breed would not or even could not

ship on carlots and on pen of three barrows by this oldest of breeds of swine.

Awards in the Fat Cattle Division, California International.

To the University of California went the premier honor of the fat cattle division of the California International Live Stock Show, winning the grand champion of the show in this department with California Perfect Lady, a cross-bred heifer calved September 15, 1918, sired by Prince Lad 11th, a purebred Hereford, and out of California Lulu, a purebred Aberdeen-Angus cow. The same institution has the reserve grand champion in the purebred Angus steer, U. C. Jock 3rd.

Dean C. F. Curtiss, of the Iowa State College of Ames, Ia., who judged the fat cattle, paid a high tribute to this department of the show, saying that as a whole it was the best of anything he has seen, and the dean has visited every big show of the East and Central West this year.

"This has been the highest class of any show," said Curtiss, "and the grand champion is of outstanding excellence. I don't know when I have seen her equal in quality, and maturity at her age—beef type considered. Rarely has anything of her equal been led into the show ring. I consider her better than the fat steer the University of California won with at the Chicago International. At least, I surely believe that she will kill out better."

The complete awards in the fat cattle division, which are the cattle judged solely as fit for the butcher and not on points as to breeding animals, are as follows:

FAT CATTLE.

Shorthorns.

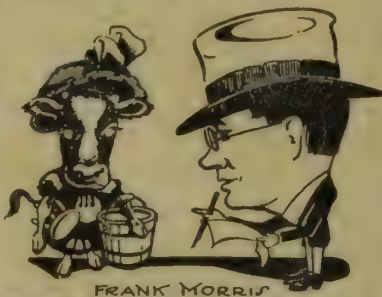
Yearling steer, spayed or martin heifer.—1st. Ormondale Co., Redwood City; 2nd. T. S. Glide, Davis; 3rd. Thomas D. Miller, Hollister. Calf steer, spayed or martin heifer.—1st. University of California, Davis, on Calif. Majestic; 2nd. Henry M. Elberg, Woodland. Champion, University of Calif. on Calif. Majestic. Reserve Champion, Elberg on Roselawn Jock.

Herefords.

Yearling steer.—1st. University of Calif. on Calif. Prince Duke. Champion—Univ. of Calif. on Calif. Prince Duke.

Aberdeen-Angus.

Yearling steer.—1st and 2nd. University of Calif. on U. C. Jock 3rd. and Calif. Thicket 3rd. Calf Steer.—1st. University of Calif. on U. C. Jock 4th. 2nd and 3rd. Congdon and Battles, Yakima, Wash., on Ericman C. B. 2nd. and Ericman C. B. 3rd.



FRANK MORRIS
Frank Morris knows that keeping tabs on production pays.

Lot of 3 head.—1st and 2nd. University of California. Champion and Reserve Champion—University of Calif. on U. C. Jock 4th and U. C. Jock 3rd.

Grades and Cross-Breds.

Yearling steer.—1st and 2nd. Univ. of Calif. on Calif. Grizzly and Calif. Peer. Calf steer or heifer.—1st. Univ. of Calif. on Calif. Perfect Lady.

Lot of 3 head—Univ. of Calif.

Champion and Reserve Champion—Univ. of Calif. on Calif. Perfect Lady and Calif. Grizzly.

Any Breed.

Champion and Reserve Champion yearling steer.—Univ. of Calif. on U. C. Jock 3rd and Calif. Grizzly.

Champion and Reserve Champion steer or heifer calf—Univ. of Calif. on Calif. Perfect Lady, and Calif. Majestic.

All Breeds, Grades and Crosses.

Grand Champion and Reserve Grand Champion steer or heifer of the show—Univ. of Calif. on Calif. Perfect Lady, and U. C. Jock 3rd.

Shorthorn Cattle Awards.

If the shades of Bates, Booth and Cruickshank witnessed the exhibit of the Shorthorns at the California International the past week, they certainly realized that their pioneer

work in establishing this great breed was not in vain. It means much to the beef cattle industry of the Pacific slope that such a showing of the "reds, whites and roans" could be gathered from within the confines of the State of California. It is true that the foundation of some of these herds dates back over half a century, but from a standpoint of breeding Shorthorns from the intensive side, the business is not of such long standing.

At first it was not considered worth while to keep the stock registered, but



F. M. Johnson believes the Durcos are best.

purebred cows and bulls were purchased and turned loose on the range from which to grow range or grass-fed beef, never thinking that raising registered stock for breeding would ever pay in California. Now we are finding a home market for large numbers of purebred beef sires and females, but we are also finding a market in South America and the islands of the Pacific. Such exhibitions as this was cannot help but stimulate this trade.

Judge, W. H. Pew, Ravenna, Ohio.

Exhibitors: H. M. Elberg, Woodland; Ormondale Company, Redwood City; Fair Oaks Ranch, Willits; Pacheco Cattle Co., Hollister; Wm. A. Bond, Newark; T. S. Glide, Davis; Estate of Thos. B. Dibblee, Lompoc; Thos. T. Miller, Hollister; University of California, Davis; Caledonia Farms, San Francisco and Sacramento.

Hereford Cattle Awards.

The exhibit of Herefords is one that would be so far as quality is considered, excellent anywhere. The outstanding feature of the show, so far as one herd is concerned, was the Hereford Corporation of Wyoming, getting both grand championships and many other prizes. The herds within the state also made a most excellent showing. Mission San Jose Herd getting two firsts with other awards and the Veramont herd, owned by H. M. Barngrover of Santa Clara made a very creditable showing. It would hardly be right not to mention the John Cazier & Sons herd, as they have a very good exhibit.

The detail of the awards follows:

Hereford Breeding Classes.

Bull 3 years old or over.—1st. Hereford Corporation of Wyoming, Cheyenne, Wyo.; 2nd. H. M. Barngrover, Santa Clara; 3rd. Chas. Rule, Jenett.

Bull 2 years old and under 3.—1st. Chas. Rule; 2nd. 4th. 5th. Wm. Henn, Kansas City; 3rd. Hereford Corporation of Wyoming.

Senior yearling bull.—1st. J. H. Cazier & Sons, Wells, Nev.; 2nd. J. A. Bunting, Mission San Jose; 3rd. Diablo Stock Farm, Danville; 4th. Wm. Henn.

Junior yearling bull.—1st and 2nd. Hereford Corporation of Wyoming; 3rd. H. M. Barngrover; 4th. 5th. Wm. Henn.

Senior bull calf.—1st. Harold Rice, Paia, Maui, T. H.; 2nd. Hereford Corporation of Wyoming; 3rd. J. H. Cazier & Son; 4th. H. M. Barngrover; 5th. Wm. Henn.

Junior bull calf.—1st. J. A. Bunting; 2nd. 3rd. Hereford Corporation of Wyoming.

Cow 3 years old or over.—1st. Hereford Corporation of Wyoming; 2nd. H. M. Barngrover; 3rd. Diablo Stock Farm.

Cow 2 years old and under 3.—1st. Hereford Corporation of Wyoming; 2nd. J. A. Bunting; 3rd. H. M. Barngrover; 4th. H. H. Gable; 5th. Diablo Stock Farm.

Senior yearling heifer.—1st. 3rd. J. H. Cazier & Sons 2nd. J. A. Bunting; 4th. Diablo Stock Farm.

Junior yearling heifer.—1st. J. H. Cazier & Sons; 2nd. 5th. Hereford Corporation of Wyoming; 3rd. J. A. Bunting; 4th. H. M. Barngrover.

Senior heifer calf.—1st. Hereford Corp. of Wyoming; 2nd. H. M. Barngrover; 3rd. J. A. Bunting; 4th. H. M. Barngrover.

Senior heifer calf.—1st. Hereford Corp. of

Wyoming; 2nd. H. M. Barngrover; 3rd. J. A. Bunting; 4th. J. H. Cazier & Sons.

Junior heifer calf.—1st. 3rd. Hereford Corp. of Wyoming; 2nd. 4th. H. M. Barngrover; 5th. Chas. Rule.

Senior Champion Bull.—Hereford Corp. of Wyoming, on Wyoming Prince.

Junior Champion Bull.—Hereford Corp. of Wyoming, on New Era 2nd.

Senior Champion Cow.—Hereford Corp. of Wyoming, on Miss Rialto 2nd.

Junior Champion Heifer.—Hereford Corp. of Wyoming, on Lady Fairfax 9th.

Grand Champion Bull.—Hereford Corp. of Wyoming, on Wyoming Prince.

Reserve Grand Champion Bull.—Hereford Corp. of Wyoming, on New Era 2nd.

Grand Champion Cow or Heifer.—Hereford Corp. of Wyoming, on Miss Rialto 2nd.

Reserve Grand Champion Cow or Heifer.—Hereford Corp. of Wyoming, on Lady Fairfax 9th.

Aged herd.—1st. Hereford Corp. of Wyoming; 2nd. H. M. Barngrover.

Emporium Special.—Hereford Corp. of Wyoming.

Young herd.—1st. Hereford Corp. of Wyoming; 2nd. J. H. Cazier & Sons.

Calf herd.—1st. Hereford Corp. of Wyoming; 2nd. H. M. Barngrover; 3rd. J. H. Cazier & Sons.

Emporium Special for herd owned and exhibited by a California breeder.—H. M. Barngrover.

Four animals, either sex, get of one sire.—1st. J. H. Cazier & Sons; 2nd. H. M. Barngrover; 3rd. Hereford Corp. of Wyoming.

Two animals, either sex, produce of one cow.—1st. J. A. Bunting; 2nd. Hereford Corp. of Wyoming.

Aberdeen-Angus Prize Winners.

Only one exhibitor of the "doddies" but that does not mean that the exhibit was not a good one. It is to be regretted that more herds of this compact, blocky, economical feeding and high quality meat-producing breed were not in competition for prizes.

The time is not far distant when there will be many more shown on the coast than there are now.

Judge, Alex McDonald, Davis.

Exhibitors, Congdon & Battles, Yakima, Wash.

Judging not completed until too late for publication this week.

Holstein-Friesians Are a Great Show.

The exhibit of the world famous Blacks and Whites was certainly an excellent one, cattle from many of the best herds on the Pacific Coast participating in the competition for prizes. Cattle from as far away as the great Salt River Valley of Arizona, where alfalfa grows the year around, were there to make the contests more interesting.

The ribbons were awarded by Prof. E. W. Majors of Los Angeles.

Exhibitors: Frank B. Anderson, Sacramento; A. W. Morris & Sons Corp., Woodland; Napa State Hospital, Napa; Toyon Farms, Los Altos; Annie Donders, Fresno; V. F. Dolcini, Davis; J. P. Phillips, Fresno; Frank Reed Sanders, Phoenix, Arizona; University of California, Davis.

DAIRY CATTLE.

Holstein-Friesian.

Bull 3 years old or over.—1st. A. W. Morris & Sons Corporation, Woodland; 2nd. H. E. Vogel, Fresno; 3rd. Toyon Farm Association, Los Altos; 4th. Frank R. Sanders, Phoenix, Ariz.; 5th. Napa State Hospital, Napa.

Bull 2 years old and under 3.—1st. Jared W. Scudder, Holt; 2nd. Sanders; 3rd. E. L. Holmes, Modesto; 4th. Morris & Sons.

Senior Yearling Bull.—1st. Holmes; 2nd. Sanders; 3rd. Toyon Farm Assn.

Senior Bull Calf.—1st. 3rd. Morris & Sons; 2nd. V. F. Dolcini, Davis; 4th. Holmes; 5th. Toyon Farm Assn.

Junior Bull Calf.—1st. 2nd. Morris & Sons Corp.; 3rd. 5th. Toyon Farm Assn; 4th. University of California.

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Bull 2 years old and under 3.—1st. Jared W. Scudder, Holt; 2nd. Sanders; 3rd. E. L. Holmes, Modesto; 4th. Morris & Sons.

Senior Yearling Bull.—1st. Holmes; 2nd. Sanders; 3rd. Toyon Farm Assn.

Senior Bull Calf.—1st. 3rd. Morris & Sons; 2nd. V. F. Dolcini, Davis

Junior Yearling Heifer—1st, Toyon Farm Assn.; 2nd, Sanders.
Senior Heifer Calf—1st, 3rd, Napa State Hospital; 2nd, 5th, Toyon Farm Assn.; 4th, Holmes.

Junior Heifer Calf—1st, 3rd, Morris & Sons Corp.; 2nd, 4th, Napa State Hospital; 5th, Toyon Farm Assn.
Cow having official yearly record begun at 5 years or over—1st Toyon Farm Assn.; 2nd, Phillips.

Cow having official yearly record begun under the age of 5 years—1st, Toyon Farm Assn.; 2nd, Morris & Sons Corp.

Senior Champion Bull, 2 years old or over—Morris & Sons Corp., on King Morco Alcartra.
Junior Champion Bull, under 2 years old—Morris & Sons Corp., on King Morco Alcartra Mead.

Senior Champion Cow, 2 years old or over—Vogel, on Betsy Lamb Prilly.

Junior Champion Heifer, under 2 years old—Phillips, on Josephine Johanna Oak DeKol.

Grand Champion Bull, any age—Morris & Sons Corp., on King Morco Alcartra.
Reserve Grand Champion Bull, any age—Morris & Sons Corp., on King Morco Alcartra Mead.

Grand Champion Cow, or Heifer, any age—Vogel, on Betsy Lamb Prilly.

Reserve Grand Champion Cow or Heifer, any age, Phillips, on Josephine Johanna Oak DeKol.

Aged Herd, consisting of 1 bull, 2 years old or over; 1 cow 3 years old or over; 1 cow or heifer, 2 years old and under 3; 1 heifer 1 year old and under 2; 1 heifer under 1 year old—1st, Vogel; 2nd, Toyon Farm Assn.

Young Herd, consisting of 1 bull under 2 years; 2 heifers 1 years old and under 2; 2 heifers under 1 year old; all except bull must be bred by exhibitor—1st, Toyon Farm Assn.; 2nd, Sanders.

Calf Herd, consisting of 1 bull and 2 heifers, all under 1 year old and all bred by exhibitor—1st, 4th, Morris; 2nd, Sanders; 3rd, Toyon Farm Assn.

Four animals, either sex, get of one sire—1st, Sanders; 2nd, Morris; 3rd, Toyon Farm Assn.

Two animals either sex, produce of one cow—1st, Morris; 2nd, Phillips; 3rd, Sanders; 4th, Toyon Farm Assn.

Dairy Herd, to consist of five cows in milk, all to be owned by exhibitor—1st, Toyon Farm Assn.

Jersey Cattle Exhibit Awards.

The Jersey cattle show might have been larger, but it could not have been better. In this breed, as well as in the Holsteins, a herd from the Salt River Valley of Arizona was in the lists for their share of the awards. These beautiful cattle attracted much attention and were a feature of the show.

Judge, Prof. J. B. Fitch, Manhattan, Kansas.

Exhibitors: M. Fortini, Orland; L. J. Belknap, San Jose; Guy H. Miller, Venadera Farm, Modesto; Frank Reed Sanders, Phoenix, Arizona; J. E. Thorpe, Mossdale Farm, Lockeford;

University of California, Davis.

Reserve Senior Champion Cow—Sanders, on Desert Honeysuckle.
Junior Champion Heifer, under 2 years old—Fortini, on Jewel of Tintagel.

Grand Champion Bull, any age—Thorp, on Jolly Senator Raleigh.

Reserve Grand Champion Bull, any age—Miller, on Wanda's Altama Interest.

Grand Champion Cow or Heifer, any age—Thorp, on Salome of Mossdale.

Reserve Grand Champion Cow or Heifer, any age—Fortini, on Jewel of Tintagel.

Young Herd—1st, Thorp; 2nd, Miller.

Calf Herd—1st, Miller; 2nd, Thorp.

Four animals, either sex, get of one sire—1st, Sanders; 2nd, Thorp; 3rd, University of California; 4th, Miller.

Two animals, either sex, produce of one cow—1st, Thorp; 2nd, 3rd, Sanders.

Dairy Herd, to consist of five cows in milk, all to be owned by exhibitor—1st, Thorp; 2nd, Miller.

Best Grade Cow sired by registered bull, any age, with a testing association year's record for milk and butter fat production, completed since Nov. 1, 1918 (California Central Creameries Specials)—J. W. Coppini, Ferndale.

Bull, 3 years old or over—1st, J. E. Thorp, Lockford; 2nd, Guy H. Miller, Modesto.

Bull, 2 years old and under 3—1st, Miller.

Senior Yearling Bull—1st, E. F. Smith, Hayward; 2nd, Thorp; 3rd, Jersey Queen Farm, San Jose.

Senior Bull Calf—1st, Miller; 2nd, Thorp.

Junior Bull Calf—1st, Thorp.

Cow, 4 years old or over—1st, 3rd, Thorp; 2nd, Frank R. Sanders Phoenix Ariz.; 4th, 5th, Miller.

Cow, 3 years old and under four—1st, Miller; 2nd, Thorp.

Cow, 2 years old and under three—1st, 3rd, 4th, Sanders; 2nd, Univ. of California Davis.

Senior Yearling Heifer—1st, 3rd, Thorp; 2nd, Sanders.

Junior Yearling Heifer—1st, 5th, Miller; 2nd, Thorp; 3rd, 4th, Miller.

Senior Heifer Calf—1st, M. Fortini, Orland; 2nd, Miller; 3rd, Thorp; 4th, 5th, Univ. of California.

Junior Heifer Calf—1st, 5th, Sanders; 2nd, Thorp; 3rd, 4th, Miller.

Cow having yearly official record begun at 5 years or over—1st, 2nd, Miller; 3rd, Thorp.

Cow having official yearly record begun under the age of five years—1st, Thorp; 2nd, 3rd, Miller.

Senior Champion Bull, 2 years old or over—Thorp, on Jolly Senator Raleigh.

Reserve Senior Champion Bull—Miller, on Altama Interest.

Junior Champion Bull, under 2 years old—Miller, on Wandas Altama Interest.

Reserve Junior Champion Bull—Smith, on Goldie's Nehalem Gold.

Senior Champion Cow, 2 years old or over—Thorp, on Salome of Mossdale.

Ayrshires Are Excellent.

Two great herds as good as found anywhere made the showing of the breed a good one. The Ayrshires are a bonnie lot and it would seem they certainly become more popular as time goes on, as they are excellent

performers at the pail under ordinary conditions and also readily respond to intensive conditions. The Meyer herd was at Los Angeles, but McFarland had not shown his since the State Fair.

Judge, Prof. H. H. Kildee, Ames, Iowa.

Exhibitors, J. Henry Meyer, Watsonville; E. D. McFarland, San Mateo; University of California, Davis.

Judging too late in the week for publication.

Dutch Belted.

Dutch Belted cattle were represented by the herd of Frank Reed Sanders of Phoenix, Arizona. They were awarded all the prizes in this class.

AWARDS ON CARLOTS OF FAT HOGS.

Competition was keen and much interest was manifested by the spectators. The decision awarding the grand championship to the Berkshire carlot was received with great enthusiasm by the admirers of this well known breed. It is claimed by their admirers that the Berkshires have won more grand championship prizes on fat hogs than all the other breeds combined. The detail of the awards follows:

250 to 300 pounds First, Napa State Hospital on Berkshires; second, M. Bassett on Poland-Chinas; third, Western Meat Company on Duroc-Jerseys.

175 to 250 pounds. First, Western Meat Co. on Duco-Jerseys; second, M. Bassett on Poland-Chinas; third, Napa State Hospital on Berkshires.

Grand championship to Napa State Hospital on the carlot of Berkshires that were awarded first prize in the 250 to 300 pound class.

The awards were made by Prof. H. H. Kildee of Iowa College of Agriculture, judge of Duroc-Jerseys and Berkshires, acting in conjunction with W. H. Pew, Ravena, Ohio judge of Poland-Chinas Yorkshire and Hampshires.

FAT SWINE.

Best senior Berkshire barrow—1st, University of Calif., Davis.

Best junior barrow—1st and 3rd, A. B. Humphrey, Escalon; 2nd, J. F. O'Connor, Santa Rosa.

Best pen of 3 junior barrows—1st, A. B. Humphrey; 2nd, B. Grant Hillis, Sebastopol;

3rd, W. E. Graham, Del Paso Heights. Champion barrow and champion pen of barrows—A. B. Humphrey.

Chester-Whites.
Best senior barrow—1st, 2nd, 3rd, C. B. Cunningham, Mills.

Best junior barrow—1st, 2nd, 3rd, Cunningham.

Best pen of 3 senior barrows—1st, Cunningham.

Best pen of 3 junior barrows—1st, Cunningham.

Champion barrow and champion pen of barrows—Cunningham.

Duroc-Jerseys.
Best senior barrow—1st, 2nd, 3rd, Univ. of Calif.

Best junior barrow—1st, 2nd, 3rd—V. F. Dolcini, Davis.

Best pen of 3 senior barrows—Univ. of Calif.

Best pen of 3 junior barrows—Dolcini.

Champion barrow and champion pen of barrows—Univ. of Calif.

Hampshires.
Best junior barrow—1st, Conejo Ranch, Newbury Park; 2nd, Roy Fisher, Lincoln, Neb.; 3rd, C. J. Gilbert, Lancaster.

Best pen of 3 junior barrows—Gilbert.

Champion barrow—Conejo Ranch.

Champion pen of barrows—Gilbert.

Poland-Chinas.
Best senior barrow—1st, 2nd, M. & A. L. Bassett, Hanford; 3rd, Univ. of Calif.

Best junior barrow—1st, 2nd, 3rd, Bassett.

Best pen of 3 senior barrows—1st, Bassett; 2nd, Miller & Lux, San Francisco.

Best pen of 3 junior barrows—1st, Bassett.

Champion barrow and champion pen of barrows—Bassett.

Yorkshire.
Best senior barrow—1st, Lloyd & Tointon, Santa Rosa.

Best junior barrow—1st, 2nd, 3rd, Lloyd & Tointon.

Best pen of 3 junior barrows—1st, Lloyd & Tointon.

Grades and Cross-breeds.
Best junior barrow—1st, 2nd, 3rd, J. C. Winlay, Sacramento.

Best pen of 3 barrows—1st, Finlay.

All Breeds, Grades and Crosses.
Champion senior barrow of the show—Bassett, on Poland-Chinas.

Champion junior barrow of the show—Humphrey, on Berkshires.

Grand champion barrow of the show—Bassett, on Poland-Chinas.

Reserve champion barrow—Humphrey, on Berkshire.

Champion pen of 3 best barrows of the show—Humphrey, on Berkshires.

Reserve champion pen of 3 best barrows of the show—Bassett, on Poland-Chinas.

Poland-Chinas Pull Premiums.

The exhibit was excellent and large, both in numbers and size of the individuals. No animal of the hog kind has had a greater popularity or more more deserving of it than these same Polands. Breeds may come and go, but we will have them with us always from the way their admirers keep abreast of the times.

(Continued on page 650)

THE BEST POLAND-CHINA BREEDING

Selected from 20 of the leading herds of

FRESNO COUNTY POLAND-CHINA BREEDERS' ASSOCIATION

60 Head Bred Sows, Bred Gilts, Open Gilts,
Service Boars

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FRESNO, CALIF., NOVEMBER 19, 1919

BLOOD LINES—Big Bob Wonder, Giant Jones, Giant Bob (1919 Calif. Grand Champion), Orange Boy, Fresno Boy (Fred Gatewood's Champion), Evolution, King's Big Bone Leader (1918 Calif. Grand Champion), Model Fellow, King's Big Bone, Giant Buster, Big Orphan, Hather's Big Bob, President, Etc.

Lunch at 11 a. m.

Sale starts at 12 o'clock sharp.

For catalog or further particulars write the Secretary

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COL. GEO. W. BELL, Auctioneer.

WALTER C. FICKLIN, Secretary

Rt. A, Box 189, Fresno.

Mechanical Power on the Farm

FOUND HIS ORCHARD TRACTOR TOO SMALL.

(Written for Pacific Rural Press by R. E. Hodges.)

"I've been using tractors five years on the two ten-acre citrus orchards owned by my father and myself. For the past three years we haven't had a horse on the place, except for hauling manure, and for two furrowings last summer, when I was too busy to do it myself," said T. J. Steves of eastern Los Angeles county recently. "But I made a mistake in buying tractors of too small size. My first one had five horsepower on the drawbar. The second one had six. I got rid of them and am better satisfied now with eight horsepower on the drawbar, though even it has all it can do in low gear sometimes."

Many a rancher has made the same mistake, although the Pacific Rural Press has repeatedly urged our readers to buy more powerful tractors than they think they will need.

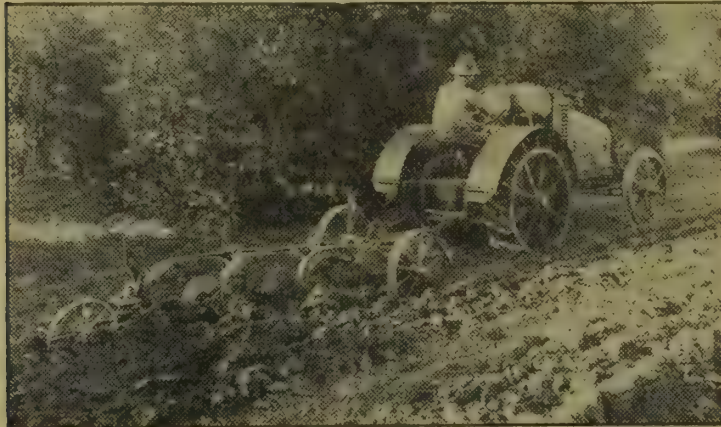
Transforming the Subsoil Desert.

A progressive step in horticulture is responsible for Mr. Steves' desire for more power. Perhaps he didn't dream of that progress when he got the first tractor. He has found that the plowpan which forms each season in his well-cultivated orchards makes a barren desert under them. That makes the orange roots struggle for a living in the upper reaches of soil. But the

plow, it would not be desirable to turn those big chunks of dead subsoil to the top. The better idea is to break them up and leave them underneath where they could mellow up at leisure by means of the air and water that are admitted by the breaking. This operation is performed in two ways by two different implements. A deep cultivator with five narrow standards and resting on three wheels to regulate its depth was standing beside the orchard when we saw it. A seat was provided for a 150-pound driver and a chunk of concrete weighing probably 100 pounds had also been taking a ride.

This cultivator was not sunk in "deep" until the July drop was past. A weak man cannot do his heaviest work on short rations and a weak tree setting fruit must have all of its roots until this job is done. The spring cultivation did not go over four or five inches deep.

Furrows for irrigation were made two at a time on intermediate speed at $2\frac{1}{2}$ miles per hour. The writer saw the machine furrowing for an hour or more in this orchard, making all turns without a stop. After irrigation, the furrows were filled with a Forkner and were a week later worked over with the deep cultivator. After the summer-drop danger was past, the deep cultivator was run ten inches deep down each center and at less depth around each row.



There are places where the smallest orchard tractors are most economical; but as a rule, when a man begins to use a tractor, he soon finds that there is work which can be done more economically with a more powerful machine.

upper soil is stirred by cultivation and what the roots get out of it they have to grab in a hurry. There has generally been a considerable dropping of fruit. Why shouldn't it drop?

Of recent years, orchardists are realizing that the surface soil isn't worth \$1,000 per acre and that the sub-surface soil isn't worth anything unless they get water into it. The ordinary irrigation does more to form a plowpan than it does to penetrate plowpan already formed. That plowpan has to be busted during the irrigation season. Many growers think it should be busted several times each year. The plowpan busters require power which really was not available until tractors came into orchards. There isn't room for all the horses that would be required.

In one orchard Mr. Steves plowed a deep furrow down each center and then another one below the bottom of that. A trench was thus formed which he estimates at 15 or 16 inches deep. Manure was put into this and irrigation water went in. It did not come out at the other end. It stayed where it could convert that underground desert into a feeding ground for orange roots and it took their lunch along. Some roots were decapitated, but most of them got a chance to grow fat.

Deep Tractor Cultivator.

In the other orchard the soil was too hard for a plow, and here is where even more power than the 8-16 tractor would be desirable. But even if he had more power and a heavier

Subsoiling Orchards to Give Trees a Drink.

Deep cultivation is not all. A number of ranchers in this district have found that it paid to subsoil their orchards. Mr. Steves adopted this practice last summer by pulling a single-standard subsoiler twice down each center along lines about $2\frac{1}{2}$ feet apart to let the water in. He plans to subsoil two or three times every year. Some of his neighbors subsoil before each irrigation in the latter part of the season.

Dust Must Be Kept Out.

"I used to have considerable trouble with tractors until I got this one," says Mr. Steves. I've had this one a year and it has given entire satisfaction. I don't know whether the trouble before was due to the machines or myself. One thing I know. The dust in our orchards must be kept out of the engine and bearings or a tractor will go to pieces.

"You will be surprised when I tell you that the water clarifier doesn't keep out all of the dirt. O yes, it gets it all, but doesn't keep it all. The water splashes up on the insides of its chamber and sometimes it dries away there. After it gets sort of muddy, it leaves dry dirt on the walls and that dry dirt gets into the engine. The water clarifier wasn't ready when I got the tractor so I put on a clarifier consisting of a centrifugal device and a hair strainer. I now have both on the machine. The dry clarifier has caught as much as a spoonful of dust which had gone

8-foot Extra Heavy Tractor Chisel



KILLEFER
QUALITY



Now is the time to commence deep chiseling and subsoiling. Do it in time to prepare the ground thoroughly to receive the benefit of the winter rains. Break away from the old habit or mistaken idea of scratching the ground and expecting to harvest a crop.

Plow pan, although frequently referred to as mechanical hard pan, should not be confused with natural hard pan. However, so far as crop production is concerned, the effects of plow sole and hard pan are the same. Both must be destroyed before proper cultivation can be had, and the only difference in the two that will be considered here is in the method required for their destruction.

Plow sole offers less resistance to the available methods of breaking it up than hard pan, and, with the tractor and tool of sufficient

strength now available for tractor use, it can be broken up and subdued, bringing the land back to the point where a full yield may be expected.

Plow sole offers less resistance to tillage implements than does hard pan; both are in many cases imperious to horse teams and ordinary plows, and in some instances are difficult of handling with tractors and modern implements. Yet before a full yield may be expected this condition must be subdued, and to date the only satisfactory means is by use of the chisel or subsoiler.

Send for Catalog and Prices.

The Killefer Manufacturing Co.

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LOS ANGELES, CAL.

through the water. The tractor runs as well with both as with one, and it will last longer."

BALES HAY BY ELECTRICITY.

G. I. Lytle of Perris Valley, Riverside county, bales alfalfa hay by electricity and gets it aboard cars for the market with almost electric speed. He finds a five-horsepower motor sufficient to run a baler that turns out about 30 tons per day. Electricity costs \$10 per horsepower for six months, so the power used on the hay does not cost much. Mr. Lytle says the motor is very convenient and quite a few of the ranchers are doing it in the same way. He hauls hay from the field in the morning, having cured it so the stems are approaching brittleness, as felt by crushing a bunch of it in the hand. Late in the forenoon or early afternoon it is baled and hauled directly to the cars.

POWER FOR PUMPING.

To the Editor: How many horsepower will it take to lift water 16 feet in an eight-inch rotary pump. Also the speed of the pump. How will a rotary compare with a centrifugal of the same size. Is there any advantage in having a closed runner pump in wells having no sand.—J. W. Modesto.

In the catalog of a rotary pump manufacturer we read that their eight-inch rotary delivers 1050 gallons per minute at a speed of 150 r. p. m. A horsepower is the effort required to lift 33,000 pounds in a minute one foot high (33,000 foot-pounds). A gallon of water weighs practically $8\frac{1}{2}$ pounds. Therefore the theoretical horsepower required in your case would be $8\frac{1}{2} \times 1050 \times 16$ divided by 33,000, or $4\frac{1}{4}$. The actual horsepower used in running the pump and in overcoming friction of the water in pipes, and especially in passing through elbows must be added to the $4\frac{1}{4}$. The pump catalog quoted claims 65 per cent efficiency for its pump so the actual horsepower to lift the water and run

the pump would be about $6\frac{1}{2}$. Add $\frac{1}{2}$ -horsepower or more to this for pipe friction and enough more to make yourself safe when the water pumps down so you have to lift it over sixteen feet. Then add one or two horsepower so the engine will not have to work at full capacity. Too large an engine costs more at first but costs not much more to operate. Too small an engine costs a great deal for repairs and delay.

Centrifugal pumps are most commonly used for such conditions as you describe, largely because they are better known and costs less. The advantage of a closed runner is that no water escapes the action of the impellers.

The action of a centrifugal pump is to throw water at the opening of the outlet pipe hard enough to force it out. The action of a rotary pump is to squeeze the water through the opening and on up through the outlet pipe. A rotary pump is not long lived if the water contains sand.

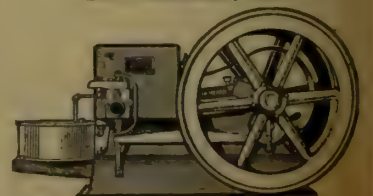
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Mechanical Power on the Farm

A TOMATO GROWER MAKES HIS OWN BOXES.

(Written for Pacific Rural Press.)

"The high cost of labor and of material necessitates every farmer getting his neck under the yoke and doing all he can himself." This was the substance of remarks made by Frank Essig of Shively (Humboldt county) recently. He is a grower of fruit and truck and is enthusiastic on the future of his county.

"We can grow all the truck needed in the San Francisco market," he said, "and we have no Orientals or Hindus in the business at all. We don't want them. Market gardening is a most interesting and profitable undertaking, and we can grow the stuff, as you have seen. Where else can they grow an average of 30 tons of carrots to the acre or turnips as large as a man's head. The State cannot beat us on potatoes, beets, parsnips, peas and beans, cabbage and cauliflower. Last year I sold 2,300 thirty-pound boxes of tomatoes from three acres, which netted me 50 cents a box after paying

for labor, packing, and material. This year my tomatoes will net me 75 cents a box; I am paid \$1. I made three cents a pound for Hubbard squash."

Mr. Essig has a small mill on his place and makes his own boxes. From one tree that had drifted down the river onto the bar opposite his place he and a son-in-law made 1800 tomato boxes from eleven three-foot cuts. They allowed themselves \$4 a day each for wages and \$1 a day for distillate for the engine, and then had 1800 boxes at a cost of three cents each.

Mr. Essig has bought 224 acres on Bull Creek where he will plant 15 acres of the bottom land to orchard and 15 acres will be devoted to market gardening and the raising of seed. He has a small mill run by water power on this new place, so will continue to make his own boxes, and the remainder of his land will be farmed for stock, to keep up the fertility of the bottom. He and his son-in-law figure on doing most of the work themselves. This little lay-out seems to the writer an ideal condition for farming in California, and Mr. Essig, who is a practical farm-gardener, is just the man to undertake it.

It is the individual personal care given by the family to the average holding that is the backbone of any State. Because a number of such farmers form a living community that is a unit of the nation's spirit—a part in it is in the back of every man's mind. Whereas a million-dollar farm, run entirely by hired men, is commercialized to such an extent that a live rural spirit is lacking. More power to Mr. Essig and every man like him that is doing his bit to make his acres more productive.

TRACTORS MAKE CONTENTED HELP.

It is frequently said that the labor question is a big one as it relates to tractors, but a large San Joaquin Valley fruit grower gives it as his experience that the labor problem is greater with horses than it is with tractors.

"It used to be," he said, "that every hired hand knew about horses and few knew about machinery, but now when the highways are covered with automobiles, and when horses are looked down upon for either work or pleasure, nearly everybody knows how to run an engine and feels proud to do so while they are not interested in horses and will not attend to them as they should. As a result horses are likely to be laid up with sore shoulders much of the time and you don't get the work done, while with decent handling and a close watch on the tractor to see that everything is tight and going nicely, the work keeps moving from starting to quitting time."

"More important on a labor proposition than lack of interest in horses is the fact that the hired men want to drop everything when the whistle sounds quitting time on Saturday evening and they do not want to show up again until Monday morning. That cannot be done with horses, but it can be done with tractors. The result is that men are much more contented now when they have tractors to run than when they are supposed to work horses. There has been a very great change in this way in the last two years and what I say will be even more true in the future than it is now."

A deep-well pump wore out its bearings trying to lift a heavier load than it was designed for. It was taken out June 9. On July 24 the pump was running again. On September 16 it had to be taken out again on account of the bearings. The operator took the injured parts to the factory September 19, and ordered a new shaft. Two extra stages recommended by the pump company were ordered. On September 30 he was still waiting for the parts. He doesn't recommend that company to prospective pump buyers.

TWIN CITY

12-20 Kerosene Tractor with 16-valve engine

Pays Big Dividends

For the first time in the history of the tractor industry, the 4-cylinder, 16-valve engine (valve in head type) is now applied to a tractor. The TWIN CITY 12-20 with its 16-valve motor actually develops 25 per cent more than its rated horsepower.

This new 12-20 is a light weight tractor that will out-pull, out-last, and out-dividend other tractors of equal rating.

Not built down to a price, but built up to a fixed ideal—to do the work assigned to it better than it has ever been done before.

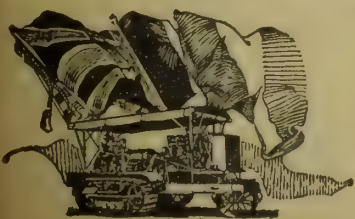
The highest grade tractor will unflinchingly prove the least expensive and pay the biggest dividends.

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How the "Caterpillar" Tractor made good in war service is a matter of history—a marvel to the officers and men serving where "Caterpillar" Tractors were used.

This record merely verified what thousands of farmers who had been using the "Caterpillar" already knew—that Holt design, Holt choice of materials and Holt workmanship give the "Caterpillar" Tractor draw-bar pull, stamina and dependability almost beyond belief.

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CATERPILLAR
Reg. U.S. Pat. Off.



You Wouldn't Haul Crops

to town on your back and yet you unnecessarily break your back doing a lot of odd chores around the farm such as sawing wood, turning the grindstone, pumping water for the livestock, etc., and let your wife and girls wear themselves out over the wash-tub, churn, and separator. Drudgery of this sort was absolutely necessary on the farm once upon a time—but times have changed.

There is no need to let these little jobs take the joy out of life, because an **International Kerosene Engine** will perform all of these tasks—and a lot more, besides—doing the work much faster and more cheaply, to say nothing of doing it better than it could be done by hand. These engines deliver steady, uniform power—they never lag—so any machine that they operate works to the best possible advantage. There are three sizes—1½, 3, and 6-h. p. engines.

The 1½ and 3-h. p. engines are the all-around "chore boys" while the 6-h. p. engine is the dependable "man about the farm". It does work that a dozen hired men couldn't do, such as shelling corn at the rate of from 1,000 to 1,500 bushels a day, baling 15 to 20 tons of hay in a day, grinding feed at the rate of from 5 to 25 bushels an hour, and threshing 20 to 40 bushels of wheat an hour (operating a Sterling thresher).

Shall we mail you a catalogue and tell you where you can see an **International Engine**?

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This is aenger, 4-cylinder 37 H.P. BUSH Car-Timken Bearings—Wilton Batteries—2 Unit Starting & Ldr.—11-inch wheel base. Write at once for the best Automobile Offer in existence. Don't wait—Even payment or money back prompt delivery—now.
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BUSH MOTOR CO., Bush Temple, Chicago, Illinois

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WILL WORK WONDERS ON YOUR FARM



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So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

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Every road district should own one of these machines for constructing roads. They will cut down the high places and make fills quicker and cheaper than by any other known method.

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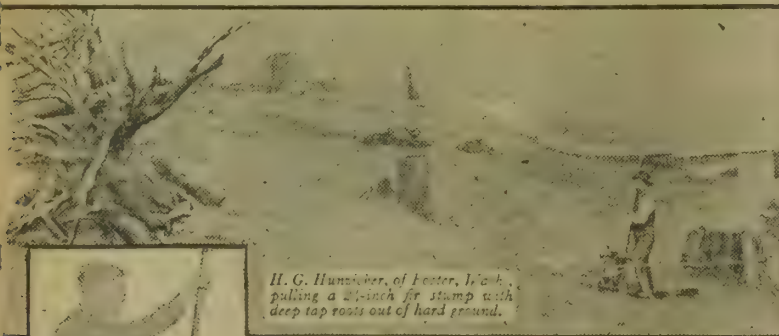
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H. G. Hummer, of Foster, Wash., pulling a 24-inch fir stump with deep tap roots out of hard ground.

This man made \$35 Land Worth \$200 an acre Pulling Big stumps by hand

CLEAR your stump land cheaply—no digging, no expense for teams or powder. Your own right arm on the lever of the "K" Stump Puller can rip out any stump that can be pulled with the best inch steel cable. I guarantee it. I refer you to U. S. Government officials. I give highest banking references.

HAND POWER
K Stump Puller

One man with a "K" can outpull 16 horses. Works by leverage—same principle as a jack. 100 lbs. pull on the lever gives a 48-ton pull on the stump. Made of best steel—guaranteed against breakage. Has two speeds—60 ft. per minute for hauling in cable or for small stumps—slow speed for heavy pulls. Works equally well on hillsides or marshes where horses cannot go.

Write me today for special offer, and free booklet on Land Clearing.

The Fitzpatrick Products Corp.

Box 12
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182 Fifth Street
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Weight, without cable, 171 pounds

No Stump Too Big For The K

CO-OPERATIVE IRRIGATION DEVELOPED DISTRICT.

[Written for Pacific Rural Press.]

Co-operative management of irrigation water has for many years proved satisfactory to members of the John T. Carpenter Water Co. in eastern Orange county. It has enabled them to develop to the limit all water from a small nearby canyon, and to supplement that with deep-well pumps at a relatively low cost for water. About 1,000 acres, mostly of orchards belonging to 67 members of the Water Company, are now under this project. Maximum economy in pumping is possible because the Association hires an engineer to look after the pumps and they run continuously during the season of less-than-needed gravity flow. The investment in pumps is not idle a good portion of the time as it would be if each orchardist had a pump of his own. No orchardist need lose any time or any sleep worrying about keeping the plant in order. Individuals could not make pumping pay in this district, for the water-lift, according to Engineer C. E. Burrier, is 290 feet at the wells, besides a boost of 150 feet to irrigate part of the higher orchards.

Organization of the Irrigators.

The Association was formed years ago, according to Supt. M. M. Bolton of the Water Company. Its first object was to use the canyon water to irrigate whatever area it would supply. Oranges did well in this district; the acreage increased, and the demand for water soon exceeded the supply. Anyhow, it did not last adequately all summer.

The Association was reorganized about 1912 or 1913 to catch and hold all of the canyon run-off for irrigation and to supplement this with whatever pumps might be necessary. They worked out a scheme to spread the waters of the canyon over the surface, beginning at a point about 15 miles back. This made a soil reservoir which would lose its water by underground flow were it not held back near the mouth of the canyon by a dam to bed rock. The overflow from this dam went down to 25 or 30 miners inches last May, but increased later to 50 inches, which it maintained at least throughout September when the water ordinarily begins to get low.

Fifty inches wouldn't moisten the thousand acres; so the wells were developed. Fortunately natural gas from the Southern Counties Gas Co. is available for engines to run the pumps, and Mr. Burrier states that the cost of gas runs only about one-half cent per horsepower hour. With distillate at present prices the cost would be over twice as great.

Pumping Equipment.

The private well belonging to President L. W. Evans runs quite steadily in the service. The Association plant consists of two wells 420 feet deep, a reservoir, and three pumps, besides pipe, which distribute much of the water without seepage. A deep-well turbine pump operated by a 100-horsepower engine, throws about 110 miner's inches into the pipes. A deep-well plunger pump, operated by a 60-horsepower engine, throws about 70 inches into a reservoir. A centrifugal pump, run by a 32-horsepower engine, boosts the reservoir water 150 feet to higher orchards on a side hill about three-quarters mile away. All of the engines are started by compressed air from a compressor operated by a two-horsepower engine. The water level has dropped about 20 feet in the past year, so the lift is now about 290 feet.

The deep-well plunger pump had run night and day from Christmas until October 1, except 22 days, when rain made pumping unnecessary. The engine which ran it had been running seven years and the pistons had never been taken out.

The turbine pump was not placed deep enough, so it had to be lowered 24 feet in July.

Fair Turns in Irrigating.

Each acre in the Association has a share of the original water stock and a share of the new. Since the turbine was installed a year ago, there has been enough water so six members could irrigate at once. Previous to

that, four irrigators could be busy at once. Their turns came every 30½ days, but interruption of the turbine disarranged this and rotation proceeds as fast as possible. In a co-operative concern such as this, if a man is not ready when his turn comes, he trades turns with another. When, as happened while the turbine was being lowered, there is not water enough for all, these fair-minded people allowed the Superintendent to turn all there was onto the orchards that needed it most and no fruit was lost.

BIG ELECTRIC POWER HOUSE PROPOSED.

"The present and future needs of the southern half of California require the development of all available sources of hydro-electric power. . . . The present demands for electric energy are such that steam plants are required to supplement the water-power plants. It is to the advantage of the public as well as to the company that this energy be developed by water power instead of by steam, because of the greater cost of steam-generated electricity."

The quotation is from the petition of the Southern California Edison Co. in asking the State Railroad Commission for authority to construct a power project on the Kern river, in Tulare county, estimated to cost \$9,231,358, and develop 43,000 horsepower of electricity. The company has already obtained a construction permit from the State Water Commission and a final power permit from U. S. Secretary of Agriculture D. F. Huston.

A diversion dam on the North Fork of the Kern river is to divert a maximum of 600 cubic feet per second thirteen miles through flumes, tunnels, etc., to a power-house in Kern county. The current is to be carried by a high tension line to the company's substation at Richgrove, Tulare county, and thence distributed throughout the system. The company operates in Los Angeles, Orange, San Bernardino, Riverside, Ventura, Santa Barbara, Kern, Tulare, and Kings counties.

ANOTHER MOTOR TRUCK DRIVES ON FOUR WHEELS.

Block up the Duplex Four-Wheel-Drive motor truck shown at the Los Angeles demonstration so any three wheels are clear from everything. Then throw the engine in gear and the one wheel remaining on solid footing will push or pull the truck off the blocks. This is due to the automatic self-locking differential which is designed to divert all of the power of the engine to whatever wheels find traction in slippery places. All four wheels are driven by a final internal gear.

PUTTING ROAD BANDS ON TRACTOR.

Putting road bands on tractor wheels is not so simple as it might seem to the uninitiated; but it is much simpler than the uninitiated would make it if he tried the job. T. J. Steves of Los Angeles County made the tractor do the hardest part of it. He bolted one end of the band onto the wheel loosely and let the band extend in the path of the wheel. The tractor was then started up until it had wound the band around its wheel far enough to get a long bolt through its other end and through the rim of the wheel. Then a plank was laid in front of the wheel and the tractor run upon it so that it rested on the ends of the band, holding them close to the lugs and pushing the bolts through to the limit. "Twas easy then to put on enough washers for the long bolts and tighten the nuts.

ARE YOUR PUMP REPAIR COSTS REASONABLE

"We have had our deep-well pump (of a certain make) five years," said a rancher recently. "We had no complaint as to first cost or the way it worked, but I don't know that we would get the same kind again. Last year we had it repaired. The manufacturer charged exorbitant prices for the parts and for the mechanic's time fixing the pump. We like the pump but we hate to be robbed; and there are others."



"MY use of Goodyear Cord Pneumatic Truck Tires shows me that pneumatics not only travel better on our clay roads but also are better for the roads. Solids have a hard time in the soft ruts and they are hard on the roads. I have observed that others here are taking note of this."—A. J. Emmerton, Farmer, Bloomer, Wisconsin

THERE is scarcely any work done on the Emmerton Farm, near Bloomer, Wisconsin, that is not aided directly or indirectly by a motor truck on Goodyear Cord Pneumatic Truck Tires.

Their traction enables this truck to haul fertilizer over plowed ground, to carry feed to livestock wherever located, to deliver oil to tractors and to distribute fencing.

For the same reason the truck

easily transfers corn from binder to silo filler and grain from separator to bins—all off-the-road work.

Mr. Emmerton's experience, however, equally emphasizes the advantage of the Goodyear Cords over solid tires on the local clay roads, noting that the pneumatic-shod truck overcomes conditions impassable to solid-tired trucks.

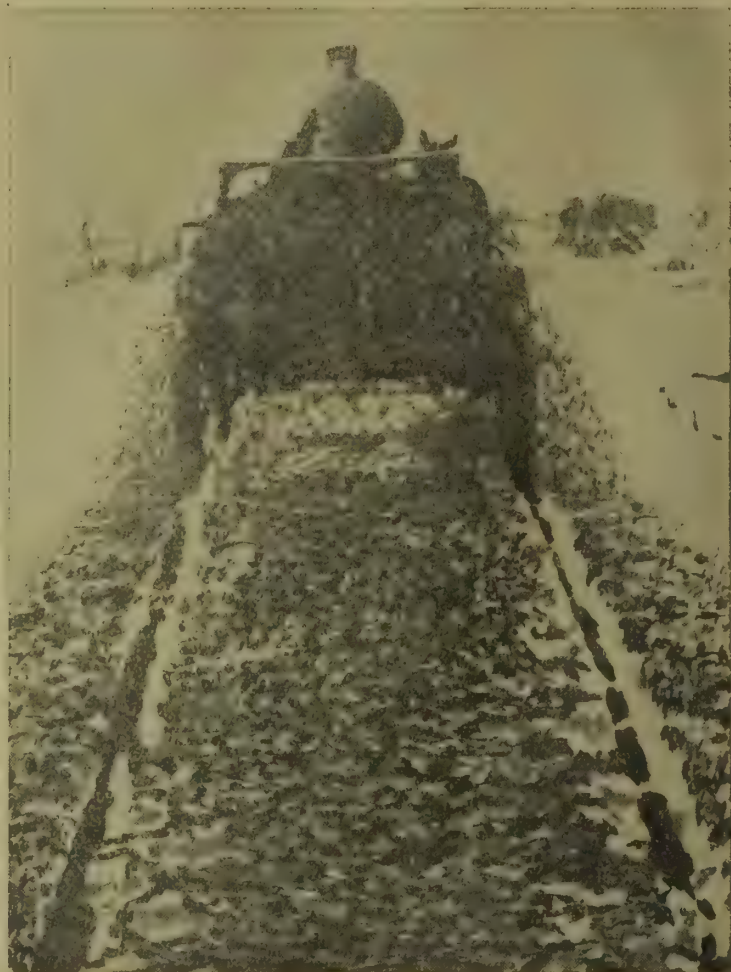
Still another important significance attaches to his statement

that the pneumatics are regarded with growing favor in the surrounding community because their cushioning action saves roads.

It prompts the observation that this particular virtue of the pioneer Goodyear Cord Pneumatic Truck Tires also is a factor in their rapid and broadcast rural adoption.

The Goodyear Tire & Rubber Co.
Akron, Ohio

GOODYEAR
AKRON



Spread Manure All Winter Long

If you want to save time and money and put an end, once and for all, to the dirty, disagreeable job of old-fashioned hand methods of manuring—

If you want to utilize to the very best advantage every scrap of manure that your stock produces—

If you want the manure spreader that is built stronger, lasts longer, shreds the manure finer, and spreads it wider and more evenly—

You Want The NISCO

See your dealer now and get the facts in full. Plan to make your NISCO pay for itself between now and spring. You can—easily—by spreading every week through all the winter. **Spread right over the snow!** Good results will be sure to follow.

The NISCO is built low down; easy to load. And because of its light draft, you can heap it 30 inches high and still have

a light haul for your team. There are dozens of big important, patented features that make this the best machine for your needs. For instance, note that it has no gears to break in cold weather. The chain sprocket wheel drive saves wear and gives you control, right at the seat, to spread any quantity desired—3, 6, 9, 12 or 15 loads to the acre.

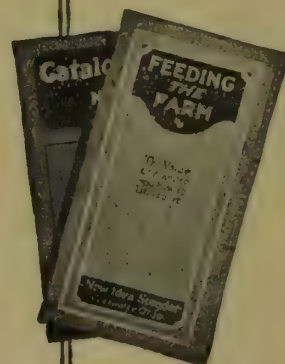
NISCO Dealers Everywhere

Every spot on this map represents the location of a NISCO Branch or Distributor where both spreaders and repair parts are carried in stock.



Little Rock, Ark.	Des Moines, Iowa	St. Louis, Mo.	Greenville, Pa.
Los Angeles, Cal.	Waterloo, Iowa	Helena, Mont.	Harrisburg, Pa.
San Francisco, Cal.	Louisville, Ky.	Omaha, Neb.	Pittsburgh, Pa.
Denver, Col.	New Orleans, La.	Fargo, N. D.	Sioux Falls, S. D.
Atlanta, Ga.	Shreveport, La.	LeRoy, N. Y.	Knoxville, Tenn.
Cottonwood, Ida.	Portland, Me.	Poughkeepsie, N. Y.	Memphis, Tenn.
Pocatello, Ida.	Baltimore, Md.	Watertown, N. Y.	Dallas, Tex.
Chicago, Ill.	Jackson, Mich.	Columbus, Ohio	Houston, Tex.
Peoria, Ill.	Traverse City, Mich.	Mansfield, Ohio	San Antonio, Tex.
Indianapolis, Ind.	Minneapolis, Minn.	Toledo, Ohio	Orange, Va.
Vincennes, Ind.	Kansas City, Mo.	Portland, Ore.	Seattle, Wash.
	Green Bay, Wis.	Milwaukee, Wis.	

"Has N



Write For These FREE BOOKS

Every farmer who is interested in increasing the fertility of his soil will find these two booklets well worth having. The catalog shows you the many features that make NISCO the machine you need. "Feeding The Farm" is a recognized authority on manure and the right ways to handle and spread it. It gives you many helpful ideas on improving the texture and fertility of your land.

SEE your superior that make him today know what to send you booklet,

What Will Become of the

As a fertilizer alone, your straw is a ton. In addition, it is the greatest humus you can put on your soil.

Straw, spread properly, about 2 tons to the acre, is the finest prevention against killing of wheat, soil blow, or water keeps snow from drifting, holds moisture in ground and makes your soil warmer and friable.

NEW IDEA SPREADER

"Spreader Specialists"

Land Been Worthy of Its Hire?"

Have you always worked your land, or has it worked for you? Has its fertility, its power to produce, dropped steadily down, or has it held its own and perhaps even gained?

IF your land has been worthy of its hire, then pay up your debt to your soil. **Perpetuate** its prosperity--and yours. **Treat it right.** Begin now, and continue throughout the winter to spread manure direct from the stable onto your fields. For your land, drained by successive croppings, cannot possibly keep on feeding unless, in turn, it is fed.

Haphazard manuring and poor production invariably go hand in hand. Manure piles leaching away the best of their valuable plant food through a winter's wasting; wagon-tail distribution--where manure is scattered about unevenly by hand, over-feeding some portions of soil and allowing others to starve--hit-or-miss methods such as these invite scanty crops and soil starvation.

Figures have been compiled

through years of accurate tests which demonstrate conclusively the wonderful value of scientific manure spreading.

They cover every possible crop, climate and soil. Talk it over with your County Agent or Experiment Station Man, or consult any other authority. All will tell you that it does pay enormous returns--returns so big that their actual dollar value for one season alone is worth far more than the cost of a NISCO.

NISCO

The Original Wide Spreading Spreader

(Known as "NEW IDEA" in the East)

Our Dealer Will Show You

Dealer. Ask him for visible proof of NISCO and point out the many vitally important features and the big choice of farmers everywhere. Talk to men bigger profits for you next year. If you don't see NISCO dealer is, write to us direct. We will send you with a copy of our absorbingly interesting "The Farm."

On Our Billion Bushel Wheat Crop?

Don't Burn Your Straw

Spread your straw this fall and see how your winter grains thrive. Stack only what you need for your live stock. Don't burn your straw, and don't let it rot. Forget the absurd thought that burning is the way to control weeds. Even if it was, the price you pay is prohibitive. Either way, you rob your soil and your pocketbook--and damage the ground, for months to come, on which your straw stack stood.

Nisco Straw Spreading Attachment

"Two Machines in One"

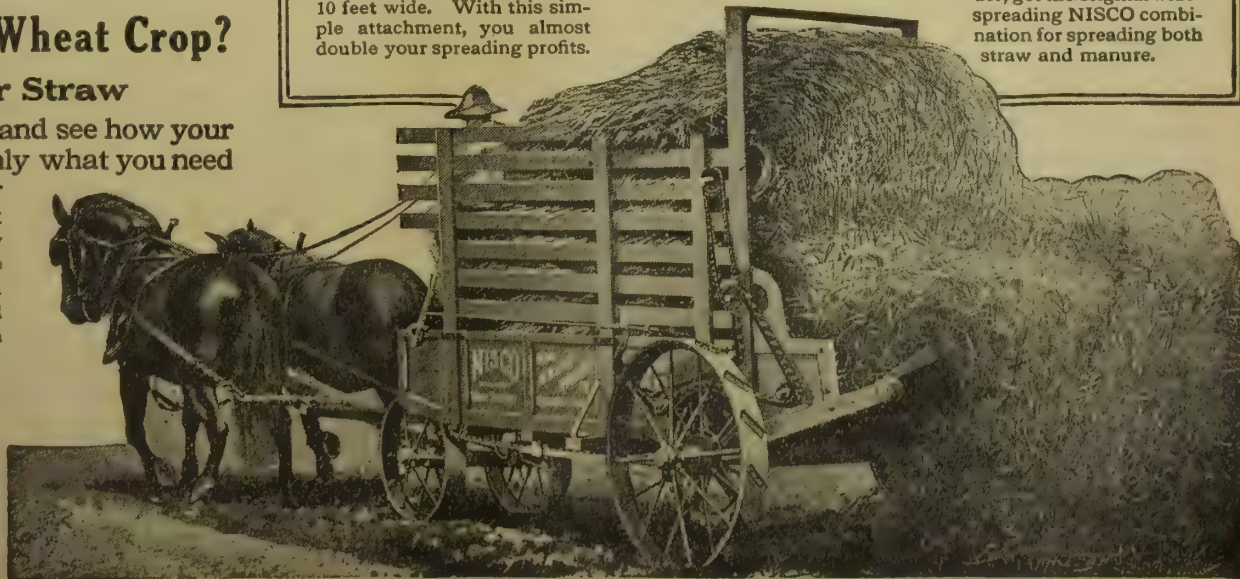
At mighty small cost you can get this attachment for your new machine or old. Handles a big load, shredding the straw fine and spreading it evenly, 8 to 10 feet wide. With this simple attachment, you almost double your spreading profits.

Few Parts

The Straw Spreading Attachment consists of two framed sides which rest on the sides of the regular spreader--an upper, or third cylinder with a chain to connect it with the upper cylinder of the manure spreader--and plates to hold the cylinder frame in place. A metal shield around the ends of the topmost cylinder prevents straw from catching in the shaft.

You Need This Machine

If you already have a NISCO, get a Straw Spreading Attachment and put it on--you can do it yourself in 15 minutes. And if you haven't a manure spreader, get the original wide-spreading NISCO combination for spreading both straw and manure.



LEADER CO.
LOWATER, OHIO

LITTLE-KNOWN FORAGE PLANTS.

(Written for Pacific Rural Press.)

Browsing around the accessories tent at the Los Angeles tractor demonstration we came upon a lot of different kinds of grass that looked good, though we had not seen any of it growing. We were referred to a place where these varieties were growing out of doors. Some nippings of information are given below for further rumination.

Rhodes Grass Perennial.

Rhodes grass is a perennial where temperatures do not go below 18 degrees. It grows several feet tall repeatedly if cut for hay or seed, and it makes fine pasture. It seems more drouth-resistant than many grasses and does not drown out easy. Through dry weather it hangs on waiting for a chance to shoot when rain comes. Hard frosts kill the tops. It grows from seed which has to be planted and irrigated carefully to give it a start. It also grows new plants from the joints of runners, which older plants send out in every direction on top of the ground only. It is not hard to eradicate. A whole armful, which grew from one root, was shown at the demonstration by Aggeler & Musser of Los Angeles. This forage came from South Africa where Cecil Rhodes found some wild seed and cultivated it. The plant was soon introduced to Australia and New Zealand, where it found great favor. It has also been tried out in Texas satisfactorily, and G. J. Renfrew, with W. D. Beatty, have been growing over 300 acres of Rhodes Grass in Imperial county a couple of years.

Teff Grass, Annual.

Teff grass, with feathery seed heads and fine grassy stems, is a non-hardy annual with a shallow root system. With irrigation, it should make four cuttings for hay. A bunch at the tractor demonstration, which had grown in three weeks from the cutting, was almost as tall as another bunch which had never been cut at all. A plot in the growing demonstration of Aggeler & Musser in Los Angeles had been planted May 1 and the seedlings transplanted a month later. It was ready to cut for hay July 15, but was cut for seed August 8. This is the plot from which the three weeks' growth mentioned above had come.

Smilo for Range Pasture.

Smilo grass is similar to Teff grass but seemed taller and coarser. It is a perennial bunch grass, claimed to be hardy, drouth-resistant, a heavy seed producer, and highly recommended for range seeding just before fall rains. Harding grass is of about equal value for range pasture as indicated in San Diego county.

Millet and Sorghums.

Pearl millet in the demonstration struck the visitor, due to the clublike heads of fine white kernels solidly covering central cores averaging over a foot long.

Kaffir sorghum is a new dwarf white-seeded loose-headed variety—leafy and well stooled. One stool on exhibit had eleven heads.

White Wonder millet had heads eight or nine inches long and over an inch thick, composed of tightly formed whiskered subheads rather loosely hung on the central stem.

Higari sorghum, untried in California but being grown in Arizona for the Germain Seed Co., is a hybrid, which is said to yield considerably more grain than milo.

Not all of these and the other varieties shown will eventually find favor with Californians, but who knows but that one of these will become a most popular crop? They are surely worth watching.

The Southwestern Cotton Conference convened October 23 at Mesa, Ariz., to discuss protective measures regarding crop pests and markets. The Arizona Cotton Carnival was being held at the same time.

Four first prizes and three seconds were won on grain sorghums and pumpkins by B. H. Sellers of Riverside county at the Southern California Fair in Riverside.



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Equip Your Engine So It Sure-Fires When Cold

CHAMPION Dependable Priming Plugs sure-fire cold motors because, with the priming cup right in the plug, the gasoline trickles down the core of the plug and drips from the sparking point where the spark jumps and is the hottest.

They are imperative in cold weather for the hundreds of thousands of cars that do not have the priming cups, and are infinitely better for those that do, because priming cups let the gas in too far from the spark plug. Every car can be easily equipped with these plugs in a few minutes.

Price \$1.50 each.

Champion Spark Plug Company, Toledo, Ohio

The Standard Oil
ZEROLENE
For Motor Cars

Least Carbon

Zerolene, scientifically refined from selected California crude oil, gives maximum lubrication with least carbon deposit.

Get a Correct Lubrication Chart for your car.

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Stephens' New Trappers' Book tells you how Coyotes, Muskrats, Skunks, Wild Cats and all other Western Furs are selling in Denver this year at the highest prices ever paid.

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STEPHENS charges you no commission—saves you \$50 to \$100 on express or parcel post and you get your money 2 to 10 days quicker—because Denver is closer to your town than any other Important Fur Center.

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Trappers Guide Free

THE HOME CIRCLE

A COLLECT FOR WOMEN.

Keep us, O Lord, from pettiness; let us be large in thought, in word, in deed.

Let us be done with fault-finding and leave off self-seeking.

May we put away all pretense and meet each other face to face without self-pity and without prejudice.

May we never be hasty in judgment and always generous.

Teach us to put into action our better impulses, straightforward and unafraid.

Let us take time for all things; make us grow calm, serene, gentle.

Grant that we may realize that it is the little things that create differences; that in the big things of life, we are as one.

And may we strive to touch and know the great common woman's heart of us all, and O Lord God, let us not forget to be kind.—Mary Stewart.

DAISY DUTTON'S RIDE.

"Oh, yes, Daisy Dutton is just as bright as they make them," said her big brother, proudly. "She can go alone on the electric car just as well as I can."

"She is a careful little girl," added her father, affectionately. "I know you can trust her, mother."

Daisy Dutton sat still, placidly eating her oatmeal.

Daisy was going to play the part of Little Red Riding Hood, as least so far as to take a basket of something good to eat to her grandmother,—grapes, if you really wish to know. Harry would usually be the one to do such an errand; but Harry had to catch in a baseball game that morning, and he couldn't. Patty, the maid, had to help in the ironing, and she couldn't. Mother had a dressmaker, and she couldn't. Father had an important engagement at the office, and he couldn't. So there was no one left but Daisy, who hadn't a thing to do.

This was all discussed while Daisy was eating her oatmeal; but as she pushed her saucer away she smiled serenely and said, "Why, of course I can," and the thing was settled.

Daisy's grandmother lived a few squares away, and Daisy had often walked there and back; but a new line of electric cars had been opened up between Llewellyn Park, where the Duttons lived, and Sunderland, a pleasant town about six miles to the eastward, and the fun of riding on them had not yet become familiar. She had not taken the full ride yet, although the day the line was opened she went with her mother down town and back. So the idea of even a short ride was most attractive.

"Now, Daisy," said her mother, "here are five cents to pay your fare there, and here are five cents to pay your fare back. You may stay till eleven o'clock, if you like; but be sure to come then, so I shall not be worried about you. Grandma will probably see that you get on the car all right; and, if she doesn't, Harriet will. But, in any case, remember, don't take a car marked 'Harrison'; for, if you do, that will switch off at Vine Street and you will have to walk two blocks home. Take any car that says 'Llewellyn Park,' and you are all right. There isn't any other car anyway, if you don't take the Harrison car."

"All right," said Daisy; and she walked down to the corner with her father, feeling very important, and carrying the basket of grapes with especial care. Her father held up his hand and the car stopped, and he lifted Daisy to the front seat and told the motorman where to let her off.

Daisy didn't quite like it because her father said that, just as if she weren't big enough to know when she came to her grandmother's and get off at the right place. The ride was altogether too short. Whizz, whizz, went the car, and before Daisy realized it they were there.

Her grandmother was not at home, after all. "She took an early start, Daisy, and went to Harrison to do some errands," explained Harriet. "She'll not be back till luncheon time, either."

"Then I guess I'll go right back home," said Daisy, giving her the grapes; "and I'm going to ride back, too. See, here are the five cents."

"All right, Miss," said Harriet, who was in a hurry. "Don't you want me to put you on?"

"No, of course I don't," rejoined Daisy, not huffily but with the distinct consciousness that she was quite big enough to go on the cars alone, if she liked. Hadn't Harry said so that very morning?

"Be sure to get into a car with the sign 'Llewellyn Park,'" cautioned Harriet, wondering if she ought to leave her work and go out with her, but compromising by thinking she could watch her from the window.

Daisy tripped down the steps; and, as the car wasn't coming, she walked to the next corner, and then to the corner beyond that, partly for the sake of having a longer ride and partly to escape Harriet's watchful eyes. The first car that came along was marked "Harrison." Of course, she didn't take that. The next car came in the opposite direction; but, as she glanced carelessly at it, there stood on the sign, in plain, staring letters, "Llewellyn Park."

"Any car that says 'Llewellyn Park,'" she murmured to herself; and quick as thought she darted to the other side of the street, held up her tiny finger, and in half a minute more she was aboard the car and spinning up the road in the direction of—Sunderland.

When the conductor came round for the fare, she gave him her remaining five-cent piece, and then said timidly, "Does the car always go to the place it says on it in front?"

"Yes, of course," replied the conductor, smiling reassuringly.

That was enough. She settled back and began to enjoy her ride. On flew the car, leaving soon behind it the pretty houses with their smoothly shaven lawns and taking its ways through green meadows and past gently sloping hills. Just before they came to Sunderland the conductor came round again.

"Where do you wish to get off, little girl?" he said.

"Oh, I'll know when I get there." And she smiled in the most friendly fashion.

"Don't you know the name of the street?" he persisted.

"Why, of course I do. It's Quincy Street," she replied with dignity.

"Oh, all right. That is the last street before the end of the route."

Daisy said nothing and continued to enjoy the ride. There were only three other persons in the car, and they were several seats behind her, so she felt as if she had the whole place to herself.

Pretty soon, after the houses had begun to be thick again, the conductor rang the bell and the car came to a stop. Nobody stirred.

"Oh, but I don't mean to get off here," piped back a clear treble voice. The conductor ran the bell twice rather impatiently, and made his way quickly to Daisy's side.

"Didn't you say you wanted to get off at Quincy Street?"

"Oh, yes; but it's Quincy Street in Llewellyn Park," said Daisy, sweetly. "You said a car always goes just where it says it will; and so I am waiting."

"Do you mean you are going to ride right round? This car goes to Sunderland."

"It says, 'Llewellyn Park,'" insisted Daisy, mildly; "and it always says just where a car is going."

The conductor looked puzzled. Then he spoke to the driver, who slowed up a bit; and then they both twisted their necks and stared up at the sign over the front platform.

"For the land's sake," said the conductor; "the little girl is right. It does say 'Llewellyn Park,' sure enough. Jim, you forgot to turn that sign over when we started."

Daisy did not care. She was permitted to take any car that said Llewellyn Park, and if she had a ride to Sunderland thrown in, so much the better. So she sat still while the conductor explained and told her they would start back in just fifteen minutes. She waited patiently, changing her seat as the conductor advised, and enjoyed every minute of the wait as well as the ride. She had often been to Sunderland in the carriage; but this was a new and much more exciting experience.

Soon they started back with more passengers than they had before. When the conductor came round for the fare, he stopped at Daisy's side; but she said gently, "Oh, but you know I haven't any more money. Mother gave me just a five-cent piece to ride home with."

"Well, I guess that's one on me," said the conductor; and a minute later Daisy could see him telling something to the motorman, and they both laughed.

After a while they passed her grandmother's house, and Daisy could see Harriet shaking her duster out the window. Four minutes later they stopped at Quincy Street; and Daisy ran home, well satisfied with her morning.

"You said, 'Any car for Llewellyn Park,' Mother; and so did you, Harry," declared Daisy at luncheon, as they talked it over.

"Yes, that is so," admitted Harry; "but tell me now, Daisy Dutton, didn't you know all the time that that car was on its way to Sunderland?"

Daisy never said a word, but she glanced up at her father with bright eyes and a roguish smile.

So Harry ended the story just as he began it, with saying: "Oh, she's just as bright as they make them. She can go on the cars alone as well as I can."

THE CONTROL OF WHOOPING COUGH.

In the last five years 1148 California children have died of whooping-cough, a preventable disease. This large number of deaths could be reduced greatly, if all cases were placed under strict supervision. Too many parents allow children suffering from whooping cough to mingle with other children and disregard all precautions for preventing the infection of others. The large number of deaths from this disease constitute an important factor in the making of a high infant mortality, but that is not the whole tragedy, for disastrous complications occur more frequently and in more severe form following whooping cough than any other of the communicable diseases common to children. It is time that parents and health officers begin to exercise rigid control over whooping cough.

LACE MENDING.

Fine lace should always be mended by hand, but heavy, coarse lace can sometimes be mended by the machine to be quite satisfactory. A tear in fine lace may be mended by first basting it upon white paper and then if the tear is not large, darning it with fine thread and filling in with lace stitches as much as possible like the original ones. If the hole is too large to be mended in this way, a piece of Brussels net to match the mesh of the lace can be basted beneath, and after the edges have been darned, adding several lace stitches to fill up the vacant places. When the edge requires mending, it should be basted upon thin muslin, put in an embroidery frame and carefully mended, taking care that the muslin is not caught by the stitches. After the work is finished and pressed, the result will be very satisfactory.



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Cash Mahogany finish, enameled parts, no motor to get out of order, excellent reproducer, enjoyment for all. Sell 12 boxes. Menlo-Nova. Save, great for cars, buses, influenza, etc. Return \$3 and the machine is yours. Guaranteed. Records free. Order today. Address: U. S. Co., Box 160 Greenville, Pa.

As welcome as the morning toast—and as friendly

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THE IMPORTANT AND LASTING THINGS OF LIFE.

Not long ago I visited a farmer—quite noted for the great success he had made of his business. He was producing grain and potatoes and cattle, and everything was in the finest shape. The land had been well cared for, the buildings were in good condition, and all the stock and crops were far above the average. Such a man had a right to be proud of his success, for I understand he started with a poor farm and very limited capital. It struck me, however, that this man carried his pride to the breaking point. His wife had developed flower gardens and a fringe of shrubbery around the house. It must have taken her long years to do this work, but she had added wonderfully to the beauty of the place, and she was justly proud of it. She started to show me some beautiful flowers, when her husband broke in with:

"Oh, he can't waste time looking at those posies! Come on out and see my Sweet clover and the way my potatoes grow after a crop of cow peas. We have got to spend our time over the important things of farming. No time for the things that won't last." Later he half apologized for raising flowers on soil that would raise "fine potatoes."

The woman was greatly disappointed, and I found time later to go through that beautiful garden with her. I have thought of that incident many times since. What are the important things of farming after all? It has come to mind again on this rainy Sunday as I look out across the wet lawn at the shrubbery we planted a few years ago. At that time we had the price of a car, but after some discussion we used it for improving the grounds about the house and a few household conveniences. A landscape gardener came and looked the place over and selected the plants for us. They have now grown into great beauty and we have never regretted our choice as we walked or jogged behind Bob or Brownie. It seems to us now as if the work we have done on these lawns is after all an important part of our farming, for it has given all of us—old and young—a spirit of pride and beauty which will ever be one of the richest blessings of life.

The cold wind is driving the rain against the windows. The hills are wet and chilly. I shall hardly care to go wandering through the woods after dinner. This roaring open fire is more seasonable, yet as I look up the steep hill I think of what lies in the woods beyond. Yesterday we were picking those big red Baldwins on the hill, and it seemed as if they represented about the finest thing that this farm had produced. Then I thought of two scrubby lilac bushes over in the woods, and I knew that they represented the most lasting and important crop. I remember as though it were yesterday the day we found them—though it must be nearly 20 years ago. That first Spring after we came here I explored every nook and corner of our 100 acres. Most of it was close to a wilderness, far out of sight of human habitation. One Sunday afternoon in May the children and I went wandering about through our woods. The children ranged ahead like little human hounds, hunting for new mysteries of the woods. Suddenly they screamed for joy and ran down an old path where once had been a road. Far ahead I saw the lilac bushes in full bloom. The children picked great bunches of these fragrant flowers, and carried them back to mother. To these little minds the two lilacs had no significance, except that they had burst out with pretty flowers.

I knew that you never found wild lilacs in this way unless they were originally planted by the hand of man. Those two bushes told me that in other years there must have been a human home on that spot. After a long search I found a hole in the ground with a pile of stones, well obscured by the brambles and brush which had grown over them. As I

hunted, a wild rabbit sprang out of this pile of rubbish and a big black-snake glided away into the bushes. These stones had once stood as the cellar wall and house foundation until the frost finally threw them down. Great trees had grown up all around. All evidence of the farm, if there was one, had been blotted out. There was nothing left to advertise that home but those fragrant lilacs—and a hole in the ground!

Later we learned all that is known of that ruined home. Years ago a man and woman, in the strength of their youth, went out into these woods to make a home of their own. I presume that like all pioneers they were full of hope. The man dug his cellar, stoned up the sides, built his little house, and the home was ready. He gnawed off the woods with his ax, sold the timber, burned out the stumps, cleared the fields and planted his crops. The soil around that place is strong, and I have no doubt they prospered, as prosperity was reckoned in those days. I have no doubt there were days in sunny September when this man looked out across his fields of corn or potatoes or young rye with great pride in his heart. Perhaps he could not give full expression to his thought, but like the modern farmer I visited recently, he felt that he had matched his human personality against the forces of Nature and had won the fight!

And the woman inside the home did her share. She worked, she was patient and kind, silent and true. When trouble came she met it with a smile. She taught her children and influenced them as mothers do, and I think it was her gentle hand that planted these lilacs in front of that little house. Perhaps she bought them out of her own slender earnings. She nursed and cultivated them with her own tired hands, and I can well understand

the glory that was in her heart and soul when at last, on just such a May day as that on which we found them, they burst into bloom for her. Very likely her husband and perhaps the older children laughed or even scolded at the time given to these "worthless flowers," but God only knows what these lilacs may have meant to that lonely woman prisoned in that little house in the woods. There are times in midwinter when the spirit of such lonely women will rebel and cry out for relief. I have no doubt that in such moments this woman, looking out through her narrow windows, could take courage from these lilac bushes. For she knew that though they seemed dead amid the ice and snow there was still within them the great promise and beauty of the mystery of life, which at the touch of Spring would burst once more into beauty.

I am told that misfortune fell upon that home. The man died; the woman followed him. The children were scattered, the home was abandoned. No one cared to live in that lonely place, and the house took fire and was burned to the ground. Slowly the birches and the cedars and the tangle of brush crept in upon that little homestead. Frost threw down the cellar foundation; the brambles choked up the hole; that which was once a home, filled with the light of love, became only the dwelling place of wild beasts. And the farm disappeared. The wild trees, kept at bay by farmer's ax and hoe, finally jumped over his stone walls and occupied his fields. Nature demanded her own once more. The man's labor has been blotted out. Great trees now stand where the corn and potatoes which he viewed with such pride were growing. How strong and secure he seemed in those days when he thought he had mastered the forces of Nature. Now all evidence of that mastery has disappeared. All that is left to show that here was once

a human habitation are the poor, dwarfed lilac bushes which that feeble, trusting woman planted at her door. They have finally become the important and lasting things of that farm.—H. W. C., in Rural New Yorker.

The beauty of a woman and an apple is only skin deep. One of the most beautiful appearing apples is the most worthless.



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IS THE AVERAGE HOME SANITARY?

Is the average home conducted along approved lines of sanitation? Are individual towels provided? Are common drinking utensils used? Are dishes thoroughly and properly washed? Are cups, forks and spoons scalded after each usage? Are soiled handkerchiefs properly cared for?

When one member of a family contracts a common cold, other members generally contract colds in due season. Affectionate greetings, the kissings and the embracings, even handshaking, between infected and uninfected members have considerable to do with the transmissions of colds as well as the promiscuous sneezings and careless nose-blowings. Droplet and spray infections also play their part. These methods of transmission are important and probably constitute the chief factors in the spread of common colds.

On the other hand, the use of the common towel and drinking cup, the careless washing of dishes, especially cups, forks and spoons, as well as the careless disposal of soiled handkerchiefs, may, under some conditions, be of even greater importance in the spread of common colds.

At any rate, no household can afford to neglect the practice of common approved methods of sanitation. Their adoption will undoubtedly have considerable to do with the prevention of the spread of communicable diseases other than common colds. No family should tolerate the common towel or the common drinking cup, and as for the efficient washing of dishes, that is the pride of every good housewife.—State Health Bulletin.

FASHION NOTES.

The new tailored suits of gabardine or tricotine are finished with rows of machine stitching, buttons and cord tucks. There is every indication that skirts will be fuller.

The coming season will show long and short coats in velvet, plush and other pile fabrics.

Embroidery leads as the trimming for blouses and dresses. Fringe, buttons, fur and stitching are also used.

The necks of blouses are round and untrimmed, though some square necks are shown; also some with straight line from shoulder to shoulder.

Long knitted scarfs are worn with tailored suits in place of a fur. When the weather permits, they are also worn separately, belted in at the waist with a narrow patent-leather belt.

Low shoes and pumps are very good style for this winter. Spats are worn with them for extra warmth.

ORGANIZED FARM WOMEN.

The Ohio Federation of Women's Clubs met in Cleveland this last month with 1400 delegates and visitors—among them some farm women. One thing made evident was that here is a great big opportunity for country women to render an important service to city education along certain economic lines and to contribute to public welfare of both city and country. But to do this, farm women will have to organize as generally and as effectively as this big federation, which is now composed largely of town and city women. A few of the distinctly farm women's clubs of the State had representatives there and some other farm women who were members of town clubs were present in force enough to combat some of the wrong impressions which some city housewives have had about farm-

mers being largely to blame for high food prices.

Discussion of the retail price of milk compared to the price paid the producer proved that in general the federation membership is fair-minded on this profiteering talk, even though some sections are misguided. It all emphasizes the need of organized farm women functioning in this federation as well as in a federation of their own.

USE OF MEAT SCRAPS.

When the hogs have been butchered and the meat salted down, even after the sausage has been ground and the lard rendered, there will be still some scraps that can be made into palatable dishes, such as scrapple, head cheese and the like.

Not only the head, but also the feet and other meat scraps may be used in making headcheese. Clean the head, cut out the eyes and ears, and boil it along with the other meat until the flesh will drop from the bone. Put all the meat through a sausage grinder, add a little of the liquor and season with salt, pepper and sage. Mold in a crock by weighting down. If there is surplus liquor, pour off after it is cold and firm. Serve headcheese either sliced cold or warmed up in hot fat.

To make scrapple, boil the meat as for head cheese, remove all pieces of bone and chop the meat fine. To the meat and liquor, add sufficient corn meal to make a thick mush and cook for an hour. Season highly and pack in crocks. Slice and fry in hot fat when ready to use.

These products may be kept indefinitely by putting them in jars and covering with melted lard. Sausage and other meats must be cooked before they can be kept in this manner.

PUMPKIN BUTTER.

Prepare two gallons of stewed pumpkin, cooked as dry and thick as possible. Put one gallon of sorghum syrup in a large kettle on the stove and as soon as it boils, stir in the pumpkin. Cook and stir carefully until it is about one-half the original bulk, then put in a delicate flavoring of all spice or cinnamon and pour into a stone jar. When cool, cover with paraffine or oiled paper.

This recipe was furnished by a dear old lady who had lived where fruit was scarce and it was necessary to use materials at hand.

AN INCIDENT.

Secretary (of overwhelmed business man): Pardon me, sir, but you are to be married at twelve o'clock.

So I am. Well call up the bride and clergyman and tell them to come here; ask the office girl to stay in from lunch as a witness; write out a check for a hundred to the clergyman, and make a memo to tell the bride that I will join her in a couple of days—unless those western buyers should surprise me.

TACT.

The other day I went to the bakery shop in the west end. While I was waiting for my war bread, in came a man in khaki who had just returned from the front.

"Why, lieutenant," said the bakeress, "are you back? I've been looking anxiously for you every day in the casualty list."—St. Louis Star.

Simple Chocolate Icing.—One and one-half cups powdered sugar, butter the size of a walnut, 2 heaping tablespoons chocolate, 3 tablespoons hot coffee. Dissolve chocolate in hot coffee. Cream butter and sugar and add chocolate. Beat till smooth. Add more coffee if too thick to spread. Spread with knife dipped in hot water. —Mrs. J. Goerner, 602 Thirty-third street, Oakland.

With deadly gleam in her eye, Mrs. Overwate rolled into the butcher shop and advanced on the proprietor.

"Mr. Allboan," she purred, "perhaps you can explain to me how that piece of rubber tire got into the sausage you sold me yesterday!"

DREADNAUGHT
BLAZING-AWAY-IN-COST-DEFENCE!



THE FUEL SITUATION

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"Yes, yes, Mrs. Overwate," responded the butcher. "That just serves as an excellent illustration of how the motor car is replacing the horse and the mule in our modern life."

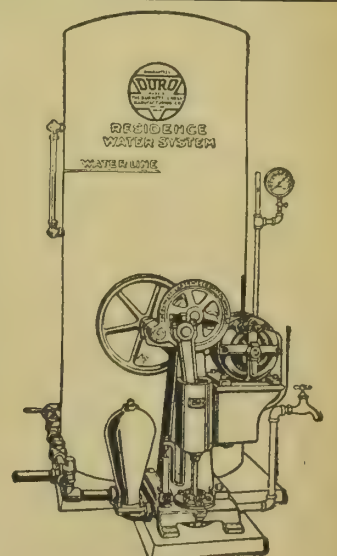
HAZEL-NUT BLOOMS OUT OF SEASON.

To the Editor: I have a Spanish hazel-nut 8 years old which blooms quite freely but has never borne any nuts. The bush itself has made a rank growth and is about 14 feet high and is now full of bloom; I have never pruned it. Any information through your query column will be very much appreciated.—W. R. H., Brown's Valley, Cal.

(Answered by Leonard Coates, Morganhill, Calif.)

It seems impossible to regulate the time of blooming of the hazel-nut or filbert in all the varied climatic conditions of California. In Europe pruning is done by cutting out strong wood growth and shortening in the small fruit wood. Blooming in October, 1919, would not auger well for a 1920 crop. And which bloom? The catkins, or staminate blossoms generally appear first, followed by the pistillate bloom, a deep red tuft at the end of large, plump buds. These buds are noticeably glutinous, to which the pollen from the catkins adheres, but it often happens that wet weather when the pollen is mature will prevent its distribution, and so pollenization will not take place. The natural aid to pollenization would be the admixture of two or more varieties, as no two would bloom at exactly the same time. The European filberts are becoming a profitable commercial crop in Oregon; they are reported as bearing well along irrigation ditches in the interior valleys of California; I have seen them bearing heavily on large bushes at Menlo Park, and 3-year-old plants were full of nuts in nursery row last year. Pollen of filberts and walnuts is very light in weight, and readily carried by the wind. In Europe bushes of 100 years old bear regularly; in time they would doubtless adapt themselves to changed conditions.

What doth it profit a man if he groweth the best fruit in the world and cannot get it to market?



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CALIFORNIA LIVESTOCK SHOW.

(Continued from page 639)

Judge, Prof. H. J. Kildee, Ames, Iowa.

Exhibitors: McCarty & Starkweather, Modesto; J. F. Lehman, Lodi; M. & A. L. Bassett, Hanford; University of California, Davis; H. I. Marsh, Mo-

desto.

Poland-Chinas.Boars, Senior Yearlings—1st, M. & A. L. Bassett, Hanford.
Boar, Junior Yearling—1st and 3rd, Bassett; 2nd, McCarty & Starkweather, San Francisco.
Boar, Senior Pig—1st, Bassett.
Boar, Junior Pig—1st, 2nd, 3rd, 5th, J. F.

Lehman, Lodi; 4th, Bassett.

Sows, 2 years old or over—1st, Bassett; 2nd,

McCarty & Starkweather.

Sow, Senior Yearling—1st, 2nd and 3rd,

Bassett.

Sow, Junior Yearling—1st, Lehman.

Sow, Senior Pig—1st, 2nd, 3rd and 4th,

McCarty & Starkweather; 5th, Bassett.

Sow, Junior Pig—1st, Bassett; 2nd, 3rd,

4th, Lehman; 5th, McCarty & Starkweather.
Senior Champion Boar—Bassett King's Timm.

Junior Champion Boar—Lehman, Golden West King.

Senior Champion Sow—Bassett, Hopeful.

Grand Champion Boar—Lehman, Golden West King.

Junior Champion Sow—Bassett, Gerstale Best

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Reserve Grand Champion Boar—Bassett, King's Tunn.
 Grand Champion Sow—Bassett, Hopeful.
 Reserve Grand Champion Sow—Bassett, Gertsdale Best.
 Boar and 3 Sows, 1 year old or over—Bassett.
 Boar and 3 Sows under 1 year old—1st, Lehman; 2nd, McCarty & Starkweather; 3rd, Bassett.
 Boar and 3 Sows bred by exhibitor—1st, Lehman; 2nd, McCarty & Starkweather; 3rd, Bassett.
 Four animals of either sex, any age, produce of one sow, owned by exhibitor—1st, Lehman; 2nd, McCarty & Starkweather; 3rd, Bassett.
 Four animals of either sex, any age, produce of one sow, owned by exhibitor—1st, Lehman; 2nd, McCarty & Starkweather; 3rd, Bassett.

Berkshire Swine Awards.

A strong showing of Berkshires from the best herds of the State and in the finest show condition without being too fat. When such herds as the ones from Anchorage Farms, Castleview Ranch, Frank B. Anderson, Grape Wild Farm, and others make up the showing, it must be a great one.

Judge, Prof. H. H. Kildee, Ames, Iowa.

Exhibitors: Frank B. Anderson, Sacramento; Anchorage Farm, Orland; Castleview Ranch, Santa Rosa; A. B. Humphrey, Escalon; A. L. Stephenson, Los Molinos; J. H. Rosseter, Burke; W. F. Sandercock, Sacramento; University of California, Davis; John J. Weber, Yuba City.

Berkshires.

Boar, 2 years old or over—1st and 2nd, A. B. Humphrey, Escalon, Calif.; 3rd, A. L. Stephenson, Los Molinos.

Boar, Senior Yearling—1st and 2nd, J. Francis O'Connor, Castleview Ranch, Santa Rosa.

Boar, Junior Yearling—1st, Anchorage Farm, Orland.

Boar, Senior Pig—1st, Humphrey; 2nd, 3rd, and 4th, J. Francis O'Connor.

Boar, Junior Pig—1st and 2nd, Humphrey; 3rd and 4th, O'Connor 4th, F. B. Anderson, Sacramento.

Sows, 2 years old or over—1st and 2nd, Humphrey; 3rd and 4th, J. H. Rosseter, Wiki-up Ranch, Burke; 5th, Stephenson.

Sow, Senior Yearling—1st and 2nd, Humphrey; 3rd and 4th, Rosseter.

Sow, Junior Yearling—1st and 2nd, Humphrey; 3rd, Anchorage Farm; 4th and 5th, Anderson.

Sow, Senior Pig—1st, O'Connor; 2nd, Humphrey; 3rd, Anchorage Farm; 4th and 5th, Humphrey.

Sow, Junior Pig—1st and 4th, Humphrey; 2nd and 3rd, O'Connor; 5th, Anderson.

Senior Champion Boar—Anchorage Farm, Natomas Baron Duke.

Junior Champion Boar—Humphrey, Escalon Type.

Senior Champion Sow—Humphrey, Emblems Escalon Belle.

Junior Champion Sow—O'Connor, Castleview Premier Belle.



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 Grand Champion Sow—O'Connor, Castleview Premier Belle.
 Reserve Grand Champion Sow—Humphrey, Emblems Escalon Belle.
 Boar and 3 Sows, 1 year old or over—1st, Humphrey.
 Boar and 3 Sows, under 1 year old—1st, Humphrey; 2nd, O'Connor; 3rd, Anderson, 4th, Stephenson.
 Boar and 3 Sows, bred by exhibitor—1st and 2nd, Humphrey; 3rd, O'Connor; 4th, Anderson; 5th, Stephenson.
 Four animals of either sex, any age, get of one boar, owned by exhibitor—1st, Humphrey; 2nd, O'Connor; 3rd, Anderson; 4th, Stephenson.
 Four animals of either sex, any age, produce of one sow, owned by exhibitor—1st, O'Connor; 2nd, Anderson, 3rd, Stephenson.
 Best Boar bred by exhibitor—1st, Humphrey; 2nd, O'Connor; 3rd, Anderson; 4th, Stephenson; 5th, Webber.
 Best Sow bred by exhibitor—1st, Humphrey; 2nd, O'Connor; 3rd, Stephenson; 4th, Anderson; 5th, Webber.
 Best Junior Barrow—1st, Humphrey; 2nd, O'Connor; 3rd, Hellis; 4th, Graham.

Duroc-Jersey Prize Winners.

The "red hog" is surely coming into his own. Hardly a show anywhere but the Duroc is as numerous or more so than any of the other breeds. They are fashionable and unlike some of the fashions they are deserving their popularity. Many of the principal herds of northern California and some from the southern end of the state made up the big showing.

Judge, Prof. H. H. Kildee, Ames, Lodi.

Exhibitors: Harvey M. Berglund, Dixon; Conejo Ranch, Newbury Park; F. M. Johnson, Napa; V. F. Dolcini, Davis; S. E. Whiting, Sacramento; Roy E. Fisher, Lincoln, Neb.; J. E. Thorpe, Lockeford; J. H. Rossiter, Burke; University of California, Davis.

Judging not finished until too late to publish. Will be given next week.

Hampshire Swine.

The "sheeted" hog had a most excellent showing. Three of the best herds in the country all having a large number entered made competition close and the ribbons of value. The breed seems to be coming into popularity, due to their good graz and feeding qualities and the fact that they dress out exceedingly well.

Judge, W. H. Pew, Ravenna, Ohio.

Exhibitors: C. J. Gilbert, Lancaster; Roy E. Fisher, Lincoln, Neb.; Conejo Ranch, Newbury Park.

Detail of the awards will be given next week.

Only One Herd of Yorkshires.

Yorkshires swine were represented by one herd, that of Lloyd & Tointon of Santa Rosa. They have excellent specimens of the breed and were awarded all prizes.

TOO LATE FOR PUBLICATION.

Awards on horses, sheep and goats were made too late for publication this week but will be given in detail in the following issue.

Mutton Sheep Exhibit Large.

Gradually the importance of the purebred sheep business is being realized throughout the Pacific Coast. It will not be many years before ex-

hibits of the different breeds at the fairs and shows will be as large and deserving of commendation as at state fairs and stock shows in the East. The agitation during the war, looking toward the establishment of small flocks of sheep on most of the ranches, has had a pronounced effect on the purebred sheep business of the State. Some of these flocks have come to stay, and where a man has only a few he many times gets into the purebred business.

The number of the mutton breeds shown was larger than at any previous show in California this year, including Shropshires, Corriedales, Southdowns, Romneys, Hampshires and Lincolns. This does not mean that there were nearly all the mutton breeds represented, but enough so that it can be called an excellent start in the right direction.

Frank Brown of Carlton, Oregon, judged all the mutton breeds.

The exhibitors were:

Shropshires—Butte City Ranch, Butte City; University of California, Davis; Vaughan & Fox, Lyons, Oregon; J. M. R. Boyd, St. Helena; Ratto Stock Farm, Napa.

Hampshires—Calla Grove Farm, Manteca; University of California, Davis; Conaway Ranch, Woodland.

(Continued on page 658.)

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

The Biggest and Most Interesting Livestock Show Ever Held in the West

Staged in the New \$350,000 Pavilion
 at North Portland, Oregon

Week of November 17th to 22nd

Open All Day and Evenings

The Pacific International Livestock Exposition was inaugurated and is supported by leading bankers, business men and breeders of the Pacific Coast—men of vision who see in the Pacific Coast the live-stock center of the World.

The staging of this exposition on so huge a scale is a long step toward the accomplishment of this aim and the benefits of its success will be widespread.

Thousands of entries of pure bred stock, many coming from the Middle Western States, necessitated additions to the immense \$300,000 Pavilion.

Hundreds of educational exhibits claim your attention, including the large Western Dairy Products Show with 250 entries and dairy lectures by Mr. O. E. Reed of Purdue University and Mr. M. Mortenson of the Iowa State College.

Plan to Attend the Entire Week

PACIFIC INTERNATIONAL LIVESTOCK EXPOSITION

NORTH PORTLAND, OREGON

Pure Bred Stock
 Dairy Products
 Horse Show

Cups, Trophies
 and \$75,000
 in Premiums to
 be Awarded

Los Angeles Livestock Awards Omitted

Owing to unavoidable circumstances the following principal awards at the Los Angeles Show were omitted from the issue last week.

Shorthorn Show is Good.

Shorthorns were judged by Frank Brown Carlton, Oregon.

Exhibitors: Estate of Thos. B. Dibblee, Santa Barbara; T. S. Glide, Davis; F. L. Hall, Perris; Will Henn, Kansas City; Pacheco Cattle Company, Hollister; University of California, Davis.

Glide won eight blue ribbons; Dibblee Estate, four; Pacheco, three; and Henn and University of California, each one.

Senior champion bull, Hallwood Flash, Dibblee. Reserve senior champion bull, Matchless Elite, Glide. Junior champion bull, Bashan Augusta, Dibblee. Reserve junior champion bull, Memory's Champion, University of California. Senior champion cow, Little Sweetheart, Glide. Reserve senior champion sow, Spicy Lady, Glide. Junior champion female, White Pacheco, Pacheco. Grand champion bull, Bashan Augusta, Dibblee. Reserve grand champion bull, Hallwood Flash, Dibblee. Grand champion cow, Little Sweetheart, Glide. Reserve grand champion female, King's Countess, Glide.

Aged herd: First, Glide; second, Dibblee; third, Pacheco. Young herd: First, Glide; second, Pacheco. Calf herd: First, Pacheco; second, Dibblee; third, Glide; fourth, Pacheco.

Get of sire: First, Glide; second, Pacheco; third, Dibblee; fourth, Dibblee.

Produce of dam: First, Dibblee; second, Glide; third, Glide.

Aberdeen Angus Awards.

Only one exhibitor to uphold the honor of this great beef breed—great in the show ring, at the feed trough and on the block. "May their shadows never grow less."

Congdon & Battles of Yakima, Washington, had the only herd and were awarded all prizes.

Holstein-Friesian Awards at Los Angeles.

Exhibitors: Anita M. Baldwin, Santa Anita; A. J. Stalder, Riverside; Burr Farm, Los Angeles; California George Jr. Republic, Chino; Frampton Bros., Artesia; Frank Reed Sanders, Chandler, Arizona; Los Angeles County Farm, Honda; Leo Steiner, Lawndale; University of California, Davis; James J. Jeffries, Burbank.

The judging was done by John B. Irwin of Minneapolis in a manner pleasing to the onlookers and satisfactory to the exhibitors.

In the number of firsts won, James J. Jeffries led with five, then Burr Farms and F. R. Sanders, with four each, Anita M. Baldwin, three, and California George Junior Republic, two.

Senior and grand champion bull, Merci Lad, Korndyke Burke, Baldwin. Reserve senior champion bull, Dichter Spofford Korndyke Lad, Calif. George Jr. Republic. Junior champion bull, King Elora Segis Pontiac, Sanders. Reserve junior champion bull, Sir Manuel Korndyke, Burr Farm. Senior and grand champion cow, Bessie Segis Pontiac 2nd, Burr Farm. Reserve senior champion cow, Topay Clothilde Hengerveld, Burr Farm. Junior champion female, Duchess Ormsby Sadie Vale, Burr Farm. Reserve junior champion female, Palo Verde King Pearl Piebe, Sanders. Reserve grand champion bull, King Elora Segis Pontiac, Sanders. Reserve grand champion cow, Duchess Ormsby Sadie Vale, Burr Farm.

Aged herd: First, Baldwin; second, Sanders. Young herd: First, Jeffries; second, Sanders; third, Stalder; fourth, Baldwin. Calf herd: First, Jeffries; second, Sanders; third, Stalder; fourth, Baldwin.

Get of sire: First, Jeffries; second, Sanders; third, Jeffries; fourth, Stalder.

Produce of dam: First, Sanders; second, Los Angeles Co. Farm; third, Burr Farm; fourth, Stalder.

Five cows in milk: First, Stalder.

Doings of the Durocs at Los Angeles Show.

This was probably the greatest Duroc-Jersey exhibit of the year west of the Rocky Mountains.

Exhibitors: California George Jr. Republic, Chino; Conejo Ranch, Newbury Park; Mrs. F. M. Connor, Pasadena; Michael Creamer, Los Angeles; Diamond Bar Ranch, Spadra; Elliott-Brant Rancho, Owensmouth; Falfadale Farm, Perris; Roy E. Fisher, Lincoln, Nebraska; Donald H. Graham, Lancaster; Hewitt Bros., Van Nuys; L. Leest, Van Nuys; E. F. Meyers, Lankershim; W. Moore, San Diego; E. Avery Newton, Los Angeles; C. T. Thompson, Bishop; J. E. Thorpe, Lockeford; University of California, Davis; Winsor Ranch, Bonita.

E. J. Barker, Thornton, Indiana, awarded the prizes.

The Diamond Bar Ranch won five firsts, Conejo Ranch, three; J. E. Thorpe, two; Falfadale Farm, two; Roy E. Fisher, Elliott-Brant Rancho, Winsor Ranch and U. of C., one each.

The University of California won first on fat barrow; E. F. Meyers, second, and C. T. Thompson, third. E. F. Meyers, first on pen of three barrows, and C. T. Thompson, second and third.

Grand champion boar, Ace of Pathfinders, Diamond Bar. Reserve grand champion boar, Great Orion Sensation Junior, Falfadale Farm. Grand champion sow, Model Defender Lady, Winsor. Reserve grand champion sow, Pathfinder's Very Best, Diamond Bar.

Senior champion boar, Ace of Pathfinders, Diamond Bar. Reserve senior champion boar, May Rose King, Elliott-Brant. Junior champion boar, Great Orion Sensation Jr., Falfadale Farm, Perris. Reserve junior champion boar, Giant's Type Conejo.

Senior champion sow, Model Defender Lady, Winsor. Reserve senior champion sow, Miss Orion Sensation, Diamond Bar. Junior champion sow, Pathfinder's Very Best, Diamond Bar. Reserve junior champion sow, Reggie's You'll Do, Thorpe.

Aged herd: First, Diamond Bar; second, Winsor; third, Conejo; fourth, Fisher. Young herd: First, Conejo; second, Diamond Bar; third, Conejo; fourth, Winsor.

Herd bred by exhibitor: First, Thorpe; second, Winsor; third, Graham; fourth, Thorpe. Get of sire: First, Diamond Bar; second, Conejo; third, Diamond Bar.

Produce of dam: First, Conejo; second, Conejo; third, Thorpe.

FRESNO EVOLUTION'S

Blood will mean much to California's Poland-Chinas—

Not because Evolution sold for \$25,000.00.

Not because Fresno Evolution's dam sold for \$1,750.00.

Not because his dam's dam sold for \$1,050.00.

But Because Evolution was sired by Miller's Giant, he by Disher's Giant, who traces to Big Ben. Also because Fresno Evolution's dam is Big Fancy Maid 2nd by Big Expanso by Expanso.

Master minds of Big Type Breeding

wrote the destiny of this boar.

One Gilt Bred to Fresno Evolution

will be consigned to

FRESNO COUNTY'S POLAND SALE

Wednesday, November 19th.

WALTER C. FICKLIN

Route A., Box 189,

Fresno, California

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Our last carload shipment dressed 72.30 per cent and brought 1½¢ above the market price.

Largest Herd on the Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

Lakeport, Cal.

San Francisco Office, 601 Balboa Bldg.

CORN BELT HERD

of Prize Winning

Duroc and Hampshire Swine



Let me quote you prices on one or more Sows or Boars of either Breed.

Introduce new blood into your herd from prize winners—from these well-known Eastern herds of Duroc and Hampshire Swine.

ADDRESS

ROY E. FISHER

Box 4,

Lincoln, Neb.

JOHNSON'S DEFENDER JR.

Owned by GREENWOOD FARM, Live Oak, Cal. Is California's greatest representative of Defenders, the greatest Duroc family. At the State Fair he was the smoothest boar shown, weighing 700 pounds at 17 months and carrying it on a perfect set of feet and legs. He won second in the strongest class of boars ever shown on the Coast and was a popular favorite. Three of his brothers won ribbons in the same class, showing the strength of this line of breeding.

Five Ribbons Won on Five Entries.

H. C. WITHEROW, Mgr.

LIVE OAK, Sutter Co., Cal.

BLACKLEG

Thousands of cattle die every year with Blackleg. Vaccinate your calves with the

O. M. FRANKLIN GERM FREE AGGRESSIN

Manufactured by The Kansas Blackleg Serum Co. and save every calf. Do not use imitations of our vaccine. Get the ORIGINAL O. M. FRANKLIN GERM FREE

It is absolutely the only Aggressin on the market that is guaranteed to immunize cattle from Blackleg.



THE KANSAS BLACKLEG SERUM CO. Amarillo, Texas; Denver, Colorado; El Paso, Texas; Ft. Worth, Texas; Kansas City, Mo.; Oklahoma City, Oklahoma; Phoenix, Arizona; Pierre, South Dakota; Salt Lake City, Utah; Wichita, Kansas. BOX 96, SANTA MARIA, CALIF.

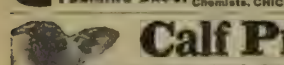
Bone Spavin

No matter how old the case, how lame the horse, or what other treatment failed, try

Fleming's Spavin and Ringbone Paste, \$2.08 a Bottle

War tax paid. One application usually enough. Intended only for established cases of Bone Spavin, Ringbone and Sidebone. Money back if it fails. Write to FLEMING'S VET. POCKET VETERINARY ADVISOR. ITS FREE

FLEMING BROS. 327 Union Stock Yards, Chicago, Ill.



Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1860 as the complete milk substitute. Costs less than half as much as milk—prevents scours—promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data. See actual figures showing you how to increase your calf profits.

COULSON CO. Petaluma, Cal.

PEDDLING BOARS.

(Written for Pacific Rural Press.)

According to a news item from the South Dakota Agricultural College, a swine breeder of the state had more spring boars than he had been able to induce people to come to his farm and buy. Therefore, he loaded some into a small truck and started out "on the road" selling boars. On one trip alone from Rapid City to Philip he sold ten. He not only sold what he had with him, but he took orders for future delivery.

If this can be done successfully in South Dakota, breeders in this state of automobiles, trailers, trucks, "good roads" and "good weather" ought to sell boars like the proverbial "hot cakes."

Good Appearance Necessary.

In an undertaking of this kind it would pay to have the truck or auto and trailer as clean and attractive in appearance as possible, with a sign or signs signifying that the animals were for sale. Last, but not least, have the pigs in thrifty growing condition and washed and brushed so that the first impression given to prospective customers would be good. It would pay also to have the registration papers along as well as pedigrees. This certainly is worth trying, especially if the breeder is a good salesman.

California breeders, on account of our well-known climatic advantages, could sell fall boars in this way, as well as spring boars. Good roads are so common here that even in our so-called winter time it would be possible to travel with truck or trailer anywhere.

THE WHITLEY TU-TOCK-A-NU-LA RANCH FAVORS DUROCS.

(Written for Pacific Rural Press.)

To begin with the situation of this ranch could not be better, located as it is on Ventura Boulevard, about 10 miles from Los Angeles. Then they have 200 or more acres which can be irrigated and will grow anything from alfalfa to corn, either Indian or Egyptian. Besides this they have plenty of grain land and on top of it all some 200 acres of oak covered hills and valleys that will furnish a large amount of mast for market hogs.

After consideration of the merits of the various breeds of swine and also the location, which is becoming a Duroc-Jersey center, this breed was selected as the one to which Tu-Tock-A-Nu-La Ranch would pin its faith. They have within the past few weeks added the Chas. Swett herd to their already excellent nucleus. The head of the herd is Pathfinder's Model 2nd of the famous Pathfinder line. A large number of big-type sows of excellent bone and conformation of Orion Cherry King and Grand Golden Model breeding make up the female side of the herd.

It is the aim of this ranch only to register those hogs which are true to the large, fashionable type of the Duroc-Jersey and sell the ordinary type for market hogs. In this way they not only enhance their own reputation as breeders of swine, but also that of their favorite breed. If all breeders of registered animals would do this we would see a wonderful improvement in the mass of livestock in the near future.

Mrs. R. E. Whitley is active manager of the ranch and has already started a sales campaign in the Duroc line with pronounced success. We prophesy a brilliant future for this establishment in the livestock, as well as other departments.



How machinery has made it possible to produce food cheaper

We have just threshed one of the largest wheat crops in our history. Ever stop to think how impossible it would have been to grow those 915,000,000 bushels without modern, back-saving machinery?

The tractor never tires. A binder does the work of a hundred scythes.

Machinery has made economical, labor-saving agriculture possible.

The American farmer has found that he can do twice as much work with it—and do it cheaper. Every farm has several hundred dollars' worth of equipment on it.

It is the same way with the packer.

From knife and saw methods his equipment has grown until it takes many buildings to hold all his meat dressing machinery.

The packer, too, has multiplied his capacity. His modern equipment—like the farmer's—gives him ability to dress many more cattle and do it cheaper.

The difference between live stock and dressed meat prices has been narrowed. Swift & Company's profit—a fraction of a cent per pound from *all sources*—is too small to have any effect on live stock or meat prices.

All of which shows that big scale machinery pays—both on the farm and in the packing plant.

Swift & Company, U. S. A.

Founded 1868

A nation-wide organization owned by more than 30,000 shareholders



RIVERINA FARM HAS NEW POLANDS.

(Answered by Livestock Editor.)

Alex D. McCarty, senior member of the firm of McCarty & Starkweather, owners of Riverina Farm, Modesto, prominent breeders of Poland-China swine, has just returned from a month's trip through the eastern states.

Mr. McCarty visited many of the eastern Poland-China breeders and for all of seeing so many good hogs, he comes back very well satisfied with California and conditions here. One of the big herds visited was that of Lester Glover, Grand View, Mo., the home of Buster's Best, and 800-pound sow that has the reputation of being probably the most perfect hog in the world. The herd of 75 gilts and that also of 75 aged sows were a sight to be remembered for a long time to come.

Mr. McCarty purchased two boars and a gilt from the Fred Sievers herd of Audobon, Iowa. One was sired by Big Bob and out of a sow sired by Smooth Big Bone and second dam was by Big Bob, making this very promising youngster a line-bred Big Bob boar. The other boar was sired by Big Ed, he by Buster's Giant, and he by Giant Buster. The dam of the second boar was sired by Smooth Bob, a full brother of Caldwell's Big Bob. The gilt purchased was sired by

Grand Master's Model and he by Grand Mesterand, out of a sow by Big Bob Wonder.

These hogs are in California now and will be an excellent addition to an already great herd. We know they are good as individuals, as Mr. McCarty's judgment is known to be excellent.

E. E. Easley, the well-known dairyman of San Jacinto, is increasing his number of cows and increasing in the right direction—pure-breds, and intimates that in a short time the grade cow will be a thing of the past on his ranch.

Report any new crop diseases or insects to the State Department of Agriculture at Sacramento. They may save you many dollars loss in the next season.

Fall plowing on reasonably level ground prevents run-off of the rain which makes crops.



Duroc-Jerseys on the Whitley Tu-Tock-A-Nu-La Ranch, Van Nuys.

Livestock and Dairy Notes

SWINE.

Cross Bros. of Merced recently sold 2 good Poland-China gilts to J. F. McSwain, Merced.

A gilt sired by Rossmead Bob and owned by Fred Ross, Hanford, has just farrowed her first litter consisting of 11 fine pigs, and is raising them all. The sire is Big Timm.

Martin Bros. of Visalia, report that three of their sows, bred to California Big Bone leader have littered eight, twelve and fourteen pigs and that all of the young Polands are showing up in fine shape and promise to be classy animals. The sows are prize winners, having taken ribbons at the Tulare and Visalia fairs.

J. F. McSwain, Merced, recently marketed a lot of barrows sired by his herd boar, Big Model Fellow, that averaged 300 pounds at 7 months. Mr. McSwain reports sales of registered stock as follows: Service boar to Fred Wheaton, Hilt, spring boar to H. H. Whitworth, Hayward, 3 December gilts to Kern County Pig Club.

The California Poland-China Breeders will hold a consignment sale sometime next February at the University Farm, Davis. There will be 50 head of the best bred sows and gilts the breeders can select. Those who are contemplating purchasing hogs of this kind will make no mistake if they wait until this sale is pulled off.

Following their successful auction on October 21, the Tulare County Poland-China Breeders' Association has set Friday, February 6 as the date for their second annual sale of pedigreed open and bred gilts. The sale will be held at the sales pavilion of the Tulare County Live Stock Association at Tulare, where the previous sale was held.

A. J. Elliott and H. C. Shinn of Tulare are owners of the Big Poland-China boar The California, which has attracted so much attention at shows. This boar carries the blood of The Pilot, national grand champion at the National Swine Show at Des Moines. The boar was sired by Macs Big Orange of Colossal breed and is closely related to the Pilot on the dam side.

Buckland & Son, Fresno, are consigning to the Fresno county breeders Poland-China sale 3 gilts and 2 boars by California Jumbo Buster. Ira Mason of Fowler is consigning to the sale a service boar and 2 young gilts by his herd boar, Smooth and Leader. A Kings Wonder sow, owned by Buckland & Son, has just farrowed a very fine litter by the great boar, Liberty Bond.

W. L. Haag & Sons, proprietors of Lendorris Farm, Hanford, report a big demand for bred sows and gilts from members of local pig clubs. They recently shipped a fine young boar to James Ray of Holtville. Their herd boar, Young Jumbo, is getting exceptionally fine pigs and his services are in demand by many breeders from distant points, as well as those in the county.

Greenwood Farms, H. C. Witherow, manager Live Oak, reports the following sales. One bred gilt to C. H. Hartwig, Yuba City, which was sired by Johnson's Defender Junior and sold for \$200; two sow pigs to R. S.

Chrisman, the well-known veterinarian of Yuba City; also one under six months boar pig to H. S. Johns of McArthur, proprietor of the Shavista herd of Duroc-Jerseys.

W. T. Hollingshead & Sons of Orland, will hold a boar and gilt sale of 30 head, November 11. It is the first sale of its kind in northern California among Duroc breeders. Breeders and those looking for foundation stock will find an excellent opportunity to supply their needs at this sale, as this herd is one of the foremost in northern California and contains the most popular blood lines of today.

Allen Thompson of Tulare and Joe Chenoweth of Visalia, joint owners of Lord's Orion Cherry King, a prize boar shipped by them from India last year have sold the animal to Way and Lamb, of Modesto for \$500. Mr. Thompson, whose herd was sold almost entirely to the Boston Land Company of West Haven a short time ago has purchased a number of animals from the Thorpe herd at Stockton and will continue breeding.

The Merced County Poland-China Breeders' Association was perfected and the following officers were elected. J. F. McSwain, Merced, president; M. B. Cross, Merced, secretary-treasurer; P. M. Mitchell, Atwater, director; J. Q. Martin, Atwater, director; M. M. Reiman, Planada, director. It is the intention of the other breeders to get together into county associations which are going to co-operate in the "better sire" campaign about to be launched.

H. G. Ball, an extensive oil operator in the Taft and Coalinga fields has purchased a large ranch near Tulare and will raise purebred Holsteins and Poland-Chinas. To start off his herds he has purchased a senior two year old sow, Lady Zenobia 3rd and Jennie Wren Edith Pride from Walter Mitchell of Visalia and Miss Model C a Poland-China sow from A. J. Elliott, who last year made a thousand dollars on the animal. The sow was bought at the Tulare County Breeders sale October 21 for \$300 and Mr. Ball already has sold two of the unborn litter, a boar pig and a sow for \$100 each.

Dairy Notes.

Packwood Farm of Visalia, reports sale of a registered Holstein bull to M. B. Silveira, a large dairyman of Tulare.

Frank Reed Sanders of Chandler, Arizona, says the Holstein-Friesian classes were much stronger at the California International than they were at Los Angeles.

John B. Irwin of Minnesota, the Holstein-Friesian judge at Los Angeles, when he saw the aged cow class of this breed at San Francisco, said it was the best in the United States so far as he knew.

The Pocket Ranch, Geyserville, Sonoma County, owned by Leon F. Douglass of San Rafael, one of the coming breeders of dairy Shorthorns, recently purchased seven 21-month-old heifers and two yearlings. Four of them were from the farm of Thomas Harrison, Santa Rosa and five from H. L. & E. H. Murphy of Perkins.

Seventy-five head of pedigreed Holsteins will be offered at the first annual sale of the Tulare County

KING ORION JR.

GRAND CHAMPION DUROC BOAR

Calif. International Livestock Exposition

He defeated six State Fair Grand Champions at the National Swine Show.

He's the Tallest Boar in the West

We will have a few sows bred to him for sale next month.

F. M. JOHNSON

Napa,

California

BIGGEST OPPORTUNITY IN NORTHERN CALIFORNIA

30—REGISTERED DUROCS—30
TO BE SOLD AT PUBLIC AUCTION
Tuesday, November 11

Sale at 1 p. m., at our ranch, 1½ miles west of Orland. The boars are big type pigs, with splendid arched backs and the best feet your ever saw. They are ready for service. The gilts will be a credit to anyone's herd.

ORD. L. LEACHMAN, Auctioneer.

It will pay you big to attend this sale. Write for catalog. W. T. HOLLINGSHEAD & SONS, Box 505, Orland, Cal.

WINSOR RANCH DUROCS



Home of
WINSOR'S GIANT ORION
We won at Los Angeles Live Stock Show

GRAND CHAMPION SOW
"Model Defender Lady"

And be sure you look up our other winnings

Address R. K. WALKER,

Bonita, San Diego, Co.

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER GARDINER'S KING'S COL. is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH
ROUTE 4, BOX 735, SACRAMENTO, CAL.

Big Model Fellow 305547

1st prize senior pig, 1918 State Fair.

1st prize senior yearling and Reserve Grand Champion 1919 State Fair.
Sire of the Grand Champion pen of barrows at 1919 State Fair heads my herd.

J. S. McSWAIN,

Breeder of Poland-China Hogs.

Merced, Cal.

Promote Pork Profits

With Better Poland-Chinas breeding

I have a few young boars by Joe's King just ready for service. They will make your spring crop of pigs profitable in spite of high price of feed and labor. They are the big type, with easy feeding and quick-maturing qualities. I have priced them very reasonably for a quick sale. Write at once for prices and particulars or call and see them.

WAUKEEN FARM

LES McCRACKEN, Prop.

RIPON, CAL.

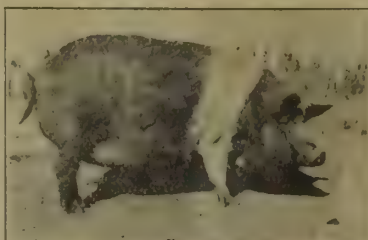
LLANO VISTA HERD Champion Hampshire Swine

The pioneer grand champion herd of Hampshires is directly responsible for the growing interest in the Hampshire breed today.

It has brought to light the winning blood lines in our big shows. It has furnished foundation stock for numerous new herds throughout the state and is still doing so; 200 pigs bred, bred sows, and sows with litters for sale.

F. V. GORDON
Owner

PERRIS (Riverside Co.), Calif.



JUDITH—No. 126448
Sire: Calif. Lad, 45021. Dam: Mabel, 113078
F. A. LANGDON
Manager

The California Hog Book \$2 Postpaid
Pacific Rural Press, 525 Market St. San Francisco

Live Stock Association at their sales pavilion at Tulare on November 25. The association, with the co-operation of the Tulare Board of Trade raised \$15,000 for the purchase of the ground and erection of buildings and the sales pavilion was opened only a short time ago. The place promises to be the scene of one or more big stock sales every month and is becoming the stock show place of the San Joaquin Valley.

Beef.

This is said to be the best year had in Arizona for 15 years. The cattle on all ranges are being range fattened instead of being shipped east for fattening before marketing.

A report from the Salt River Valley of Arizona shows that the dairy industry in the great alfalfa region is on the decline, due to continued high cost of production. The increased acreage of cotton is one of the reasons of the high cost of feed, as this fibre plant has replaced hundreds of acres of alfalfa.

Horses.

Growth of the Percheron Horse Society of America is normal according to Wayne Dinsmore in the Western Breeders' Journal. Nine years ago the society had 2,800 members and now it has almost 10,000. 4,831 men have bought Percheron mares during the past 3 years. Many of these men will eventually want to become members and will offset to a great extent those who have discontinued the business.

George Lane of Calgary, Alta, Canada, has the honor of being the first breeder to ship Percherons from America to Great Britain. On October 3 he reported a shipment going east of 77 Percherons, 24 of which went to Quebec and the balance to England. In addition to this shipment Mr. Lane has sold a registered stallion and 50 high grade mares to Lord Minto of Scotland.

Merritt-Bowers Co. of Tulare won most of the premiums and both grand championships in the Percheron classes at the Oregon State Fair. Also, first, second and third on Belgian stallions, as well as grand championship on stallion. In the Shire classes, first and grand championship on aged mares and first on aged Clydesdale mares. They sold the grand champion mare and mate, second in draft class, for \$1,800 at this fair. This does not appear as though the demand for drafters was entirely gone.

A special corner for production of your own seed is likely to increase the crop from your whole place.

LIVESTOCK DIRECTORY.

Rate 3½ cents per word each issue.

SWINE.

Berkshires.

CASTLEVIEW BERKSHIRES

We Offer

Young Berkshire Boars—Big-boned and smooth—By Mayfield Rookwood 2nd, sire of ALL Champion Berkshire Barrows shown this year. Our money-back guarantee makes mail ordering easy—and perfectly safe. Reasonable prices.

CASTLEVIEW RANCH

home of

World, National and State Grand Champions

SANTA ROSA, CALIF.

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The profitable, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAB LEADER. We are now making a special offering of classy boar pigs.

Anchor Farm, Orland, Calif.

A SOW THAT FARROWS

10-11-15-17-11-10-9-10

Is worth her weight in gold, particularly so if she is royally bred. This is the record of Symboler Belle. I have a boar pig from her last litter that is a dandy. If you act quickly you can have him for \$75.00. Sanlecock Land Co., 23 Montgomery Street, San Francisco, in charge of Natoma Land Sales.

WRITE FOR MY BERKSHIRE CATALOG, giving names, ages, breeding of service boars, red gilts, specially selected trios. Frank B. Anderson, Sacramento, Cal.

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CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

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ELDERLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our ½-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

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LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

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DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

FOR SALE—1500 Merino ewe lambs; 1500 yearling Merino ewes. C. G. Owens, Livermore, Cal.

FOR SALE—About 200 Purebred Shropshire ram lambs in lots to suit. R. J. Currey, Dixon, Cal.

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SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale at the Ranch—all breeds—April 17, 1920. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn County, California.

FOR SALE—12 mules 3 to 5. Halter broke and gentle. J. A. Clark, Capay, Cal.

Is Sweet Pea Straw Good for Stock?

(Written for Pacific Rural Press by Prof. P. B. Kennedy, University of California.)

A communication from Farm Advisor Washburn of Santa Cruz county, regarding the feeding of sweet pea straw to live stock, brings up an interesting problem and one that has evidently been overlooked. The reason for this no doubt is that California is the only State that would have sufficient sweet pea straw to warrant an investigation of its utility as the bulk of the sweet pea seed of the world is probably grown in this State.

The scarcity of feed and the fact that leguminous plants of all kinds are now interesting everyone are additional reasons for wanting to know about sweet pea straw.

The general method of getting rid of sweet pea straw has been by burning. To burn any straw and especially that from a legume, is wrong in principle, so that we should at least get it incorporated with the soil somehow even if we are doubtful about feeding it. We were fortunate enough to have an excellent row of sweet peas in our own garden this summer. When they began to look unsightly after the blooming period we placed the vines deep in trenches and dug them under. The ground was thoroughly soaked afterward. One month later we dug down just to see what had taken place and found the vines black, and well rotted. We know that ground will produce heavily next year because the physical condition of the adobe soil will be greatly improved and in addition it will contain an abundance of organic nitrogen.

The sweet pea belongs to a different group of legumes from those that we grow either as food for stock or as a vegetable. The latter belongs to the genus Pisum and are not poisonous in any stage of their growth. Why we must be careful about what we say about the sweet pea is because it belongs to the genus Lathyrus, which has been under suspicion since early times. There are about 100 species of Lathyrus indigenous to North America, all known in their different localities as Wild peas. They look so much like the wild vetches that it takes an expert to distinguish between them. The representatives of the Lathyrus group that everyone is most familiar with are the common annual, garden flowering sweet pea (Lathyrus odoratus) with its dozens of gorgeously colored varieties and the perennial everlasting sweet pea, also of the gardens (Lathyrus latifolius).

The best known species cultivated for forage is the grass pea (Lathyrus sativus), presumably because it looks not unlike broad leaves of grass during the early stages of its growth. It is also known in the literature as vetchling or chickling vetch. On the Pacific coast the terms Swiss pea

and wedge pea have been applied, the latter because of the shape of the seed which tapers to a broad sharp edge resembling a wedge.

Another is the Tangier pea (Lathyrus tingitanus), promising both as a cover crop and as forage as soon as seed can be raised cheaply enough to compete with the vetches.

Occasionally we find the Flat pea (Lathyrus silvestris wagneri) offered for sale. It is very similar to the perennial sweet pea of the gardens. Although grown for forage in Europe the experiments with it by many of the Experiment Stations and by the United States Department of Agriculture are not very encouraging. As it is a perennial and very hardy it should be given extended trial in the North.

In our own State we have at least a dozen species growing wild from Humboldt to San Diego counties. The most interesting is what is known as the Pride of California (Lathyrus splendens), which has very large, showy, deep rose-purple flowers. It should be extensively introduced as a flowering plant. Traveling on the highway between San Diego and Imperial Valley during the months of May and June, one cannot help but be impressed by the gorgeous display produced by this plant as it climbs through and over the chaparral.

Another, Torrey's Wild pea (Lathyrus Torreyi), occurs in patches in the Sierras. It looks not unlike alfalfa and has perennial creeping rootstocks. Probably a valuable species to introduce into cultivation.

We could make similar remarks about the other species in the State, but it will suffice at this time to state that they are to be found in the marshes, by the seashore and on banks throughout the redwood regions. Everywhere they are grazed to a greater or less extent. They are nutritious and definite knowledge as to their deleterious nature if such they have is lacking.

Why we are unable to give all members of the genus Lathyrus, including the sweet pea, a carte blanc order as forage plants under any and all circumstances, is because the seeds of all of them at least in the wild state contain a poisonous alkaloid which causes a disease known as Lathyrism or Lathyrismus.

Man, the horse and the pig are especially susceptible to the disease. With human beings the trouble takes place when the seeds are ground up with the flour and made into bread, while with animals, apparently when the plant is fed when the pods are ripe.

No evidence seems to be available that would lead us to believe that the foliage of any of them is poisonous.

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and Traveling Bags sent free on request.

SUNFLOWER SILAGE A SUCCESS.

(Written for Pacific Rural Press.)

The star of the gorgeous sunflower
is in the ascendant as a silage plant.
From all sides we keep having favor-
able reports as to its value in this re-
spect. Trials have been conducted in
both the humid and semi-arid regions
of the United States by state experi-
ment stations and private stock
raisers as well.

Results seem to favor this plant,
both from the standpoint of yield as
compared with corn as a standard,
and also as to its palatability. Those
who have tried it find that cutting it
about the time it comes in bloom gives
the best results. Like all plants ma-
turity means woodiness or develop-
ment of woody fibre, which is both
indigestible and unpalatable.

In the semi-arid regions west of
the Missouri River, where the season
is long enough to properly develop the
plant, it would seem as though the
sunflower might become a popular
forage plant, especially from the silage
point of view.

It has been the general opinion that
the sunflower seed was the only part
of this plant that had any value as
stock or chicken feed. The writer
noticed some years ago that the fam-
ily cow would eat the dried sunflower
heads readily after the seed was re-
moved. At first it seemed as though
bossy must be unusually hungry to
eat that "stuff," although she was
supposed to be and was well fed. It
was found, however, that she really
preferred them to some of the other
feeds.

It must not be supposed that cattle
will not eat the plant at all unless it
is made into silage. This is a mis-
take, as it has been used with some
success as a soiling plant, commencing
to cut it for that purpose about the
time it would be cut for silage. The
plant has also been cut and cured for
fodder and fed with profit in this way.

Where the plant is grown for seed
it would appear there is some feeding
value in that part of the plant, ordi-
narily thrown away or burned. The
woody stalks, of course, would not be
worth anything as feed, but the shell
or husk of the head certainly must
contain a palatable and digestible por-
tion that at the present prices of feed
would probably be worth saving.

MILK GOAT BREEDERS MEET.

The Central California Milk Goat
Breeders' Association met as per
schedule in the California Building on
Saturday, November 1, at 2 p. m.
President Carl Wilson of Palo Alto
called the meeting to order, and after
routine business was transacted, Miss
Irmagarde Richards read a very inter-
esting paper on "How to Raise Large
Kids," which was received with much
interest. Miss Richards has made a
close study of goat character and
caters to their capriciousness as well
as their needs, and in this way in-
duces them to eat more and therefore
grow more rapidly. Stockmen in
other branches of the business might
take pattern after these methods to
their advantage.

The subject of a greater publicity
for the milk goat business was brought
up and discussed by the members
present.

Winifred D. Howe of Oakland, who
has had a wide experience in the suc-
cessful feeding of infants on goat's
milk, was invited to read a paper on
this interesting subject at the next
meeting of the association.

This association has been in exist-
ence about three months and has a list
of 62 members mostly in the Bay re-
gion. At least two-thirds of those
members were present at the meeting
and are boosters for their business.

CALIFORNIA JERSEY CATTLE CLUB HAS INTERESTING SESSION.

Called to order by President J. E.
Thorpe, and after routine business,
discussion of various important sub-
jects was taken up.

Sam H. Greene, secretary-manager
of the California Dairy Council, spoke
of the possibilities of the organiza-

tion and the good they had already
accomplished.

Dr. Hand of Orland enumerated the
various benefits to be derived from
supporting the State Fair and making
it the one real show.

The need for a field representative
was discussed at length, and it was de-
cided to consult with the A. J. C. C. of
New York and ask their advice and as-
sistance. It is the intention to put a
man in the field as soon as possible.

A futurity class for the State was
discussed and various plans suggested
and one agreed upon. It has pro-
posed by J. E. Wherrell that every
member of the association subscribe
\$25 or give a calf annually to provide
funds for said futurity.



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Even if you could, it would not make you
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speed or by using speedometers and other
contraptions. Do the sensible, practical
thing and buy a Sharples.

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a principle in the Sharples that
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fast, slow or "as you like it."
You can loaf along, or speed it up
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thickness of your cream. From
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point alone, the Sharples is the only
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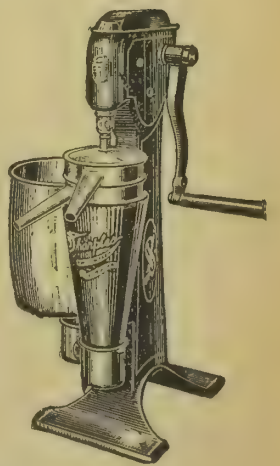
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THE SHARPLES SEPARATOR CO., West Chester, Pa.

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REGISTERED HOLSTEINS

Creamcup Herd offers service bulls
and bull calves of 34-lb. breeding.
Females offered for foundation stock
Tuberculin tested.

M. M. Holdridge, San Jose, Cal.
R. D. "A," Box 437.
Two miles out North First Street.

A general discussion of further
plans for the good of the breed and
publicity of its good qualities ended
the meeting.

Clean potato seed will count for
more dollars next year, while wormy
or diseased seed will count for smaller
dollars.

FRED M. JOHNSON'S RECENT DUROC IMPORTATION.

Fred M. Johnson, the well-known Duro-Jersey breeder of Napa, recently brought out from the east 33 gilts and 3 boars of his favorite breed.

He has only his senior herd sire on exhibition at the California Interna-

tional, King Orion Junior, but one good one like this is better than to have a whole lot of medium stuff. He was first aged boar at the Nebraska State Fair and second at the National Swine Show, Des Moines, Ia. He is an exceptionally smooth fellow, with great length, depth, strong arched back, stands well up on his feet and

has bone large enough to suit anyone. He stands 42 inches high and measures 78 1/4 inches from point between his eyes to the root of his tail. He weighed 930 pounds at Des Moines and could easily be made to weigh a thousand or better. He is one of the most promising individuals that has been brought out this year.

Among the gilts brought out by Mr. Johnson are 9 sired by Pathfinder's Likeness, who was grand champion at the Iowa State Fair in 1918. These are March gilts of the type that are so popular at the present time. Six others are grand daughters of Big Orion and he was sired by Great Orion. They are also the much desired big type, still having plenty of quality.

Of the other two boars imported by Mr. Johnson, one of them is a Pathfinder boar, farrowed last spring, the other by Great Sensation, farrowed a year ago.

Mr. Johnson is confident that his importation is fully up to that of any other breeder who has brought out hogs from the east this year, and those who know Mr. Johnson's judgment will feel sure that he is right.

FRESNO COUNTY POLAND-CHINA BREEDERS' ASSOCIATION.

One of the coming events in the near future in the Poland-China business is the sale of the Fresno County Poland-China Breeders' Association, to be held on November 19 next. This is a consignment sale from 20 prominent herds within this county that is coming to be such a Poland-China center. The sale will consist of 60 head of bred sows and gilts, open gilts and boars.

When such prominent breeders as Buckland & Son, W. C. Ficklin, Chas. Gatewood, Fred Gatewood and many others of equal note are consignors, it is a guarantee that the stock at the sale will be of the highest quality.

The animals will all be passed upon by a very conservative plucking committee, which is an additional guarantee that the stock consigned will be of the very best.

Those who wish herd headers, should not miss this great sale.

(Continued from page 651.)

Southdowns—University of California, Davis.

Romneys — Coffin Bros., Yakima, Wash; University of California, Davis.

Corriedales—Ellenwood & Ramsey, Red Bluff; Coffin Bros., Yakima, Wash.

Lincoln — Coffin Bros., Yakima, Wash.

The Rambouillet Sheep Show.

It sometimes happens that only one flock or herd will make a great showing, and while awarding the prizes is lacking the excitement and suspense of keen competition, onlookers feel as though they had received their money's worth in having the privilege of inspecting the animals. Such an exhibit was the flock of Rambouillets shown by Bullard Bros. of Woodland. It is an exhibit that could be taken anywhere and in the closest competition win their share of the ribbons.

Bred right, fed right, fitted right, it was one of the pleasures of the show to inspect the exhibit. To borrow a phrase from one of the leading automobile manufacturers, we may say that "when California needs better Rambouillets, Bullard Bros. will breed them."

All prizes awarded the flock of Bullard Bros. by Charles Cook of Hayward, the judge of fine wool sheep.

H. M. Barngrover, the Hereford breeder of Santa Clara, is disposing of his unregistered cattle to make room for registered stock. He will sell 100 head in the yards of the Western Meat Company on the day following the Hereford consignment sale at the California International.

Innistail Farm

DAIRY SHORTHORNS

Won at State Fair, 1919,
GRAND CHAMPION COW (LADY BEATRICE)

FIRST

5 cows in milk
Get of Sire and Produce of Dam
On all herds, and
The best Record of Merit cow



BELLEVUE DAISY,
Grand Champion State Fair, 1918.

She has three records over 8,000 lbs. milk and 300 lbs. fat, including last official record of 8,841 lbs. milk and 331.6 lbs. fat.

The first day's judging at the California International Livestock Show, we were awarded Grand Champion, Reserve Grand Champion, Senior Champion and Junior Champion on bulls.

ALEXANDER and KELLOGG

SUISUN, CALIFORNIA

30-DAY SACRIFICE SALE

Registered Shorthorns

On account of having leased my Live Oak Farm, will sell at private treaty about 60 head, including between 30 and 40 head of cows with calves at foot by Count Glory and Hallwood Village; also 20 high-class young bulls.

Write at once or call and see them

Carruthers Farms

LIVE OAK CALIFORNIA

ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, winner of 1st premium in two-year-old heifer class, and also awarded grand championship in both the State Fair and the Los Angeles Livestock Show in 1919; sire also of Ormondale Maid 2nd, winner of 2nd premium in the strongest junior yearling class ever shown at the California State Fair.

Every animal positively guaranteed.

Prices on application.

SHORTHORN CATTLE REDWOOD CITY, CAL.
DUROC-JERSEY SWINE E. D. No. 1

ORMONDALE CO.

Brighton Farm Herd Shorthorns and Berkshires

We have a very fine yearling bull for sale sired by Sir Type and out of a Laurel Frantic cow. This is an ideal bull for a breeder of Dairy Cattle.

Also some very choice cows and heifers.

H. L. & E. H. MURPHY,

6 miles east of Sacramento.

Perkins, Calif.

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

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A Sanitary Hog Trough

—no cracks or seams to harbor germs
—easily kept clean which means healthy hogs.
Sturdily built—light in weight—easily moved—cross bars prevent hogs from lying in trough.

PRICES

Stock No.	Width	Depth	Length	Price
720	10 1/4 in.	5 1/2 in.	24 in.	\$2.95
721	"	"	30 in.	3.30
722	"	"	40 in.	3.70
723	"	"	60 in.	4.50
724	"	"	120 in.	6.95
715	14 in.	7 1/2 in.	24 in.	4.55
716	"	"	30 in.	5.00
717	"	"	40 in.	5.60
718	"	"	60 in.	6.55
719	"	"	120 in.	9.60

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Calco Hog Troughs

Sanitary-Strong-Light Troughs for Healthy Hogs

Meetings at California International

Banquet of the California Swine Breeders' Association.

On the evening of November 4, at the California Building, a banquet of the California Swine Breeders' Association, consisting of 35 plates, was an informal affair, but a very enjoyable one. No business was transacted, simply a gathering of the prominent breeders of swine, regardless of the kind they were growing, meeting, in harmony for an hour or two of enjoyment.

C. B. Cunningham, president of the association, acted as toastmaster in his usual acceptable manner. He called upon General Manager, Gordon H. True, for an expression of his thoughts at this particular time and Manager True responded with an address on the benefit and need of such livestock shows as the California International has proven to be. He was followed by Secretary Sam H. Greene, of the California Dairy Council, who talked on the best kinds of milk to feed swine, particularly with reference to the color.

Robert E. Jones of the Sacramento Bee also talked on the benefit of the stock shows for the livestock industry and the swine side of it in particular.

J. Francis O'Connor, proprietor of Castleview Ranch and prominent breeder of Berkshires, located in Santa Rosa, was called upon and wanted to know why they picked on him, but we all know that O'Connor always has something very acceptable to say, and it was no exception this time.

Last, but not least, Mr. Roy E. Fisher, breeder of Duroc-Jerseys and Hampshires from Lincoln, Nebraska, who has a most excellent exhibit at the show, said a few words in appreciation of his treatment while in California. This closed a very pleasant evening.

Banquet of Western Berkshire Congress.

A Joyous occasion? That hardly expresses it. Neither could it be called exactly hilarious, although with the Irish element always ready for a ruction, it sometimes veered in that direction.

There were numerous reasons for the good feeling prevailing and foremost perhaps was the presence of Dean C. F. Curtiss of the Iowa College of Agriculture and President of the American Berkshire Association. Another reason that always equalled the first was the winnings of the Berkshires in the fat classes. A pen of 3 barrows exhibited by A. B. Humphrey won in very strong competition the grand championship over all breeds and crosses. Something indeed to be proud of. In addition to this the winning by the Napa State Hospital of the grand championship on carlot of fat Berkshire barrows was a "great feather in the cap" of the Berkshire breeders. The awards were made not by prejudiced judges, but by Duroc-Jersey and Poland-China men. In fat barrow contests in a majority of shows, breeders of Berkshires claim most of the championship winnings.

Dean Curtiss spoke at considerable length on his favorable impressions of this, the first California International, and the need for the continuance of this institution at this place. He also mentioned the lack of interest on the part of breeders and the farmers generally in National Swine and National Dairy Shows.

General Manager True, J. L. Thatcher, Secretary Anderson, Mr. O'Connor, Mr. Upham, Mrs. Hardy and others spoke on the excellency of the Berkshire breed and the need of more publicity for them.

Wm. L. Carruthers acted as toastmaster in his usual genial manner.

Duroc-Jersey Meeting.

A meeting was held on Tuesday, November 4, in the California Building and was called to order by V. F. Dolcini, vice-president. The business of the most importance transacted was in relation to the consignment sale which is scheduled to be held January 14 next at the

University Farm, Davis. The breeders decided to make it a guaranty sale of 40 bred sows and gilts, of the very highest quality possible to procure in the State. Prof. J. I. Thompson is the plucking committee, which is a guarantee in itself that the animals will be everything they should.

Prof. H. H. Kildee, Ames, Iowa, judge of the Duroc-Jerseys at the California International, in an address to the members present, stated that he was particularly well pleased with the exhibit of Durocs and congratulated the members on having such excellent stock on the Pacific Coast.

J. P. Walker reports the sale recently of 5 junior yearling sows and 1 boar to A. W. Winterton for \$1,200. Mr. Winterton is owner of an 820-

pound male litter mate to the first prize junior yearling boar at Tulare and Visalia and second at Fresno, owned by Mr. Walker.

A farm magazine is improved by just as much as its readers indicate their pleasure or displeasure. Let's hear from you.

Large Production and Fine Type



are combined in the get of
Prince Riverside Walker
Aagie Acme of Riverside
2nd and Miss Valley Mead
De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

**KING KORNDYKE
PONTIAC 20TH**

our young \$6,500 sire, whose great individuality, fine type, and backing of an unbroken line of great producing dams are hard to beat. Come and see the result of this breeding or write us for further particulars.

Our Entire Herd is Tuberculin Tested.

TULARE HOLSTEIN FARM

W. J. HIGDON, Owner

TULARE, CALIF.

H. L. REDD, Herdman

Is Every Animal At Its Best?

Don't let your stock lose their Summer's gain through November neglect. Your animals are now going on dry feed—hay and grain.

It's a big change from the succulent, nutritious grasses of summer pastures which supply the needed laxatives and tonics.

Keep your animals' bowels open and regular—drive out the worms—keep their blood rich and keep their digestion good by feeding



Dr. Hess Stock Tonic

A Conditioner and Worm Expeller

Keep your stock up on their appetites. Don't allow them to "get off feed" and in a run-down condition.

Condition your cows for calving by feeding Dr. Hess Stock Tonic before freshening. Then feed it regularly to increase the flow of milk. It lengthens the milking period.

Buy Stock Tonic according to the size of your herd. Here's a suggestion for your guidance: Get from your dealer two pounds for each average hog, five pounds for each horse, cow or steer, to start with, feed as directed and then watch results.

Why Pay the Peddler Twice My Price?

You buy Dr. Hess Stock Tonic at an honest price from a responsible dealer in your own town who guarantees it, and who refunds your money if it does not do as claimed.

25-lb. Pail, \$2.50; 100-lb. drum, \$8.00

Except in Canada.

Smaller packages in proportion.

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GILBERT HESS, M.D., D.V.S.

**Dr. Hess Poultry
PAN-A-CE-A**

Will Start Your
Pullets and Moulting
Hens to Laying

Dr. Hess Instant Louse Killer Kills Lice

Poultry for Profit and Pleasure

Prize Feathered and Furred Stock Seen at International Livestock Show.

Written for Pacific Rural Press by H. E. Pastor.

With eggs approaching the dollar-a-dozen mark, with rabbit pelts threatening to replace in popularity the expensive lynx, fox, and seal, and with fancy pigeons of all kinds away up in the air, it is not surprising that raisers of poultry, pigeons and rabbit stock should have waked up to the commercial possibilities of their specialties, and that they featured a record display of their best birds and bunnies at the California International Livestock Show this week, at the old California building on the Marina. In point of numbers and quality the display of animal life that rekindled for a brief span the glories of that old architectural relic of the P. P. I. E. "put it all over" any previous display of the kind ever attempted on the Pacific Coast; and any of our commercial poulterers or pouteresses, rabbiters or rabbitesses, who sidestepped this show sidestepped their best interests.

The aristocrats of California's finest poultry yards, rabbit hutches and pigeon lofts were there in satisfying numbers; and Dr. D'Evelyn and Robt. N. Moore, under whose joint superintendency this aggregation of feathered and furred blue-bloods was assembled, may well feel proud of their achievement. The throngs of visitors who viewed these splendid specimens of California poultry enterprise were repaid many times for their trouble in the educative value of the object lessons furnished. An early estimate placed the number of poultry exhibitors at 72 and of rabbit fanciers at 74, and it was confidently expected by the management that as high as 1,500 poultry and rabbit exhibits would be on exhibition. All the available space for livestock and accessories was taken.

The show was well attended, and most of the visitors showed by the keen interest taken that they were there on business bent. Exhibitors, on the whole, were pleased with the results of their efforts. Of course, it goes without saying that each exhibitor had the best stock in his class. But judges are contrary creatures at times, and refuse to view each exhibit through the rose-colored glasses kindly proffered by its owner. However, the consensus of judgment was that they erred little, if at all, in the distribution of the ribbons and the passing out of the prizes.

In this show, as in most others, the fancier was in the ascendant, which is quite natural, for it is pretty generally admitted that the great advances that have been made in the poultry industry have been his handiwork—the results of painstaking and intelligent experimentation. In the hands of the stouthead and indifferent the best of breeds will deteriorate—not only in beauty but in profit-making qualities. And were it not for the fancier it is doubtful if a poultry show were a possibility. Anyway, in this show the utilitarian side was not strongly represented. The White Leghorn, for example, the great commercial bird of the Pacific Coast, had but few entries, though what were shown were worthy specimens. A pen of birds of this class shown by Forster Bros. of Berkeley attracted much attention.

One of the most popular single classes in this show was the English Orpington, the buff and black colors being most in favor. The white variety, of which some fine specimens were on hand, have incurred some little prejudice among California breeders owing to the tendency of the white color of this fowl to become brassy in our warm climate—a peculiarity that White Leghorns and Minorcas are less prone to. The Blue Orpington, too, though undoubtedly the most beautiful in coloring, receives indifferent attention for the reason that it is so difficult to breed true to color. Some of these Orpingtons were magnificent specimens of dual-purpose fowl. Many of the Orpingtons shown, as well as R. I. Reds, were imported from the East directly to this show. Some Orpington entries of the Buff variety were scheduled by Samuel Abrams of

Los Altos, and buff appeared to be a favorite color.

The best represented breed in the show was the Rhode Island Red. It attracted much interest. Wm. A. French of Stockton entered two birds of this class; also one of the most beautiful Silver-Laced Wyandottes in the show. The R. I. Red is coming merits believable.

Plymouth Rocks ranked third in number, and some birds of superb marking were shown. C. H. Volden of Los Gatos had 24 birds of this class in the exhibit. The beautiful penciling and physical vigor of his Barred Rocks arrested the attention of most of the passers-by. As a successful breeder along scientific lines Mr. Volden is hard to beat, as his winnings on the show circuit evidence. C. E. Morrison of Fruitvale also showed some fine specimens of this class.

Japanese Silkies, Polish Crested and other frizzled freaks were on dress parade in the usual number for the amusement of the curious.

Pigeons.

There were 200 entries in the pigeon department, the squab or utility variety being strongly represented. Of the ornamental varieties, however, there was no dearth. The opportunities to observe the whimsicalities of Nature as exemplified in such feathered freaks as the Jacobean, Fantail, Pouter, Frillback, Crested Mondain, Tumbler, Roller, etc., was alone worth the price of admission to the show. The King lofts, Haywards, were the largest exhibitors in this line, and William A. French of Stockton showed some fine Pigmy Pouters and beautiful Carneaux. Haywards walked away with most of the prizes.

Turkeys.

For some unaccountable reason the turks were extremely shy of this show, only three specimens putting in an appearance. These were of the Bourbon Red variety—most beautiful birds. The great Bronze variety, the most popular of all and the most important from the commercial standpoint, was conspicuous by its absence. As one spectator exclaimed, to whom I made this remark: "They are not only conspicuous by their absence, but there are none!"

Geese and Ducks.

Only three geese, of the large Toulouse kind, were shown. Of ducks on exhibition the Indian Runner ranked foremost; then followed the Rouen and the White Pekin in the order named.

The Rabbit Section.

In the rabbit department there were specimens of all kinds, colors, creeds, conditions, and nationalities. There were Belgian, Flemish, Dutch, American, English, New Zealand, et al.—everything but a Welsh rabbit, with which the city visitors were probably most familiar. The writer was told by a rabbit connoisseur that it was the largest and finest exhibit of rabbits and hares ever held west of Chicago. It occupied the spotlight, so to speak, standing in the center of the old ball-room of the California Building, while the poultry and pigeon exhibits formed a fringe on the outskirts of the main floor and in the gallery above—a space allotment not altogether to the liking of some of the poultry exhibitors. Superintendent Robt. N. Moore said there were 642 rabbit specimens on display, and they were as fine a looking bunch as could well be gathered together under one roof. It numbered 35 more than were ever before assembled west of Chicago, and the management took a just pride in this record. There were 230 Flemish Giants alone. As a reproducer and meat-maker the rabbit takes on double-quick action, and when intelligently handled puts a deep crimp in the meat bill of its owner, to say nothing of the rich revenue received from the sale of the skins—at least, this is the information this writer got from interviews with enthusiastic exhibitors. Certainly, the soft and beautiful colorings of some of the varieties

shown, as the French Silver, Silver Gray, Steel Gray, and others would seem to make these perfervid statements believable.

In addition to the ribbons, silver cups were offered for outstanding displays by Dr. D'Evelyn, General Superintendent of the Poultry Division; Erwin Wiesner, Supt. of the Rabbit Show, the Sperry Flour Co., and others, which served to attract the large representation of furry favorites and to make this department so notable a success. The list of rabbit awards was not available at time of going to press.

POULTRY AWARDS.

Through the courtesy of Robt. N. Moore of Oakland, the Rural Press was enabled to obtain a list of the poultry awards (excepting sweepstakes) in time for this issue, which for mechanical reasons we were obliged to put to press early in the week. They are as follows:

BARRED PLYMOUTH ROCKS.

Chas. H. Volden, Los Gatos—First in hens, first and third on cockerels, first on pullets, first on exhibition pen, first on pullet-bred cocks, first on hens, cockerel-mated, first and second on cockerel, pullet-mated, first on hen cockerel-bred, first on pullet cockerel-mated, first and second on hens, pullet-mated, first on hens cockerel-mated.

Rosecraft Plymouth Rock Yards—First on cock, second on hen, third on pullet.

Poppy Hill Poultry Farm, Oakland—Second on cockerel, third hens, second and third on hens cockerel-mated.

Hale Prather, Ukiah—Third on hens, R. P. Lutz, San Francisco—Second on pullets.

WHITE PLYMOUTH ROCKS.

O. B. Hunt, Berkeley—First on cock and first on hen.

J. J. Smith, Oakland—Took all honors on pullets.

H. A. Land, Winters (the oldest poultry exhibitor in California) took first on hen.

BUFF PLYMOUTH ROCKS.

C. M. Newbert, San Mateo—First on cock, first on hen.

Mrs. D. F. Small, Willows—First on pen.

PARTRIDGE PLYMOUTH ROCKS.

Mr. and Mrs. S. Cavill, Kentfield—First on pen.

WHITE WYANDOTTES.

James Whyte, Oakland—First and second on cockerel, first on hen, first on pullet.

Geo. H. Buhrman, Santa Cruz—Third on cockerel, third on pullets.

SILVER-LACED WYANDOTTES.

Wm. A. French, Stockton—First on hen first on pullets.

Mr. W. R. Fuller, Richmond—Second on cockerel second on pullets.

Frank Blackwell, Sacramento—First on cockerel.

PARTRIDGE WYANDOTTES.

All honors to Manuel Roberts, Concord.

COLUMBIAN WYANDOTTES.

All honors to G. W. McNear, Jr., Concord.

RHODE ISLAND REDS.

M. E. Jeter, San Francisco—First on cock, third on hen, third on pens.

Oak Shadows Farm, Redwood City—Second on cock, first on cockerels, second on pullets.

Ward's Poultry Farm, San Jose—Second on hen, second on cockerel, first on pens.

F. M. Lall, San Jose—Third on cockerels, first and third on pullets, second on pen.

Alex. A. Peterson, San Francisco—Third on cock.

Mr. and Mrs. Sidney Cavill, Kentfield—Second on rosecomb hen.

S. C. WHITE LEGHORNS.

Jno. J. Wangan, Jr., Oakland—First on cock, first on pullets.

A. F. Schwartz, Calistoga—Second on cock, third on pen.

W. S. Frieman—Third on cockerels, second on pullets.

F. O. Halston, Haywards—First and second on cockerels.

Oak Shadows Farm—Third on pullet.

S. C. BROWN LEGHORNS.

All honors to Wm. A. French.

S. C. BUFF LEGHORNS.

Manuel Roberts, Concord—First on cock, second on hen, third on cockerels, second on pullets.

C. M. Newbert, San Mateo—Second on cock, first and second on cockerels.

Aug. Belfrage—Third on hens.

ANCONAS.

All honors to C. A. Wangan, Jr.

S. C. BLACK ORPINGTONS.

Sequoia Farm, Sacramento—First and second on cocks, first and second on hens, first and third on cockerels, first and third on pullets.

Iveywood Farms, San Leandro—Third on cocks, third on hens, second on cockerels, second on pullets, first on pen.

BLUE ORPINGTONS.

C. R. Frary, San Francisco—First on cock, first on hen.

Sequoia Farm—Second and third on hens, first on cockerels, first on pullets.

BUFF ORPINGTONS.

Oak Shadows Farm—Took all the honors on cocks and hens, first and second on cockerels, first and third on pullets, first and third on pullets, first and third on pens.

Happy Land Poultry Farm, San Mateo—Third on cockerels.

Samuel Abrams, Los Altos—Second on pullets.

C. R. Frary—Second on pens.

WHITE ORPINGTONS.

R. P. Lutz, first on cock, third on hen, third on cockerels, first on pullets, third on pen.

Oak Shadows Farm—First and second on hens, second and third on pullets.

Charlie Stewart, Sacramento—First on cockerel.

PROTEIN SPELLS Poultry Profit

FOR BEST RESULTS
feed high-grade
Beef Scraps of Uniform
Quality.

The dealer who induces poultrymen to use High Protein Beef Scraps is a benefactor to his customers. The best is always the cheapest.

GOLD BEAR BEEF SCRAPS

Backed by a guarantee which assures the poultryman, high and uniform quality.

Made in a government inspected packing house. Contains only blood and offal.

Food elements plainly marked on every sack.

Made and Guaranteed by

Western Meat Company

SAN FRANCISCO, CAL.

Write for our booklet,
"PROTEIN FOR PROFIT."

LIGHT BRAHMAS.

A. J. Panther, San Francisco—First on cock, first and third on hen.
Mrs. Emma V. Miller, Farmington—Second on hens, second and third on cockerels, first and second on pullets.
C. F. Shockey—First on cockerels.
Mrs. H. W. McLagan, San Bernardino—Third on pullets.

Ratto Stock Farm, Napa—First on pen.
WHITE AND BLACK LANGSHANS.
All honors to Geo. Lohr, San Francisco.

BUFF COCHINS.
Ratto Stock Farm—First on pen.
WHITE HOUDANS.
All honors to R. P. Lutz.

SILVER CAMPINES.
C. A. Potts—First on Cock.
EXHIBITION IN BLACK RED GAMES.
All honors to Mr. and Mrs. W. R. Fuller.

EXHIBITION OF SILVER DUCKLING GAMES.
All honors to R. S. Northey, Oakland.

PIT GAMES.
All honors to R. S. Northey.
DARK CORNISH.
Percival E. Edouart, Los Angeles—First on cock, second on hen.

Mrs. Ernest Wood, Oakdale—First on hens, first on cockerel.
Mrs. W. F. Ode, San Francisco—First on pullet.

BLUE ANDALUSIANS.
All honors to S. J. Morrison, Chico.
SILVER NON-BEADED POLISH.
All honors to A. J. Coe, Lodi.

SILVER-GRAY DORKINGS.
All honors to Mr. and Mrs. Sidney S. Cavill.
CAPONS.
Trises—First and second, Mrs. Henrietta W. McLagan on White Brahmas; third, Charlie Stewart on Buff Orpingtons.

GRAY TOULOUSE GESE.
Old gander, Wm. A. French.
First on young gander, and first on young goose, Mrs. B. Fowler, Lodi.

TURKEYS.
All honors to Happyland Poultry Farm on Red Bourbons.

ROUEN DUCKS.
Old drakes—First, Wm. A. French; second and third, Mrs. Emma V. Miller.
Old ducks—First, Mrs. Emma V. Miller; second, Wm. A. French.

Young drakes and ducks—All honors to Mrs. Emma V. Miller.

WHITE PEKINS.
All honors to A. J. Coe.
PENCILLED INDIAN RUNNERS.
Old drake—Second, Aug. Belfrage.

FAWN INDIAN RUNNERS.
All honors to Sacramento—All honors on old drakes, first and second on old ducks, first and third on young drakes. All honors on young ducks.

Mr. and Mrs. Sidney Cavill third on old ducks, second on young drakes.

COLORED MUSCOVY.
All honors to Mrs. Bessie Fowler.
COLORED MUSCOVY.
Mrs. G. C. Boeddiker—First on old drake.

Young drakes—First, Mr. and Mrs. Sidney Cavill; second, C. R. Frary.
Young duck—First, C. R. Frary.

HOW THE POULTRYMAN IS GETTING RICH.

Eggs are selling in San Francisco this week for topnotch prices, also in the larger cities of the East. It would seem like a harvest time for the egg poultryman, and would be if he had any stock to sell—but he hasn't or very little. High prices without supplies to realize on avail the poultry raiser little. He can't buy automobiles, pianos, phonographs, and government bonds on "high quotations." It is high prices on sales consummated only that bring these luxuries—and the hens are now on strike.

A SUCCESSFUL POULTRY ORGANIZATION.

The annual report of General Manager J. H. Barber, of the Poultry Producers of Central California, presents this summary of the growth and operations of that association since its incorporation in October, 1916. It began business January 29, 1917.

During the first year of operation, ending January 31, 1918, we handled 213,532 cases of eggs, which sold for \$2,382,444.23. After deduction of transportation charges, 2 cents a dozen for selling cost, and 1 cent for capital stock, the net amount paid to the members in cash was \$2,170,626.26. This was an average of 34 cents a dozen net for all eggs of all grades.

In the second year, ending January 31, 1919, we received 270,313 cases of eggs and sold them for \$3,712,523.17. The net returns to the members totaled \$3,425,717.91, which averaged 42½ cents a dozen, net cash, for all eggs of all grades.

For the seven months from February 1, 1919, to August 27, 1919, we received 228,677 cases of eggs, which sold for \$3,055,337.31. The cash returns to the members were \$2,814,737.90, an average of 41 cents a dozen, net cash, for all eggs of all grades during the seven months.

The amount of eggs handled in 1918 was 26 per cent more than in 1917, and the amount of money received for eggs was nearly 56 per cent more.

The total cash returns to members increased 58 per cent.

Comparing the seven months' record of 1919 with the same period of 1918, we find that our egg receipts this year have so far exceeded those of 1918 by 15 per cent, while the increase in money received is 30 per cent.

This association has succeeded in carrying out two leading principles had in view at its inception, viz.: First, to establish a reputation for association eggs as the very best on the market. Second, to stabilize the local market by removing from it the surplus which in the past has enabled speculators to manipulate the market for their own profit at the expense of both producers and consumers.

TARIFF ON FOREIGN EGGS ILL-ADVISED.

The effort to initiate an agitation for legislation imposing a tariff on egg imports from foreign countries is not encouraged by our legislators at Washington at this time. The popular protest against the high cost of living, and especially the present high market cost of eggs, both East and West, makes the time for such a move inauspicious.

A BATTERY OF QUESTIONS.

To the Editor: Please answer the following questions. I have three acres of alfalfa and one and one-half or two acres of yard. 1. How shall I make a chicken house to keep about 2,000 or 3,000 chickens? 2. How many chickens are enough for one man to take care of? 3. Is there any market for capons? If any, what difference of price between capons and roosters? 4. Where can I get the best book on the poultry business in California, and price? 5. Where is the best location around Los Angeles?—Subscriber, Callexico.

1. Long, open-front houses divided into sections.

2. One thousand for the man of average experience.

3. Capons find a ready market, particularly if offered to private families, clubs, etc. On an average the price per pound is about 40 per cent more than for roosters.

4. California Poultry Practice. We sell it—one dollar, postpaid.

5. The best location for our correspondent near Los Angeles is that neighborhood in which are already located the greatest number of successful commercial poultry keepers.

FALL OFF IN EGG PRODUCTION.

To the Editor: Have about 150 hens that have the range of a rice field where they get green stuff and ripened rice. They have before them all the time green ground bone, beef scrap, ground oyster shell, grit, and a ready mixed "Egg and Feather" food and clean water. They are also fed wheat twice daily and about five gallons of garbage, of which at least half is skim milk. Most of them are through the molt, but their egg production is decreasing instead of increasing. Their combs appear pale and shrunken. Have been told that garbage would cause trouble but none fed are over 24 hours old. Is that the trouble; if not, what is it?—Mrs. B. F. C., Pleasant Grove.

Probably two chief causes of trouble. (1) Rice is very starchy. (2) Perhaps something detrimental in the garbage. The skim milk is very desirable. If all other things in garbage were discarded and the milk made into clabber or cottage cheese, it would go a long way to balance the rice and excess grains.

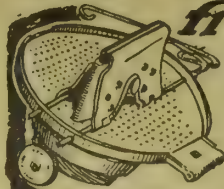
FATTENING AND SELLING TURKEYS.

To the Editor: I wish you would tell me the best thing to fatten turkeys on and the best place to sell them to advantage and if there is a market for the feathers.—M. S., San Miguel.

Any of the sorghum grains. An assortment of them is better than one kind. If some Indian corn is added the result will be better still. Indian corn and common yellow corn, fed alone, is also good for the purpose.

(2) McCullough Provision Co., 340

"I was away for several days-and found, on my return that the machines were regulated within a fraction of a degree"



—says P. R. Lyding, of Sebastopol—a poultry raiser with 26 years' experience. The machines that kept temperature so remarkably even were equipped with Charters' Regulators. And the Charters' Regulator is an important—but not the only feature of

CHARTERS INCUBATOR

The incubator is of particularly substantial build—540 egg capacity—a special ventilation and moisture retention system—hollow cylinder boiler that gives the greatest heating surface, insuring active circulation in the coils. The boiler has removable bottom—which allows easy cleaning. Every detail of construction has been made as nearly as possible perfect. And to add to this—the Charters' Incubator has the Charters' Regulator built in—the only incubator so equipped in its manufacture.

With reference to the Regulator—it's the two thermostats that do the trick, one outside and one in the egg chamber: by actually anticipating any change of temperature—and automatically adjusting the flame to meet the new conditions. The temperature outside may vary as much as 70 degrees, without producing as much as half a degree of change in the egg chamber. Charters' Regulator is entirely unlike the "sleeve" type—which has proven unsuccessful.

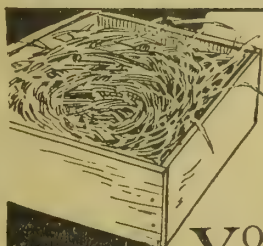
And the big tank—holds a supply of fuel that will run the lamp from two to three weeks without refilling. That means one refilling and trimming only each week.

Write today for our catalog—or better still send in your order now—for a Regulator, or the fully equipped incubator—so we can deliver in time for your fall hatch. The incubator, equipped with Regulator is \$65. The Regulator is \$10.

See The Charters at principal fairs and poultry shows this year.

CHARTERS MANUFACTURING CO.

336 Sequel Avenue, Santa Cruz, California



Not Laying Yet? Start Them!

YOUR hens and pullets should be producing eggs—making profits—by now. Hens should be over their molt—pullets developed—both on the job. Egg prices are up—it's up to you to cash in now—and all Winter.

Pratts Poultry Regulator

Invigorates and strengthens—hastens maturity—starts fowls laying weeks earlier. Prevents losses—economical to use—costs about a cent a month per hen. Test Pratt's Poultry Regulator at our risk:



"Your Money Back if YOU Are Not Satisfied"

Sold by 60,000 dealers. There's one near you

Write for Pratt's NEW Poultry Book—Free

PRATT FOOD COMPANY

Philadelphia Chicago Toronto

Makers of Pratt's Animal Regulator, Hog Tonic, Dip and Disinfectant Veterinary Remedies



Cash for Turkeys

AND ALL POULTRY

Be fair with yourself. You have used great care and hard work raising your flocks. Why not use the same careful methods in marketing them?

Take no chances but sell direct to the largest exclusive Poultry house on the Pacific Coast, whose responsibility is unquestioned, and be sure to get the highest market price.

Our reputation is built on fair dealings, honest weights, and quick remittances, covering a period of 12 years.

References, Citizens' National Bank of Los Angeles, California,

or your own Banker can tell you who we are.

NATIONAL POULTRY COMPANY, INC.

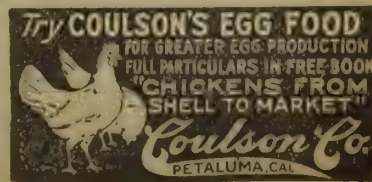
611 E. THIRD STREET

LOS ANGELES, CALIF.

Write us the number of Turkeys or Fowls you may have to sell as we operate branch houses and may have a buyer in your vicinity.

Davis street, San Francisco. (3) Sun-set Feather Co., 850 Howard St., San Francisco.

The quality of California fruits has been attained by elimination of undesirable varieties. It is not so easy to improve the character of our population by this means.



Market Comment

The Dollar a Dozen Egg Arrives.

The dollar-a-dozen egg is no longer a figment of the imagination. It makes its unwelcome bow this week San Francisco to a protesting public—but the protest is in vain. This is the price demanded by a number of local dealers, due to light receipts. The egg raisers who have no stock to sell—which is the majority—are not getting rich on the raise.

Wine Grape Men Not Discouraged.

In spite of the threatening aspect of recently enacted prohibition legislation it is reported that a number of Sacramento valley vineyardists are contemplating an increase of their wine-grape acreage on account of the insistent demand for wine grapes from outside sources. Grape prices have been unusually good this year and grape men have had, on the whole, the best year in their history.

Hop Culture Still a Live Industry.

Contracts for next year's hop crop are already being entered into by dealers and growers. So far the highest price yet reported for the 1920 output is 42½¢. Three-year contracts are offered on a basis of 34¢. A purchase of 400 bales in Santa Rosa last Saturday virtually cleaned up the Sonoma crop.

Eastern Fruit Shipments Heavy.

California fruit shipments for this season to the East exceed those of last year by approximately 2,000 carloads. Grapes overtop last season's record by 1600 cars. This is the record to Nov. 1st:

	1918.	1919.
Cars.	Cars.	
Cherries	351	419½
Apricots	432½	419½
Peaches	2,662	2,772½
Plums	2,889½	2,880
Pears	4,424	4,198½
Grapes	14,027	15,670
Miscellaneous	53	48
Total	24,340	26,533

American Bacon 18c in France.

To stem the high cost of living in France, the French Government has this week put on public sale army food supplies from the United States. Prices have been fixed at a maximum of one-half current retail prices. This would fix the price of American bacon at 18c.

Big California Almond Sale.

T. C. Tucker, who has been in New York in the interest of the California Almond Growers' Exchange, has sent back word that he has sold to one Eastern buyer 16,000 bags of almonds at a price exceeding \$500,000.

Milk Price Jumps in Los Angeles.

On the first of this month standard grade milk was advanced to 16c in Los Angeles and other grades proportionately. The usual protests are in evidence.

Good Prices for Sugar Beets.

Beet sugar percentages over in the Pleasanton district have been running very heavy this year. The growers here anticipate that the average price for beets will exceed \$12 per ton.

LIVE STOCK DATE SALES.

November 28. Geo. W. Short, Short-horn Cattle, Sacramento.
January 16. California Duroc-Jersey Breeders' Association, Davis. Consignment sale.
January 16. Harvey M. Berglund, Dixon. Duroc-Jersey swine.
January 31. Ireland Ranch, Owensmouth. Fifty bred Duroc-Jersey sows and gilts.
February 12. San Joaquin County Poland-China Breeders' Association, Lodi. Sixty bred sows and gilts.
February 14. Castleview Ranch, Santa Rosa. Fifty bred Berkshire sows and gilts.
February 17. Sandercock Land Co., Sacramento. Berkshire sale.
February 21. J. F. McSwain, Merced. Poland-Chinas.
February 28. J. H. Cook, Paradise. Poland-Chinas.
April 17. Butte City Ranch. Short-horns, Berkshires, Shropshires and Shortlands.

TAMWORTH'S

(The Bacon Hog)
Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes.
Sire to please.

SWINELAND FARM

W. O. Pearson, Prop., Woodland, Cal.

THE MARKET REPORTS

SAN FRANCISCO.

San Francisco, November 5, 1919.

BARLEY.

Some demand for barley arose during the week, and while it was not large it was enough to encourage the local dealers. This demand added to the fact that there are almost no arrivals in this market caused an increase of the price of futures, which was reflected in the advance for spot barley.

Feed	\$3.15 @ 3.20
Shipping	\$3.25 @ 3.30

OATS.

Oats reflected the barley market and made some advance on price this week. There was no new demand for oats and in advance was purely sympathetic with the higher level of barley.

Red feed, per cfl.	\$2.85 @ 3.00
Red for seed	Nominal
Black for seed	Nominal
Re-cleaned Red or Black for seed	Nominal

CORN.

Like the other grains corn was stronger this week, its strength being based mainly on the generally better tone to the other grains. There were practically no receipts in quantity and no new demand was developed.

California	\$3.60 @ 3.70
Egyptian, choice	\$3.30 @ 3.40

HAY.

Receipts of hay for the past week were 885 tons. This is a drop of over 450 tons from the previous week and over a thousand tons compared with the receipts of two weeks ago. Of these receipts those coming in by car are practically nominal. The fact that stocks now in the city are being consumed and the receipts are so small makes the advances in prices quite natural. A considerable hay is reported to have changed hands in the country districts at increased prices and this also has had its effect on the local market. Export trade is almost at a standstill, owing to the strike of stevedores, and the handling of hay coming in on boats is made difficult from the same cause.

No. 1 Wheat, or Wheat & Oat	\$18.00 @ 22.00
No. 2 Wheat, or Wheat & Oat	\$17.00 @ 19.00
Choice Tame Oat Hay	\$20.00 @ 23.00
Wild Oat Hay	\$16.00 @ 19.00
Barley Hay	\$16.00 @ 20.00
No. 1 Alfalfa Hay	\$18.00 @ 23.00
Stock Hay	\$13.00 @ 23.00
No. 1 Barley Straw, per bale	.50 @ .80

FEEDSTUFFS.

All the feedstuffs made from the grains were advanced in price this week in sympathy with the advances made in the whole grain. There has been no material change in the demand.

Rolls Oats	\$63.00 @ 64.00
Rolls Barley	\$64.00 @ 65.00
Cracked Corn	\$80.00 @ 81.00
Alfalfa Products	\$38.00 @ 45.00

POTATOES, ONIONS, ETC.

Both potatoes and onions showed considerable strength this week, and while there was little change in quotations of the latter the tendency is upward for both products. The firmness of the market indicates further increase in prices in the near future. Tomatoes are getting scarcer, and while not so good as a while back they are being sold

at higher prices. Summer squash also took a decided upward turn, and eggplant sold as high as \$1.75, compared with \$1 last week. Hot-house cucumbers are arriving in quantity, and bring a higher price than produce grown in the open air.

String Beans	.8 @ 1.3½¢
Peas	.9 @ 1.1¢
Carrots, per sack	\$1.00 @ 1.25
Rhubarb, Strawberry, box	Nominal
Cucumbers	.75¢ @ 1.00
do, Hot-house	\$2.00 @ 2.25
Eggplant, box	\$1.25 @ 1.75
Lettuce, per crate	.75¢ @ 1.25
Tomatoes, Early Annas	None
do, Stone	\$1.50 @ 1.75
Summer Squash, lug, Alameda	\$1.25 @ 2.25
do, Hubbard	\$1.25 @ 1.50
Pumpkins	.75¢ @ 1.00
Green Corn, Alameda, sack	None
Potatoes, local whites	\$2.50 @ 2.75
do, Rivers	\$2.50 @ 2.85
do, Sweets, new, lb.	3¼ @ 4¢
Onions, new red	Nominal
do, Browns	\$4.00 @ 4.25
do, Yellow	\$3.75 @ 4.00
do, Green, Alameda	\$1.00 @ 1.25
Garlic	.20 @ 22¢
No. 1 Wheat, or Wheat & Oat	\$18.00 @ 22.00

BEANS.

There is no change for the better in the bean market. The report that the Oriental bean crop this year will be a failure is not generally believed by the dealers, who say that reports of this crop are never reliable. In any event the report, which was encouraging to the Coast bean growers, had no effect on the local market, which showed an advance in no variety, while several sold at lower quotations. While lima quotations are officially unchanged there seem to be plenty from sources outside the association which may be had for a dollar or more below these figures.

Variety	Old crop	New crop
Bayos	\$6.25 @ 6.50	7.00 @ 7.25
Blackeyes	\$5.75 @ 6.00	6.00 @ 6.15
Cranberry	\$6.00 @ 6.25	7.25 @ 7.75
Pinks	\$5.50 @ 5.75	6.75 @ 5.90
Red Mexican	\$5.00 @ 5.75	5.50 @ 5.80
Tepary	\$2.50 @ 2.75	
Garbanzos		9.50 @ 10.00
Large Whites	\$5.25 @ 5.50	5.50 @ 5.75
Small Whites	\$6.00 @ 6.25	6.00 @ 6.25
Limas		\$14.50
do, Baby		\$13.00

POULTRY.

The turkey market was more or less shot to pieces this week by the arrival of stock in excess of the demand. Live turkeys sold as low as 38 cents a pound and 50 was about the limit on any sales. Dressed turkeys were also scaled about 5 cents in price. Some of the local dealers are figuring on dressed turkeys at less than 50 cents for the holidays, and state that the supply in sight justifies their prediction.

Broilers, 1½ lbs. and under	.40 @ .44¢
do, 2 to 3 lbs.	.35 @ .36¢
Fries, 2 to 3 lbs.	.33 @ .34¢
Hens, extra, per lb.	.35¢
do, Leghorns	.31 @ .33¢
Smooth young roosters, per lb. (3 lbs. and over)	.30 @ .31¢
Old Roosters, colored, per lb.	.22¢
Turkeys, dressed, young spring, lb.	.45 @ .48¢
do, live	.38 @ .40¢

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., Nov. 4, 1919.

By J. L. Nagle.

Eastern markets in general remained firm on sound arrivals during the past week. The demand continued active, both for table and wine grapes, despite the uncertainty of the wine situation in connection with Congressional action.

As shipments have been reduced materially, owing to the fact that the season is very near its end, and due also to recent frosts in the grape sections, we look for a sharp advance on sound arrivals next week.

Weather conditions remaining favorable, shipments should continue, though in light

supply, for the next three weeks.

Averages for the week:

NEW YORK: Malaga Grapes, \$2.43; Mission, \$2.40; Tokays, \$2.18; Cornichon, \$2.40; Emperors, \$2.35; Alicante Bouschet, \$2.90; Zinfandel, \$2.42; Winter Nells Pears, \$3.64; B. Clairgarn, \$4.15; Duchesne, \$3.70; E. Beurre, \$3.60.

BOSTON: Zinfandel Grapes, \$1.75; Tokays, \$1.90; Cornichon, \$2.58; Alicante Bouschet, \$2.10; Malagas, \$1.80; Muscats, \$1.20; Emperors, \$2.41.

CHICAGO: Tokay Grapes, \$1.70; Malagas, \$2.20; Emperors, \$1.91; Muscats, \$1.25; Cornichon, \$2.35; Alicante Bouschet, \$1.60.

Special Livestock Market Report

San Francisco, November 5, 1919.

CATTLE.

Steers, No. 1, 1000-1200 lbs.	10½ @ 11¢
do, No. 1, 1200-1400 lbs.	10 @ 10½¢
do, 2nd quality	8½ @ 9¢
do, 3rd quality	6½ @ 7½¢
Cows and Heifers, No. 1	8½ @ 9¢
do, 2nd quality	7 @ 7½¢
do, 3rd quality	4½ @ 6¢
Bulls and Stags, good	5½ @ 6½¢
do, Fair	4½ @ 5½¢
do, Thin	3½ @ 4½¢
Calves, lightweight	.11¢
do, medium	.10¢
do, heavy	.8 @ 9¢
SHEEP—	
Lambs, yearling	.10¢
do, milk	.12 @ 12½¢
Sheep, wethers	.9 @ 9½¢
do, ewes	6½ @ 7¢
HOGS—	
Hogs, hard, grain-fed, 100 to 225 lbs.	14¢
do, 225 to 300	13½¢
do, 300 to 400 lbs.	12½¢

PORTLAND LIVE STOCK.

Portland, Ore., November 3, 1919.

CATTLE—Market shaky; receipts, 2902 head. Steers, best, \$9.50 @ 10.50; good to choice, \$9 @ 9.50; medium to good, \$8 @ 9; fair to good, \$7 @ 8; common to fair, \$5.50 @ 6.50; good to choice cows and heifers, \$7.50 @ 8.50; medium to good, \$6.50 @ 7.50; fair to medium, \$5.50 @ 6.50; canners, \$4.75 @ 5.75; bulls, \$5 @ 7; prime light calves, \$12.50 @ 13.50; heavy calves, \$7 @ 12.50; stockers and feeders, \$7.50 @ 9.25.

HOGS—Market 75c higher; receipts, 843 head. Prime mixed, \$14 @ 14.75; medium, \$13.50 @ 14; smooth heavies, \$12.50 @ 13.50; rough, \$11.50 @ 12; pigs, \$12.50 @ 13.

SHEEP—Market steady; receipts, 772 head. Eastern lambs, \$11 @ 11.50; valley, \$10 @ 10.50; feeders, \$8 @ 9; yearlings, \$7.50 @ 9; wethers, \$7.50 @ 8.50; ewes, \$5 @ 6.50.

Los Angeles, Nov. 4, 1919.

CATTLE—Steers in good demand and the market is firm. Cows coming in freely but the market is dull and weak. All quotations the same as last week.

Per cwt. f. o. b. Los Angeles:
Best steers, 1000 @ 1100 lbs. \$9.50 @ 11.00
Prime cows and heifers \$8.00 @ 9.00
Good cows and heifers \$7.50 @ 8.00
Canners \$5.00 @ 5.50

HOGS—Demand is only fair. This market is quoted 50c higher since last week, being in sympathy with Eastern market prices.

Per cwt. f. o. b. Los Angeles:
Heavy average 275 @ 350 lbs. \$9.00 @ 10.50
Heavy average 225 @ 275 lbs. \$11.00 @ 12.00
Light \$12.00 @ 13.00
Rough docked 20 lbs. piggy sows 40 lbs. and wags, 40 per cent.

SHEEP—Prices are steady and the market reports a fair demand. Slow sale on wethers and ewes.

Prime wethers \$8.50 @ 9.50
Yearlings \$8.50 @ 9.50
Prime ewes \$8.00 @ 9.50
Lambs \$12.50 @ 13.50

Geese, young, per lb.	.26 @ 27¢
do, old, per lb.	.22 @ 23¢
Squabs, per lb.	.60 @ .65¢
Ducks, young	.26 @ 28¢
do, old, per lb.	.23 @ 25¢
Belgian hares	.16 @ 17¢
Jack rabbits	\$1.50 @ 3.50

BUTTER.

Butter continues firm at about last week's prices, although the average for the week was slightly higher. If butter follows the course of last year approximately these same prices may be expected to prevail until after the middle of next January, when a decided recession may be expected.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	.62	.62	.62	.63	.63½	.63½

EGGS.

Extra eggs hit the high point of the season today, when the exchange price of 90 cents or 83 cents to the dealer was scored. These eggs will reach the consumer at not less than a dollar a dozen, and it is likely that grocers in some localities will charge even slightly more. At the same time this grade of eggs was quoted at from 93 to 97c in New York, and the differential between the eastern quotation and 83 cents repays the producers handsomely for careful sorting of his eggs and shipment to New York. The Government report shows that two cars were shipped to New York during the past week from Petaluma, one of 512 cases and one of 400 cases. Two other cars shipped during the week, one from San Francisco and one from Los Angeles, went to Seattle and Prescott, Ariz. The advance during the week of extras turned more attention to pullets and undersized and both descriptions made decided advances. However, extra pullets have not yet reached the normal differential with extras and considerable advance in pullets and undersized may be looked for unless an unexpected break comes in extras.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	.79½	.80½	.80½	.82	.82	.83
Dirty, No. 1						
Ex. pullets	.61½	.61½	.61½	.63	.64	.67½
Undersized	.57½	.58½	.59	.59	.61	.61

CHEESE.

The market continues quiet, with only minor changes in prices of the California product. Oregon prices are firmly maintained at last week's figures.

California Flats, fancy	.31¢
do, First	.26½¢
Y. A., Fancy	.33½¢
Oregon Triplet	.30½¢
do, Y. A.	.33¢

FRESH FRUITS.

There was something of an unexpected surplus of raspberries received several days this week and most of them were sent to the canneries. Quotations varied from \$9 to \$13. Strawberries did not come in very freely. But the demand was slight and the variation from last week's high was not large. The market is now bare of peaches and no more are expected this season. Apples continue to dominate the fresh fruit market, at prices that vary but little from day to day.

Apples, Jonathan	\$1.25 @ 2.25
do, Spitzenberg	\$1.50 @ 2.00
do, Bellflower	\$1.75 @ 2.00
do, Pippins	\$2.00 @ 2.25
do, Oregon	\$3.00 @ 3.50
Quinces	\$1.00 @ 1.50
Pears	\$2.00 @ 4.00
Strawberries	\$15.00 @ 18.00
Raspberries	\$ 9.00 @ 13.00
Grapes	\$1.50 @ 2.00
Figs	\$1.50 @ 1.50

CITRUS FRUITS.

Grapefruit from the valley came in in quantity this week and is now selling at \$4.50 to \$5. The Arizona grapefruit, which was about all there was on the market for a couple of weeks, has now disappeared. New navel oranges are looked for next week, although they probably will not be in quantity for still another week. In the meantime there is no change in Valencia. The lemon market is also steady and unchanged. Oranges, Valencia \$5.25 @ 5.75; Grapefruit \$4.50 @ 5.00; Lemons, fancy \$7.00 @ 7.50; do, choice \$6.00 @ 6.50; do, standard \$5.00 @ 5.50.

DRIED FRUITS.

No changes in prices occurred in the dried fruit market this week. The market is firm, but all speculation or tendency to speculate has gone out of it. Prices may go higher, but if they do it will be on an easily recognized demand. There is almost no probability that they will go lower.

Apples	.16 @ 18¢
Pears	.16 @ 18½¢
Apricots	.21 @ 28¢
Prunes	.11 @ 13¢
Figs, Adriatic	.12 @ 18¢
do, Calimyrna	.15 @ 21¢

HONEY.

Nothing new developed in honey this week, and all prices are normally unchanged.

Water White	.18 @ 20¢
Light Amber (Mountain)	.16 @ 18¢
do (Alfalfa)	.14 @ 16¢

RICE.

Under the impetus of several large European orders Fancy and Choice California rice showed considerable strength a week or two ago, but prices were advanced too rapidly apparently for the European market, and little actual business resulted from this. As a consequence the price of the two descriptions is \$10.75 and \$10.50, respectively, with but small demand.

LOS ANGELES.

Los Angeles, Nov. 4, 1919.

BUTTER.

This market remains the same in price as last week. The demand continues very good. Receipts somewhat above those of a week ago, being 284,800 lbs.

Fresh California, extra creamery	.64¢
do, prime first	.62¢
do, best	.61¢

EGGS.

This market continues to advance. Though higher, the demand is reported good and receipts slightly above last week, being 692 cases.

Fresh ranch, extras	.75¢
---------------------	------

do, case count70c
do, pullets59c

POULTRY.

Broilers reported to be in very good demand, though not so many coming in. Friers in fair demand. Heavy hens scarce and a good call for them. The market is dull on light hens. Slow sale reported on ducks and turkeys. Prices are the same as last week. Broilers, 1 to 1½ lbs.42c
Broilers, 1½ to 1¾ lbs.43c
Friers, 2 to 3 lbs.32c
Roosters (soft bone), 3 lbs. and up33c
Stags and old roosters, per lb.19c
Turkeys35@37c
Hens31@35c
Ducks25@27c
Geese27c

HAY—F. O. B. Los Angeles.

Grain hay quoted higher. Alfalfa prices remain unchanged, and the same as last week. Demand is fair.
Barley hay, ton\$22.00@25.00
Oat hay, ton\$24.00@26.00
Alfalfa Northern, ton\$24.00@25.00
Alfalfa local, ton\$25.00@27.00
Straw\$10.00@12.00

BEANS.

This market is reported to be very dull, with limas quoted lower. All other prices remain the same as a week ago.
Limas, per cwt.\$12.00
Large white, per cwt.\$6.25
Small white, per cwt.\$6.50
Blackeyes, per cwt.\$5.00@5.25
Tepary, per cwt.\$3.00@3.25
Pink, per cwt.\$6.25

FRUITS.

The demand is very good and all prices are holding steady at present quotations. Berries are now out of season.

Grapes, Malaga, lb.6@7c
do, Tokays6@7c
do, Muscat4@5c
do, Cornichon, lbs.5@6c
do, Hamburg, lb.3½@4c
do, Rose Peru, lb.3½@4c
Crabapples5@7c
Apples, White and Red Astrakhan, lb 4@7c
Pears, Bartlett, lb.6@8c
Japanese Persimmons, lb.4@8c
Apples—Bellflowers, 4 tier\$1.60@1.70
do, Jonathan, packed box\$2.75@3.00
do, Red Permain, packed box\$1.65
do, White Permain, packed box \$1.70@1.75
do, Yellow Newtown Pippins, pkd box \$1.75
do, Spitzenburg, packed box \$3.00@3.25

FRESH VEGETABLES.

All good fresh stuff in good demand and prices are generally higher. The market reports offerings to be somewhat lighter.

Potatoes, Northern Burbanks,\$2.85@2.95
do, Idaho Russets, cwt.\$2.80@2.90
Sweet Potatoes\$1.75@2.00
Onions, Stockton, yellows, cwt.\$4.00@4.25
do, White Globe, cwt.\$3.60@3.75
Cabbage, per 100 lbs.90c@1.00
Lettuce, crate\$1.50@1.75
Rhubarb, per 30-lb. box75c@1.25
Summer squash, lug60@70c
Peas, per lb.10@12c
Kentucky Wonders9@10c
String Beans, wax9@10c
do, Green8½@7½c
Tomatoes, lug box85@90c
Lima Beans, local, lb.7@8c
Cucumbers, local, lug box\$1.00@1.25
Watermelons, 100 lbs.\$1.00@1.25
Peppers, Bell, lb.3@4c
Casabas, lb.1@1½c
Celery, crate\$3.50@3.75
Cauliflower, crate\$1.75@2.00

JOAQUIN VALLEY WATER ASSOCIATION ORGANIZED.

Permanent organization of the San Joaquin Valley Water Conservation and Development Association was perfected at a meeting in Tulare on October 24, following a water conference held in the same city at the call of the Tulare Board of Trade September 5 and 6. Permanent officers were elected and a constitution and by-laws were adopted, the purpose of the organization being stated "to consider all water problems affecting the counties of Kern, Kings, Tulare, Fresno, Madera, Merced, Stanislaus, Tuolumne, Mariposa, Calaveras, and San Joaquin counties, to work harmoniously for the adoption and carrying out a comprehensive plan for irrigation, drainage, and reclamation and the conservation of the water supply of the entire San Joaquin Valley."

Resolutions were adopted opposing the referendum on Senate Bill 493, calling for amendments to existing laws so that comprehensive irrigation projects may not be interfered with by smaller proposals within the same territory and supporting the fight of the Kern County Farm Bureau against Miller & Lux to prevent the land corporation from killing the extensive system mapped out for irrigating Kern county.

Permanent officers elected are William Glass, Fresno, president; John T. Crowe, Tulare, secretary; National Bank of Visalia, treasurer. County vice-presidents and alternates in the order named are: Tulare, W. B. Kiggins, C. H. Slaughter; Kern, H. T. Miller, W. C. Hannawalt; Kings, W. A. Long, alternate to be named later; Fresno, John Fairweather, M. B. Harris; Madera, J. F. Griffith, Craig Cun-

ningham; Stanislaus, Allen Talbot, L. L. Dennett; San Joaquin, Al Ferguson, E. R. Weeks, Jr.; counties not represented to name their representatives in 30 days. The vice-presidents will have charge of the organization campaigns in their respective districts and keep each other and the general organization advised of developments in their sections of the valley.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

GIANT BRONZE TURKEYS

The Gold Nugget Strain continually prove their superiority by winning Gold Special Sweepstakes for best turkeys at the following great shows:

Live Stock Show, Los Angeles, Cal., October, 1919.
Liberty Fair, Los Angeles, Cal., 1918.
Southern California Fair, Riverside, Cal., 1918.

Pacific Coast Exposition Oakland, 1918.

Texas State Fair, 1917.

Los Angeles Show, 1917-18.

California State Fair, 1917-18.

Arizona State Fair, 1916.

Each judge pronounced them the best in show, all breeds competing. An unequal record. This year's awards all first prizes at the Washington State Fair, September, 1919, and the Oregon State Fair, 1919.

Large turkeys can be raised at practically the same cost as small ones. Let me help you make more money. My stock will assure you of more meat when market time comes. Stock and eggs for sale. Circular. J. Will Blackman, Originator Gold Nugget Strain, 607 E. Third St., Los Angeles, Cal.

BABY CHICKS after January first. Book your orders, remembering "the early bird." Hatching R. I. Reds, Barred and White Rocks, Black Minorcas, White, Brown and Buff Leghorns. Large or small lots, from first-class breeding stock, hatched right and priced right. Circular free. **MISSION HATCHERY**, Box 17, Campbell, Cal.

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White Leghorns, Brown Leghorns, White Rock; Cockerels and Pullets.
High-class, standard-bred stock.

PEERLESS WHITE WYANDOTTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

THOROUGHBRED S. C. White Leghorn chicks in 100 and 1000 lots from Hogenized and trap-nested stock. Order early for spring delivery. Inventors and Distributors of "For-bros" Separator and trap-nest combined. Forster Brothers, 2918 Otis St., Berkeley, Cal.

ORDER BABY CHICKS NOW—For immediate or spring delivery. Several varieties. Safe arrival guaranteed. Write for free circular. R. I. Red, Buff Orpington and White Rock cockerels now ready for shipment. Stubbe Poultry Ranch and Hatchery, Box 67, Palo Alto, Cal.

BABY CHICKS—From my Single-comb White Leghorns, bred for heavy layers, which have been in the race for 12 years, and today is among the leaders. You don't go wrong by placing your order with me. Write for prices and terms. H. A. Schlotthauer, Exeter, California.

"WATCH US GROW"—Baby chicks. Booking orders now for January and February delivery. White and Brown Leghorns, R. I. Reds and Barred Rocks. Safe delivery guaranteed. Order early. E. W. Ohlen, Campbell, Cal.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Hatching eggs. Improve your color and egg capacity. Also Rose-comb Reds. Wm. Larm, 3915 39th Ave., Fruitvale, Cal.

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BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Voden, Box 3, Los Gatos, Calif.

"EASTMAN'S BRED-TO-LAY". Hogenized and trap-nested Barred Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Calif.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

CHICKENS, DUCKS, GESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

PUREBRED S. C. RHODE ISLAND RED hatching eggs. \$2.00 per fifteen. E. G. Goins, Quail Ranch, Pixley, Cal.

MAMMOTH BRONZE TURKEYS, Embden Geese and Collie Dogs for herding purposes. John G. Mee, St. Helena, Cal.

HANDSOME BLUE ANDALUSIAN Cockerels from prize-winning strain. February hatch. \$5.00 each. Box 459, Route B, San Jose, Cal.

FOR SALE—Pencilled and White Indian Runner and Pekin ducks; also Buff Orpington cockerels. Ralph Mossman, Antioch, Cal.

FOR SALE—Very fine young White Holland turkey toms. Wanted—a few Guinea fowls. Mrs. R. S. Mossman, Antioch, Cal.

WANTED FIFTY RHODE ISLAND Red Pullets. Geo. J. Webster, Nevada City, Cal.

BRONZE TURKEYS—Albert M. Hart, Clements, Calif.

Classified Advertisements

Rate 3½ cents per word each issue.

MISCELLANEOUS.

PROGRESSIVE FARMER WANTED who understands handling alfalfa and planting corn and field crops. Also team work in orchard. If married, wife to cook for 3 men; everything supplied. Party must be reliable and thorough. The place is a highly equipped and improved orchard farm of 170 acres. Address Box 12, Rutherford, Calif.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weissbaum Pipe Works, 160 Eleventh street, San Francisco.

RAISE SILVER FOXES—Exceptional opportunity. Large profits. Easy to raise. New syndicate plan. Will not interfere with your regular occupation. Particulars free. Dryz Silver Fox Syndicate, 5244-46 S. Maplewood Ave., Chicago, Ill.

FOR SALE—Two-hole power corn-sheller, extra large blower, with sacking elevator and chaff catcher, good order. Shells quick and clean, delivering corn into sack. Price \$30. Address Ogden Bolton, Jr., Route 4, Box 447, Santa Rosa, Cal.

BERRY PLANTS—Strawberries, Raspberries, Blackberries, Currants, Gooseberries, Dewberries and Loganberries. Order now to assure delivery. Write M. J. Moniz, Berry Specialist, Sebastopol, California.

FOR SALE CHEAP by owner—40 acres good irrigated land, ¾ miles west of Gridley; some fruit and alfalfa. Houses, large barn and silo. Good for dairy or fruit. D. L. Smith, Gridley, Cal., R. F. D., No. 2, Box 113.

WANTED—Position caring for orchard near coast; salary or shares. Have had experience with different kinds of orchards. Can furnish references. B. F. Michael, R. 2, Merced, Calif.

WANTED—Services of a competent man about two months this winter for tree surgery and to work over an old orchard. Jas. Reade Watson, 4008 Judah St., San Francisco.

MADE OF REDWOOD, Rawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

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ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Sheeter Pipe Works, 304 Howard St., San Francisco.

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CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

FOR SALE—Bean Tractor, has latest improvements; in A-1 condition. Will sell cheap. Gibson Development Co., Oakdale, Calif.

WANTED—Married dairyman, experienced in A. R. O. fitting for shows; calf raising, etc. Sunnybrook Ranch, Willets, Calif.

BOYS, YOU CAN MAKE MONEY saving Pumpkin seeds. Write for particulars. Bomberger Seed Co., Modesto, Cal.

A NEW ALFALFA—Investigate now. Our great "Hardy Hybrid" alfalfa. For facts, write J. L. Lawson, San Jose.

MAMMOTH JERSEY KALE SEED—2 oz., 15c, by the pound, \$1.00. A. P. Ward & Son, Calistoga.

SUDAN—We want to buy Sudan grass seed. Send us samples. Bomberger Seed Co., Modesto, Cal.

COUNTRY LANDS.

100 A., \$3300; WITH Pr. Horses, 8 Cows and Bull, heifer, pigs, tools and implements, hay, fodder included for quick sale; easy terms. Convenient R.R. town, high school, 6 churches, creamery, markets. 50 acres fertile fields adapted all general crops, 16-cow pasture, wood fruit. Good buildings, 9-room house, large barn, granary, corn poultry, hog houses. Traveling instructions to see this unusual bargain in equipped farm, page 22, Strout's Fall Catalog, 100 pages Farm Bargains 23 States; copy free. **STROUT FARM AGENCY**, 831AF, New York Life Bldg., Kansas City, Mo.

FOR SALE BY OWNER—12½-acre ranch, 4 miles south of Reedley—5 acres peaches, 2 plums, 1 apricots, 1 Thompson Seedless, ½ drying ground 2½ fenced cow pasture. Trays, boxes. Produced \$3,000 worth of fruits this season. Price right. Want to go East. C. H. Abbott, Reedley, Cal. (Rt. A, Bx 321).

FOR SALE—Forty acres improved and equipped for dairying; 2 miles from State Highway and station; good irrigation system; fenced into six fields; house 14x40—new 60-ton barn with stanchions; 25 cows, young bull, 4 horses, 100 young ewes, 4 brood sows, 17 shoats, farming implements 2 wells, running water for stock 200 seven-year-old fruit trees, bees and supplies, hog and poultry houses, one-fifth down on land, balance in eight years. Particulars write J. H. L., Box 242, Williams, Calif.

FOR SALE—\$5,000. Clear. 104 acres Mattole Valley. Land of the big red apples. 8 acres bearing orchards. 50 flat bottom. Million feet saw-pine. New bungalow and 6 other buildings. Spring water piped under pressure over premises. 14 acres under cultivation. 2 miles fine fencing. County road and Mattole River cross place. Fish and deer. 50 inches rainfall; no irrigation needed. Best apple proposition. No trades. E. T. Gray (Owner), Box 524, Arcata, Calif.

FOR SALE BY OWNER—Ten-acre apple orchard 3 miles south of Bishop, Cal., in Sunland District. Just coming into bearing. Lays under head of Mesa canal with ten inches of water—none better in America. Climatic conditions are unsurpassable. Orchard is in good location on main traveled road with ideal view of mountains and valley. Varieties of fruit are Winesaps and Jonathans, the leading varieties for Owens Valley. Phone 5F4, No trade. Clyde Hall.

120 ACRES IRRIGATED LAND—52 acres cleared, 35 acres in orchard, 17 acres hay land, balance timber. Price \$4,000; one-half cash; terms on balance. Abstract title water with the land. Located in Happy Valley, Shasta Co., Cal. Write Box 133, Cottonwood, Shasta county.

ORCHARD—56 acres, majority planted to almonds, full bearing; remainder in mixed fruits. 7 miles from Stockton on Linden road. \$500 per acre. E. L. Keyes, 112 N. San Joaquin St., Stockton, Calif.

40 ACRES—Fine for berries, vegetables, poultry and cows; plenty water and wood; near town. H. Koenig, Fort Bragg, Calif.

FOR RENT—Ninety-acre apple and pear orchard on shares; location, Paradise, Calif. Dr. C. A. Oliver, Chico, Cal., Box 942.

42 ACRES GOOD FRUIT LAND—improved near Woodland. Box 16A, R. 3, Woodland, Calif.

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For 30 years I have been devoting my entire time to purebred beef cattle. I know the kind of cattle California needs and where and how to buy. I make regular trips to the great producing centers and will buy on order. Best of references. Satisfaction assured. Correspondence invited.
R. M. DUNLAP, Hotel Land, Sacramento, Cal.

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IT HAS NO EQUAL

For the Human Body
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We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

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Cornhill, Tex.—"One bottle Gaustic Balsam did my rheumatism more good than \$150.00 paid in doctor's bills."
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**THE PREMIER BURNER**

The Premier makes its own gas from Kerosene (common coal oil)

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\$12.50—for No. 6 and smaller stoves.
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VAUGHAN & MATTISON,

225 Market Street,

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BOUNCING, jolting and swaying are replaced by a wonderful new riding comfort—the kind that cushions road bumps; that absorbs shock and vibration.

It is the new riding comfort of Overland 4 with Three-Point Suspension Springs—the greatest improvement to riding since the introduction of pneumatic tires.

These Three-Point Suspension Springs are attached at the ends of a

130-inch frame, giving Overland 4 long wheelbase road steadiness. Yet they preserve the lightness, driving ease and economy of 100-inch wheelbase.

Many other notable advantages result from these springs. Every part of the car has longer life with correspondingly lower upkeep cost because shielded from constant road blows. Tires have greater mileage. Light weight effects economy in fuel and oil.

Overland 4 is a sturdy, serviceable car of highest quality as well as handsome design and attractive appearance. Equipment is complete from Auto-Lite Starting and Lighting to Demountable Rims.

Have the Overland dealer show you this remarkable car. Ask for Booklet. Overland 4 Touring, \$845; Roadster, \$845; Coupe, \$1325; Sedan, \$1375. Prices f. o. b. Toledo.

WILLYS-OVERLAND INC., TOLEDO, OHIO

Sedans, Coupes, Touring Cars and Roadsters—Prices subject to change without notice.
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THE PACIFIC RURAL PRESS

SAN FRANCISCO

NOVEMBER 15, 1919

LOS ANGELES

Early Baart Wheat Has Made Good

Written for Pacific Rural Press by R. E. Hodges.



STUPENDOUS TASK has been accomplished. Wise heads said it could not be done—they spoke on the basis of multitudes of experiences with projects not greatly different in nature, but seldom of such magnitude.

The introduction of Early Baart wheat throughout a State eight hundred miles long, and containing every variety of soil, moisture conditions, and climate—all in one season—it was some job! The Sperry Flour Company undertook it in the fall of 1918. By securing co-operation of practically all mediums of publicity, they carried it through. Their reasons were that California wheat production had dropped from 53,000,000 bushels in 1896 to 7,000,000 bushels in 1918. Its quality had degenerated until most of the crop was of little value for flour. California requirements were between 20,000,000 and 25,000,000 bushels. The great difference between what we produced and what our mills made into flour had to be imported.

flour made from it has put our flour markets in the best shape. Probably half of the Sperry Company's business is export. They and the other milling companies of California have assured a home market for our wheat and have been assured of a supply, the quality of which enables them to compete with the world.

Early Baart has quite generally outyielded the varieties formerly grown, in every section where it was planted. Thin red soil, sandy soil, heavy adobe, and all variations between have yielded an average better than 20 bushels per acre. In Butte county on old rice land it yielded over 40 bushels per acre where drainage was good, and about 17 bushels where there was no drainage. It yielded about 26 bushels per acre in the clay loam of the Sierra foothills. Imperial Valley farmers began delivering Early Baart crops to Los Angeles mills late in June, and they were enthusiastic. In the sediment of the Tulare Lake bottom we saw crops promis-



"Plant More and Better Wheat"—Gratifying Results.

In that time of world need, it seemed necessary for California to raise at least enough to feed herself.

The Sperry Company bought Early Baart seed in the Northwest and probably in Arizona, in which States this had already become a leading variety. They sold it to the ranchers of California at or close to cost—6,000 tons—enough for 170,000 acres. Probably 25,000 acres were planted with seed from other sources. It was certainly an accomplishment.

But what would the harvest be—wheat or wheat? The writer has inquired from ranchers in all parts of the State this season, and most of his findings agree with those of Geo. E. McLeod, who had charge of the Sperry campaign.

Superiority Proved.

Early Baart has proved its superiority over other varieties in nearly every section, especially where the locations were more than commonly wet or dry. Its quality or "strength," where grown at elevations around 2,000 feet, equals that of wheat imported from the best hardwheat sections of the United States. In our valleys, and even in the coast counties, it takes the highest grade—"No. 1 hard white." It has been exceptionally clean—free from smut, weed seed, etc.—due to its having been thoroughly cleaned before sale to planters and due to its running so true to type. The

ing as heavy a yield as the Sonora, which is almost exclusively grown there, but which sells at the lowest price per hundred. Eight or ten miles from the coast in San Diego county, a crop of 32 or 33 bushels per acre is reported. Another crop almost as big grew on a ranch the same distance from the coast in Santa Barbara county. The variety has gained favor in Sonoma and Mendocino counties. The dryness of this season, along with hot winds in the Sacramento and San Joaquin valleys, gave all grains a hard test. Baart compared favorably with the best in all cases and was the best in most cases. One rancher in Tehama county was disappointed with his yield of a little over eight bushels per acre where the hot wind had broken down his wheat early in July and had shattered it. However, he expects to plant more Baart this fall. Bluestem, which has so deteriorated in many parts of the State that many lots have graded No. 2 Soft, is losing its acreage to Baart.

The dryness of this fall has held back the wheat planting. The shortage of summer fallow is likely to hold the acreage below that of last year. Sperry sales of Baart wheat are much less than last year to date. This is expected, because in all parts of the State farmers will buy from their neighbors. It seems likely that Early Baart will occupy a much greater proportion of total wheat acreage than last year.

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THOS. F. MCCONNELL - - - - - Livestock
H. E. PASTOR - - - - - Poultry

EDITORIAL.

AGRICULTURAL REPRESENTATION.

STATE DIRECTOR OF AGRICULTURE HECKE is making a suggestion at the Chico Convention this week which should be enthusiastically adopted and acted upon. It is the creation of what he calls a "legislative committee," upon which every co-operating group of California farmers is invited to representation. It is a move toward a central co-operation of all the co-operative organizations now acting in our agriculture which we have been constantly urging for the last few years. It will be, when realized, an expansion of the organization of co-operating groups now acting under Col. Weinstock's auspices to include all our farmers' societies so that there may be one body of convenient size which can justly claim to be representative of our whole diversified agricultural production. In this way all the large general groups like the membership of the Grange, the Farmers' Union, and the Owners' and Operators' Association, can be brought into direct action with the special-purpose organizations—all the way from the great citrus, dairy, prune, raisin, peach, almond, walnut, poultry, and other large groups to the smaller bodies of every kind, from the graduated Gooseberry Growers of Greenfield to the Reciprocating Rabbit Raisers of Redwood, which will ere long no doubt be created. What we need, in our judgment, is a central body which shall unite and correlate all our associated efforts so that those which are working for the enforcement of sound economic and social principles and agricultural relations in general shall co-operate with those which are working to meet specific needs requirements and privileges of particular producing groups of farmers, and in that way move public opinion and political action toward promotion of profitable food production and the fair relations of producers thereof to all other elements of population. These things can never be secured without ample agricultural data and correct agricultural points of view, and no amount of academic erudition can keep these essentials always up to date under constantly changing economic and commercial conditions. It is the function of continuous production itself to supply this essential to correct public opinion and action, and producers can never discharge this function broadly and accurately without co-operation which shall represent all forms and phases of their varied activities. We trust the Chico convention will act energetically along the line of Director Hecke's suggestion, to which we allude and of which details are given on another page. It will be a step in the right direction.

AGRICULTURE IN THE UNREST.

President Wilson's very proper arrangement for an adjustment of reasonable relations between employers and workmen by conference, has apparently been hopelessly wrecked by the action of the labor representatives as described in our issue of November 1. So far we hear nothing more of operations by any successor to the original conference. Possibly the collision of the conference with the steel

strike and the following collision of the government with the coal strike have thrown the general conference idea off the track and President Wilson may be realizing the truth of the apothegm of his predecessor, President Cleveland, when he said: "We are confronted by a condition, not a theory." The attitude of the President toward the strike, which defies the government of the United States, is one which the public must be thankful for, and his words are expressive of the patriotic sentiment of the country when he said:

"It is time for plain speaking. These matters with which we now deal touch not only the welfare of a class, but vitally concern the well-being, the comfort and the very life of all the people."

"I feel it is my duty in the public interest to declare that any attempt to carry out the purpose of this strike and thus to paralyze the industry of the country, with the consequent suffering and distress of our people, must be considered a grave moral and legal wrong against the Government and the people of the United States. I can do nothing else than to say that the law will be enforced and the means will be found to protect the interests of the Nation in any emergency that may arise out of this unhappy business."

And this is what the government of the country is trying to enforce as we write on "Armistice Day"—the new national holiday. There is a chance that those who are in opposition to the welfare and the enjoyment of their rights by their fellow-citizens may turn from the error of their ways before the sun sets on Armistice Day, which was instituted to commemorate the return of law and order to world affairs. There can be no armistice until loyalty to law and order and recognition of the rights of the public as higher than the claims of any class, shall be declared.

The position of farmers, when unpatriotic action crops out in this country, has never been doubtful nor uncertain. Farmer's have always stood for patriotic conservatism and against destructive radicalism. They are now coming to a better definition of the requirements of their industry, which will allow them to continue to be such conservative force as the country needs. We are printing on another page a carefully drawn declaration of the relations of farmers to other industries and group-interests in this country. It bears the endorsement of one division of the tri-partite conference at Washington, which was arrested in its work, as we have already stated. This declaration should be carefully studied by our readers and made the subject of frank and free discussion in our agricultural assemblies.

WOOLEN MANUFACTURING.

We quite sympathize with the elation of our Oakland contemporaries over the projected establishment in their city of a two-million-dollar plant to be entitled the "Federal Wool Manufacturing Co.," for which a site of twenty-three acres has been secured upon which the following things are planned to be done.

There will be constructed buildings to cost \$740,000 while the machinery will reach in value \$780,000. The buildings will consist of a wool scouring structure 82 by 225 feet and four stories high; a five-story building for spinning, carding and combing, 80 by 225 feet; a warehouse 350 by 250 feet, and a ten-story administration building, 50 by 100 feet. It is planned to have the plant in full operation by next summer. Employment will be given to 200 men and 600 women. Many of the expert workers will be brought from New England, it is said.

It will be a good thing to establish on this coast a wool-center which shall share the honors with Boston, New York and Philadelphia, and which may liberalize somewhat the attitude of the Atlantic interests toward the wool production of the West half of the country through competition with a nearer marketing center. The institution noted above is apparently the realization of a desire announced last year by an Australia visitor, "that the Pacific Coast should possess large woollen mills that would obviate the necessity of shipping Australian wool all the way to the Atlantic coast." So far as it is desirable to import Australian wools it is reasonable that they should be landed on this coast and carried along in the process of manufacturing, is feasible here so that they may cross the continent as an improved product rather than whirled through our State as raw-material. To what extent and how long it may be necessary to

import Australian wools are questions for later consideration. As to the relation of the new undertaking to wool production on the Pacific slope, it should be strongly promotive. If we can get the reasonable protection for home-grown wools, which our wool growers contended for several years under the leadership of Mr. Ellenwood and lost through the insanity of the Underwood law of 1913, there seems ample reason to believe that our waste lands will be carrying useful sheep instead of destructive coyotes and other vermin. For it was clearly shown that the old tariff law was unjust to growers in that it talked so much turkey to dealers and manufacturers and so much crow to flock-owners. How the manufacturers were able so long to successfully talk protection to growers and realize so much privilege to themselves can only be explained on the ground that the manufacturers held the starter on protective legislation and kept the growers in the gasoline tank. We are glad the Oakland institution is starting up for the discussion of the whole wool industry will not take a new start, and recognition of justice to growers may return our California wool production to more creditable figures.

BOVINE AND PORCINE CONFECTIONERY.

Speaking of manufacturing enterprises which may be promotive of California agriculture, we remark another venture which is scheduled for Oakland. It is credited with being financed wholly by eastern people, and will construct a manufacturing plant covering six acres—operating under the name of the Stockmen's Service and Supply Company. It will make stock medicine, presumably of the tonic type, and to meet the greater appetite thus induced will do manufacturing which an Oakland exchange describes as follows:

It will employ 100 men at the plant and 100 in the field; it will turn out 3,000 tons of balanced ration product per month, valued at \$45 per ton, composed of rice, copra, corn meal, alfalfa and other commodities. It will open a market for grades of rice and by-products of the rice mills which now are difficult to dispose of and for copra, meal and various forms of farm output.

It seems to be a good, logical and self-promotive scheme for it will make more medicine to induce more appetite for more factory-balanced rations to furnish more manure to grow more farm by-products to make into more rations to feed more animals to take more medicine, etc. Evidently the projector has such a business vista in mind for he is credited with saying:

"Through the plant's product and the methods pursued, this State's total tonnage of pork will be increased from 20 per cent to 40 per cent over present output and the raising of hogs will immediately increase. The same will be the case with other livestock of food value. The result will be greater shipments and better prices."

And surely that is what we need—especially the better prices or decreased cost of production to leave more margin for producers. If the new outfit will insure that outcome it will deserve to be one of the most popular concerns in California!

NO ARMISTICE WITH DISORDER.

As we are writing this on Armistice Day, because the printers cannot release their requirements for editorial promptness, we hear the patriotic music, the tramp of the patriotic processions and the soul-stirring periods of patriotic oratory by which Americans are doing honor to the memory of their fallen heroes—rendering thanks and honors to them for their willing sacrifices for the lasting good of mankind. It is significant that on the very day that such gratitude and honor is being paid, the nation is rising, through the stalwart bravery of the government, to make it everlastingly sure that our heroes have not made the supreme sacrifice in vain. While we honor their memories it is fitting for every patriotic American to solemnly resolve that no portion of our population shall ever be permitted to substitute its arbitrary will for the national will, nor to claim a right to serve its own fancied interests when they are destructive of the public welfare. Shall we sacrifice our men abroad to secure world peace, order and justice to all mankind, and tolerate defiance of our representative government to secure these blessings for our own people? God forbid! Ours is a land of free speech and free opportunity—under the laws and institu-

tions which we enact and establish. We are a people believing in the enactment of the popular will into laws which shall conserve human rights, dispense justice and promote freedom, and thus provide remedies for all demonstrated evil and injustice—but we are not a people to defy law and destroy order as we have ourselves established them. We are a people to progressively create justice, as we are able to discern its more perfect forms. Such is the American spirit and method to correct wrongs and establish rights, and a true American can brook no crime against the endowment which our forefathers created and bequeathed to us as our national birthright. There can be no armistice with disorder!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Refrigerating Walnut Trees.

To the Editor: I am planning to import walnut trees from California next March, having them put in the refrigerating chamber of the steamship. Is the chamber likely to kill them through freezing? Should the experiment only prove successful with a few of the trees, would it be worth while budding from those trees? Of course, they would be grafted or budded trees, so the scions taken from them would be true to the parent trees. Would the buds or grafts, as the case may be, come into bearing as soon as the parent tree?—E. H., Victoria, Australia.

If the temperature runs from 35 to 40 degrees, or whatever degree above 32 degrees is used for fruits, dairy products, etc., no harm would result. We presume that would be the case in some of the chambers, for probably nothing is going from here which requires as low a temperature as you may be using for your frozen meat exports, and ships are not likely to undertake the expense of maintaining a lower temperature than is required. The buds or scions which you take from the grafted trees which you buy in this State will grow true to their own kind, no matter what kind of a walnut tree you succeed in getting them to grow upon. As a rule they may bear a little later than the nursery tree from which you take them, but sometimes it works the other way.

Putting in Alfalfa with Oats.

To the Editor: I was interested in the article of October 11, 1919, headed "Cracking-in Alfalfa." It seems to be the common opinion among most California farmers that one must sow the alfalfa seed alone in all kinds of ground and at all times. I have even heard some call a "nurse crop" for alfalfa "a murder crop," but I think there are exceptions to the alfalfa rule as well as any other. Last spring I prepared my seedbed thoroughly in heavy sandy, loamy soil, sowed oats as if there was to be no other crop sowed. I then broad-casted the alfalfa seed about eighteen pounds to the acre, and cross harrowed the alfalfa seed in. The oats came up nicely and I cut over one ton per acre of oat hay with the clipping of the alfalfa and over a ton per acre the first cutting of the alfalfa, so by my actual experience I believe if Mr. D. L. S. of Antioch will sow his alfalfa real early and watch the young plants and cut the nurse crop for hay at the time the alfalfa should be clipped, he will be ahead of the old game one crop of hay, providing the land can be irrigated properly. My crop was on subirrigated land.—Wm. Patton, Los Molinos.

Your steady moisture supply and your cutting the oats early made your method reasonable. The California practice of giving the land to alfalfa alone, is surely the right practice for ordinary conditions, and it is backed by several decades of local experience.

Do Not Drain into a Well.

To the Editor: I am building a house on my ranch. There is an old well near, and I have been told I can drain my cess pool into the old well. It is seventy-five feet from my well which I am using for my water supply. Please let me know if I can use it or not.—W. R., Sacramento.

The disposal of house wastes in the old well would be very dangerous because of the chance of discharging the sewage into the same water-bearing stratum from which the well you are using draws its supply. It would be safer to use almost any method of surface distribution. The reasonable and safe way to dispose of sewage on farms is the septic tank, with the use of the discharging water for irrigation in surface ditches or for sub-irrigation by tiles of orchard trees or other plants.

Barley after Alfalfa.

To the Editor: We have 30 acres that have been in alfalfa for the past 7 or 8 years. Soil is known as the Orland sandy loam. We are plowing this alfalfa with the intention of planting Mariout barley, and after harvesting it, to plant milo. Would you advise fall planting or spring planting of the barley? If planted in the fall would it make too rank a growth? If in the spring, will it be ready to harvest in time to plant the milo, say in June? We plan to sow about 80 pounds seeds per acre. The land can all be irrigated if necessary.—K. C., Orland.

We would turn under the alfalfa as soon as possible and as soon as the ground is thoroughly wet down by the rains get the barley seeded. On light, well-drained soils in the interior barley should be in before January 1 if the season favors. By getting the alfalfa under a month or two sooner and rolling a sandy soil it will start decay and give you less trouble from drying out than the coarseness of it otherwise might in a light soil if the rainfall should be scant. By starting early you will get the main growth of the barley while the rains are falling and you have a much better chance at double-cropping. By starting early your chances of getting a crop of barley is better also. Spring-sown barley in the interior needs a very favorable season to come through.

Sowing Barley in Alfalfa.

To the Editor: Is it advisable to sow barley in alfalfa one year old? Would I get enough extra hay to pay me? Is there any disadvantage to this method? My alfalfa is a good stand—my object being to get greater tonnage.—L. J., Hemet.

Successful experience with this practice has been reported during the last few years and one has to conclude that under certain conditions it is reasonable and profitable, but we apprehend that there is danger of going too far in this direction. On lands where alfalfa has a long dormant season, because of continuous low temperatures, it seems to us better to get a crop of barley feed or hay than to get a rank growth of fox-tail—which one usually does under such conditions. On the other hand, in places where alfalfa gives a cutting as late as December, and another on in February, and where the plant is hardly dormant at all (as particularly in some places in southern California, perhaps), we would keep barley away and scratch out fox-tail and other weeds, and let the alfalfa go it as best it can alone. It is probably true that the better the alfalfa stand is the less there is to be gained in the years' tonnage of cut—and vice versa. But as we said at first, some are strongly advocating a good growth of barley when the alfalfa is dormant.

Almond Hulls as a Fertilizer.

To the Editor: Do almond hulls contain elements valuable to the soil, or are they rather injurious? The orchardists seem to be of various opinions, so kindly settle the question.—I. B., Arbuckle.

We shall have to settle it on very general grounds. Almond hulls do contain a considerable amount of substances valuable to plants if they can be put into available forms, but this may not always be practicable. They contain enough nutritive substances to make them useful as stock feed, and while they are still soft enough stock will eat them. If then they can be put where they are handy for stock to help themselves as they desire, the hulls can be transformed into an available manure. Whether they contain enough value to make it profitable to grind them for stock, or to return to the soil in a fine form, which will facilitate their decay, has not been determined or demonstrated. Until they decay they are of no use to the soil. We do not see how they can be injurious except possibly in cases where masses of them get into too active acid fermentation, and we never saw that.

Are Cats Good for Chipmunks?

To the Editor: We thank you for your josh about cats to scare birds in your reply to R. P., of Oakland in your issue of October 18. Funny we didn't think of it before, but there is nothing like having a wide-awake editor to prod us up occasionally. While this may or may not be effective with birds, it surely will with chipmunks, which are a great pest in this valley. Next years we will chain a cat to every tree, and invite you to come and note results.—T. J. T., Lancaster.

You are making the formula too difficult. If you will only breed cats enough to have one for each tree, you will not need to chain them up. They will do better if left free to hunt!

Books on California Agriculture

Have you got your copy of
**"CALIFORNIA FRUITS
 AND HOW TO GROW THEM"**

EIGHTH EDITION; FULLY REVISED;
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 "California Poultry Practice"; \$1.00 per copy, postpaid.

PACIFIC RURAL PRESS

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 Publishers

Replowing for Grain.

To the Editor: I have some land which was plowed late this spring, and intended to be summer fallowed, but I didn't get time to work the ground this summer and it grew up into weeds now, mostly tuccalote and summer or dove weeds. Which would you prefer to do now: replot it or disk it, for grain?—F. W., Valley.

If you had been able to carry out your intention to secure a well-worked and clean summer fallow, we could chance it with a disk, but as it is still early we would plow as soon as possible—covering all the rubbish and getting in rainfall enough to rot it and make a crop also. If it were much later, or if it is a very light soil, we might trust to the disk.

Sorghum Poisoning.

To the Editor: Are milo maize stalks poisonous under certain conditions? I have been feeding my cow on them and have been told they have proved fatal to cattle. Is second growth milo poison?—G. H. W., Van Nuys.

As we have frequently said before, rank, fresh growth of any of the sorghums is apt to be poisonous, and therefore should be fed with care and in small amounts at first. It is the growth after cutting, or "second growth," which is likely to be most rank and most dangerous. Dry sirghum stalks or fresh growth which is cut and wilted for a day are not poisonous. Fortunately, it is only occasionally that a poisonous condition occurs.

Fig and Olive Cuttings.

To the Editor: I wish to know the best time to plant fig and olive cuttings. I wish to put out a good many and would be pleased to have you start me right.—G. H. P., Red Bluff.

The best time to set cuttings of both fruits is after the coldest weather and the heaviest rains are over and the soil is beginning to warm up though still amply moist. This usually comes in February in most valley and foothill places. If you are intending to propagate these fruits to any extent you need to know about handling different kinds of cuttings, etc., as is described in detail in our book, "California Fruits," which contains the fullest available descriptions of California nursery methods.

CALIFORNIA WEATHER RECORD

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending November 11, 1919.

Stations—	Past Week	Seasonal To Date	Rainfall Normal To Date	Temperature	
				Highest	Lowest
Eureka .....	.56	3.38	5.36	56	34
Red Bluff .....	.09	1.06	3.29	70	36
Sacramento .....	.17	.72	1.89	66	40
San Francisco .....	.00	.66	2.11	66	46
San Jose .....	.03	.57	1.60	68	32
Fresno .....	.00	.58	1.17	68	38
San Luis Obispo .....	.00	.54	2.15	74	34
Los Angeles .....	.00	1.85	1.12	72	48
San Diego .....	.00	1.31	.76	66	44
Winnemucca .....	.13	1.21	1.42	54	16

Need Agricultural Legislative Committee

By G. H. Hecke, State Director of Agriculture at the Fruit Growers' and Farmers' Convention at Chico.

State "Fruit Growers' Conventions" began in 1881, and the one being held in Chico this week is the 52nd—because sometimes two are held in a year. At the convention of 1917 it was decided to enlarge the scope of the assemblies and a new name was selected, viz.: "Fruit Growers' and Farmers' Conventions." In 1919 a reorganization of the State executive work for agriculture was effected and G. H. Hecke was appointed "Director of Agriculture." In opening the convention at Chico Mr. Hecke discussed the scope and relations of his new function.

THE new California Department of Agriculture, which came into existence on July 22 of the current year has an interesting historical background. As early as 1909, Mr. Seavey, now a member of the State Board of Control, proposed a revision in the method of administering the agricultural activities of the State, but at that time the project failed to attract sufficient support to effect its passage in the Legislature. A similar program was broached at the State Fruit Growers' Convention at Los Angeles in 1914, and a committee was appointed which presented a bill to the 1915 legislature to unify the work of the several agricultural offices under one effective head, to be known as the "Secretary of Agriculture." This bill died in legislative committee. At the Convention at Visalia in November, 1915, I, as County Commissioner of Yolo County, took the stand that such consolidation should be effected. Such consolidation and the creation of the State Department of Agriculture are now accomplished facts, due to the strong initiative of Governor Stephens. The result is a unification of the following bureaus, boards and commissions under the direction of the "Director of Agriculture," viz.: Office of the State Commission of Horticulture; Board of Viticultural Commissioners; Office of State Veterinarian; State Board of Cattle Protection; State Dairy Bureau; Administration of the Insecticide and Fungicide Act, and the Fertilizer Act.

What the Director Will Do.

The Director of Agriculture, appointed by the Governor under the provisions of the legislative act of 1919, thus finds himself engaged in a broader field of work, definitely outlined and clearly established by legislative action. The well-defined work, previously carried on by the various agencies before consolidation, will be continued, and notwithstanding the program of making an effective saving over the cost of conducting the former disconnected work, an aggressive campaign is being pursued to make the services of the new organization more and more valuable to the farming interests of the State.

The branches of the work within the department represent the application of the laws of the State for the protection of the different phases of agriculture. These laws are of a regulatory nature, dealing with the inspection service of the plant and animal industries for the purpose of enforcing the standardization of plant and dairy products, the protection of the cattlemen, and preventing the introduction into the State of plant and animal pests and diseases and controlling those that already exist.

The Department of Agriculture is assuming a large responsibility in endeavoring to carry on the work outlined on a budget less, by nearly \$40,000, than were the combined resources of the former independent offices—and this in the face of an increased demand for services and the necessity for providing a better living wage to our employees, thus making quite an increase in salary expense.

It is expected to accomplish this and give at least the same efficient service as was given before consolidation. We will endeavor to do it by preventing overlapping—by combining, for instance, the cattle inspection with the dairy inspection wherever possible, and rodent control with pest control—and by bringing the headquarters of the former commissions, boards, and bureaus together in one building in Sacramento.

The new Department of Agriculture

is fully aware of the danger that may come to the State in proceeding in this important police work without adequate personnel or sufficient equipment; but it is hoped that the result of the trial will demonstrate the wisdom of the plan and at the same time convince the next legislature that the equipment and working force of the Department must be commensurate with the responsibilities assumed.

Greatness of California Agriculture.

Agriculture is by far the largest and most important industry in the State of California. Figures recently prepared by this office show production values for the 1918 as follows:

Fruit and grape crops....\$171,626,000
Field and truck crops.... 351,400,000

Marketable farm animals...\$523,026,000
Dairy products.....\$67,696,955
Total Agricultural and.....\$122,125,011

Livestock.....\$645,151,011
The figures of 1919 naturally will exceed the 1918 production estimates by many millions and at least 15 per cent would be only a very conservative increase.

For further comparison the 1918 production values show

Minerals.....\$37,686,072
Oil.....127,459,221
Lumber.....29,000,000

The agricultural production is more than three times as large as these three great industries combined; and it is thus very evident that the great bulk of California's economic wealth accrues to her from agricultural production.

As a logical conclusion it follows that the Department of Agriculture, which is now charged with the protection of such an extensive industry, must expand to meet the heavy demands to be made upon it now, and increasingly in the near future.

The State Must Promote Farming.

The need for adequate assistance for agriculture has been fully recognized by Governor Stephens, who has laid out his agricultural platform as follows:

"Never before in the history of the world has the realization of humanity utter dependence on the agriculturist been so acute as it is today.

"The critical situation of civilization in these times will be determined as the farmer may succeed in providing food. And it is not alone in the production of eatables that the farmer is important. He is the bulwark of governments and of peace and order.

"I cannot point to a more advantageous use of public funds or employment of the energies of the State officials than aiding the farmer to grow more bountiful crops and to protect them until the harvest time."

What Farmers Have Done for Themselves.

How, then, may we promote the growth of this Department of Agriculture to realize the maximum benefits at this time? Let us look back upon the proceedings of years ago. It was at fruit growers' conventions that the need and possibility of co-operative marketing organizations were emphasized, and where the ideas materialized which later resulted in the formation of the earlier cooperative associations, which have proved of sterling worth from every viewpoint.

The outgrowth of the co-operative idea has been the organization of growers of practically every kind of farm products and fruit, and this has resulted in placing the individual growers in a position where, instead of realizing a loss for their time and

work, they have been able to secure at least a reasonable profit.

These co-operative associations represent the greatest development which has come to California agriculture, and as a united body they are in a position gracefully to suggest such needful agricultural legislation and to secure the well-merited attention which their projects justify. Here, then, are the means by which adequate assistance and necessary protection to the agricultural industry may be secured.

How Farmers May Protect Their Interests.

In the past, special attention has been given to questions of labor and capital by our legislatures and under the extraordinary stress of present conditions this is the time for agriculture to be accorded its well-deserved and vital consideration. Especially is it timely that these problems be given due consideration and provided for against the coming of the 1921 legislature with its usual complement of progressive agricultural legislation. We feel that these co-operative marketing organizations form the logical bodies from which to secure such needful legislation and that the ideal method of procedure is through the creation of a legislative committee composed of a representative from each of these associations.

The reasons for the formation of a legislative committee may easily be found in the fact that our recent legislatures as a whole have been kindly disposed toward measures fostering progressive agriculture. In the past, however, no concerted effort has ever been made to bring the farmers' case to the attention of the legislature in a unified way. Every agricultural appropriation bill usually has met with opposition through unfortunate misunderstanding. Under such conditions, was it not almost impossible for our law makers to know the great thing to be done in any given case? The very lack of concerted action on the part of the farmers added to the uncertainty of the legislators and inadvertently clouded the merits of the case, and it is through such ill-timed and disconcerted activity that a resulting lack of support was realized in many cases.

Independent Legislative Committee.

Such a committee should approach these legislative questions impartially, and should not be bound to any one State department or to any special organization, but should carefully consider and work for the needs of all concerned. Any featuresavoring of a political aspect must at once be eliminated for that is not the function of such a body, and there is nothing which will so quickly destroy its effectiveness and purpose. Its members should be men who will be able to attend its meetings with regularity, and to secure this the means should be provided by which the expenses of these members will be paid from a fund created for the purpose of enabling the committee to accomplish effective work.

The attention of this committee then should be turned to a consideration of

NEWEST TREE-FRUIT IN STATE.

"The newest and most precocious fruit in California" is the characterization given to a rather extensive bearing orchard of jujubes at the U. S. Plant Introduction Garden near Chico. The fruits resemble California dates in color, size, shape, and seed; and are not distantly related in sweetness and flavor. To eat one is to want more, whether fresh or cured. Having been brought from China, they are also called "Chinese dates." But the trees are nothing like our date palms. At a distance they remind one of spreading poplar trees, but the leaves are compound. Fruits are borne on these compound leaves where they hang until they dry some and shrivel slightly, ripening in October. The leaves drop annually. While the

the various needs, their relative importance and urgency, and some definite and workable plan prepared for presentation to the coming legislature, behind which plan the entire force of all these organizations can be placed.

As suggested at the Visalia Convention in 1915, "this legislative committee should be furnished with financial means for employing a trained jurist known to be versed in the systematic arrangement of acts embodying a common subject, and able to express the will of his clients in legal and certain phraseology. It should, if possible, understand the spirit and inspiration that have enabled the fruit growers to protect and conserve their own interests so well in the past by legislative pioneering that, with all its faults, is yet supreme in that line."

Every step taken by the committee would be under the direct control of the organizations that it represents, and its work would be submitted at last to the fruit growers and farmers for approval at the next fruit growers' and farmers' convention, and finally to the legislators for enactment. It is certain that such procedure would suggest a proper guide to legislative consideration and one that would command respect and support from all concerned.

Act as Agricultural Grand Jury.

In addition, it might even perform the functions of an agricultural grand jury, investigating present methods and the operation of law-enforcing machinery as it relates to agriculture, investigating the uses made of various funds appropriated for the benefit of agriculture, the needs of agricultural industry and thereby preparing for any recommended changes that may be necessary.

To summarize the principal duties of this committee:

First, it must investigate the needs of agriculture and secure concerted and definite action.

Second, it must act impartially, looking always for the opportunity to secure the best legislation regardless of what branches of the State government or individual agencies may be affected.

Third, it must enjoy absolute freedom from politics, and must avoid all reference to political controversies.

This, then, is the all-important and history-making step which the Chico Convention may take toward the up-building of California agriculture. To my mind this movement bids fair to become one of the most effective steps that could possibly be taken, and is one which will maintain our agricultural industry in its rightful first place as, indeed, no other single step has ever done. As a concrete example of the effectiveness of such measures, we can point to the progress which has been made through unification by the labor union, and we are in sympathy with the labor unions in the systematic manner in which they have secured legislative attention. Let us follow their example in this respect, and by united and concerted action secure that recognition for agriculture which is rightfully ours, and of which we have been deprived these many years.

fruits are real confections as they come off the tree, their chief use is for Christmas candies, being prepared by stewing in syrup. Several varieties, six months to three years old, are bearing at the Plant Introduction Garden. Some of them bear fruit on trees from seed planted the same year. Hence they are most precocious.

Ayrhardt walnuts grafted onto a ten-year-old paradox on the W. H. Warren place look as though the grafts will produce as large a growth as the paradox itself. Other varieties grafted on blacks of the same age are dwarfed by comparison.

Continued effort at production will cure the spiritual and material ills of the world quicker than anything else.

California International a Great Success

Written for Pacific Rural Press by Thos. F. McConnell.

The great show is over and we can take stock of what was shown, what was done, and how it can be improved upon in the future shows, for it seems to be the unanimous verdict of the live stock men that this great show should be continued. This was not due to any enthusiasm of the moment, but was the honest conviction of each and every one as the result of eight days of experience. It was not perfect, but it was so good that it will



C. N. Hawkins, Head of Pacheco Cattle Co.

seem as though a part of the life of the livestock men who participated was gone or obliterated if it should be discontinued. The time and the place (San Francisco) were right and the exhibit, from one end to the other, was excellent—better than was even expected by the most sanguine.

The exhibit in the dairy classes was an excellent one from every viewpoint. Some of the prominent herds were not in evidence, but others came in and took their places, and the result was on of the great shows of dairy cattle of the season.

The beautiful and economical Jersey was represented by cattle from the best herds on the Pacific Coast. Guy H. Miller of Modesto, J. E. Thorpe of Lockeford, Frank Reed Sanders of Phoenix, Ariz., Jersey Queen Farm of San Jose, and M. Fortini of Orland, all had good ones. Thorpe had the grand champions in both bull and cow class, although some experts think that it would be possible to place Alameda's Interest over Jolly Senator Raleigh without breaking many rules of the game. M. Fortini's heifer, Jewel of Tintagel, was made junior and reserve grand champion female and attracted much attention by her excellent type and quality.

A. B. Humphrey of Escalon won most of the prizes in the Guernsey division, although L. Dee Smith of Oakland got into the blue in some classes.

The Ayrshires were really a wonderful showing although but two herds were exhibited. Elkhorn Farm of Watsonville, owned by J. Henry Meyer of San Francisco, won a majority of the prizes, although Steybrae Farm had many good cattle and was right in the money all the time. This breed has never had the publicity given other breeds or really what it deserves. There is no doubt in the minds of unprejudiced dairy cattle experts but what the breed is capable of as great performance at the pail as any of the other breeds, and withal is very attractive in appearance.

It is seldom that at any dairy show anywhere is there as large a percentage of "long distance" performers on exhibition in the Holstein-Friesian classes as there was at the California International. Three cows with more than 30,000 pounds of milk and more than 1,000 pounds of butter in one year to their credit. A combined product of more than 45 tons of milk, 3,500 pounds of butter in one year, and the beauty of it is they are keeping right on doing it. They don't stop with one year's work. It don't seem hardly worth while to talk about mere appearance or judge on mere looks in the face of such figures. We can say

that A. W. Morris & Sons Corp. of Woodland won grand championship with their great sire King Morco Alcartra and that H. E. Vogel of Fresno had the grand champion cow in Betsy Lamb Prilly, but really it does not mean as much as the real production records, as at another show another judge might place the animals differently in the show ring, but the records stand.

The three great cows mentioned above are Tilly Alcartra, owned by A. W. Morris & Sons Corp., Woodland; Ormsby Segis Marie, owned by Toyon Farms, Los Altos, and Raphaella Johanna Aaggie 3rd, owned by the Napa State Hospital.

The beef classes were especially well filled in the Shorthorn and Herefords with one good herd representing the Aberdeen Angus. Many shows will not have as good exhibits and still know they are worth going to see.

The Shorthorns were represented by the best of the Pacific Coast and some from as far east as Kansas City. Most of the herds have been on the circuit since the State Fair, but Caledonia Farm entered some that had not been shown this fall. They won the grand championship bull with Gainsford Matchless, the \$12,000 Canadian bull. Little Sweetheart, shown by T. S. Glide, still continues to be grand champion female wherever exhibited. She is certainly a very thickly fleshed straight-lined animal, and is even smoother than at the State Fair. Thos. B. Dibblee Estate had reserve grand champion on their young bull, Bashan Augusta. He is a very straight youngster, with



lots of quality but not as much scale nor as thickly fleshed as Gainsford Matchless. However, he is a coming fellow, and another year may see him in the purple again. Ormondale Company and the Pacheco Cattle Co., both had their show herds in the ring and money.

The feature of the Hereford exhibit was the showing of the Hereford Corporation of Wyoming. They won both grand championships and most of the herd prizes, although H. M. Barngrover of Santa Clara, J. A. Bunting of Mission San Jose, Diablo Stock Farm, Danville, and J. H. Cazier & Sons Company of Wells, Nevada, all were in the money and showed some crackerjack stock.

Hogs galore and of the kind that it is hard to tell which are the best. Arguments and exhibits both were of the flawless kind. Tall, tasty Tamworths, beautiful Berkshires, pleasing premium Polands, dandy Durocs, young and old Yorkshires, handsome Hampshires and choice Chester-Whites—all were there and looking their best.

Fred M. Johnson of Napa, the genial Duroc-Jersey breeder, brought one boar, and he was good enough to win first in class and grand champion of the Duroc exhibit. His name is King Orion Jr., and from the famous herd of Ed Kern, Stanton, Nebraska. Conejo Ranch had a very strong showing and won many prizes.

Roy E. Fisher of Lincoln, Nebraska, was in the money with some good

ones. Harvey M. Berglund made a most excellent exhibit with his "Economic Feeding" strain. V. F. Dolcini of Davis, S. E. Whiting of Sacramento and J. H. Rosseter of Burke all had some in line that helped make a great Duroc show.

The Berkshires exhibit might have been larger but it could not have been better. Anchorage Farms won grand championship with Natomas Baron Duke, an animal that, according to the best authorities, would probably have won anywhere in the United States this year. Castleview Premier Belle, junior champion at the State Fair, grand champion at the Los Angeles show, was made grand champion at this show. This sow was exhibited by J. Francis O'Connor, proprietor of the Castleview Ranch, Santa Rosa. Mr. O'Connor sold this sow to F. L. Hall, Perris, at Los Angeles, but brought her to San Francisco to see if she would not also continue her winnings here, which she did. Mr. Hall is to be congratulated on the acquisition of such a sow. A. B. Humphrey of Escalon had many firsts and seconds, also both reserve grand champions, with first on aged and young herds. First on produce of sow was won by O'Connor of Santa Rosa. Other exhibitors in the money were F. B. Anderson, Sacramento, A. L. Stephenson, Los Molinos, J. H. Rosseter of Burke, and Mrs. J. J. Weber, Yuba City.

The grand champion boar of the Poland Chinas was Golden West King, owned by J. F. Lehman of Lodi, who also won in the junior boar pig class. M. & A. L. Bassett of Hanford won the grand championship on sows, with Hopeful and reserve grand champion with Gerstdale Best. McCarty & Starkweather won all except the 5th in the senior sow pig class and other moneys besides. In the herds Lehman won first on Young Herd and Get of Sire and Produce of Dam classes. Bassett won first on Aged Herd.

The animals shown were all of the big type that are sought after by the fanciers at the present time.

The Hampshires were well represented by three herds, two from the southern end of the State and one from Nebraska.

Hampshire swine were well represented by three full herds filling all classes. Roy E. Fisher of Lincoln, Nebraska, had a strong bunch winning both grand championships, Black Beauty winning in the boar class and the aged sow, Duke's Florine 2nd, winning over a very strong class. Conejo Ranch of Newbury Park had first on aged and senior yearling boars, junior boar pig, and first, second, third and fourth on junior yearling sow. Altogether, it was a fine Hampshire showing.

Mutton Breeds Make Big Show.

Mutton breeds of sheep were well represented for a California show. Butte City Ranch won grand championship in the Shropshire ewe class with a wonderful ewe from the flock of Geo. McKerrrow & Son, Pewaukee,



Wm. J. Bemmerly.

Bemmerly's Bulls are Best.

Wis. The ewe is "McKerrrow 3385" and was sired by the famous "Senator Bibby." The Ratto Stock Farm won the grand championship on rams.

Calla Grove Farm won their share

of the ribbons in the Hampshire sheep classes, but Conaway Ranch, Woodland, and the University Farm, Davis, also won enough so that the ribbons were about equally divided.

The University Farm, Davis, had the only exhibit of Romneys at the show.

Ellenwood & Ramsay of Red Bluff had a pure bred Corriedale ram on exhibition that would please the eye of either a mutton sheep breeder or the man who wants a medium type of wool as well.

Rambouillet Row Real Exhibit.

Bullard Bros. of Woodland had the only animals of this kind on exhibi-



CHAS. KIMBLE Sells Sheep all the way from Red Bluff to Texas.

tion, but they were a whole show in themselves. They are very large, but symmetrical, carrying a very long, fine, dense fleece of the kind of wool from which the finest worsteds are made.

Such sheep are worthy of competition, although it would take very strong competition to make much of an impression on their winnings. It is sometimes said of an exhibit without competition that "they won, of course," but in this case it could be said, "they would have won in any class."

Draft Horses Draw Crowds.

Percherons, Belgians, Clydesdales and Shires all were represented and fitted to the minute. All were ready to dance, prance and walk at the crack of the whip.

N. W. Thompson of Patterson won grand champion on Sensation in the Percheron class and all other firsts in stallion classes as well. Merritt-Bowers Co. of Tulare, Ruth Maxwell of Sonoma, University of California, L. A. Hall of Mountain View and Palo Alto Percheron Farms, all were in the money and all had good exhibits of this great breed.

The Shire classes were represented by two breeders, Easton & Ward of Diablo and Merritt-Bowers Co. of Tulare, with a great lot of this old English breed, Easton & Ward winning most of the awards.

The Clydesdales, that great Scotch draft horse with the superabundance of action and quality, were well represented by the studs of Thos. B. Dibblee Estate of Santa Barbara and O. H. Brandt of Shellville. Dibblee won grand championship on Bonnie Edward and was especially commended by Dean Curtiss. Brandt also was in the money.

Belgians were shown by Merritt-Bowers Co. of Tulare, N. W. Thompson of Patterson and Ratto Stock Farm of Napa. Merritt-Bowers Co. had grand champion stallion, Thompson, reserve grand champion stallion, with Ratto winning on mares. This blocky, massive breed is worthy of some attention from breeders, as it will be scarce for some years to come.

Yorkshire and Tamworth Swine Exhibits.

Although on hand with a strong show herd to give anybody a run for the ribbons, Lloyd & Tointon of Santa Rosa, Cal., had everything to themselves with Yorkshire swine, meeting no opposition. Judge V. F. Dolcini of Davis, Cal., who passed on this breed, (Continued on page 689.)

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OVERHANGING FRUIT TREES.

Halton D. Bly of New York gives the American Fruit Grower this interpretation of the law about overhanging fruit trees:

When fruit trees stand near the division line of adjoining owners, and the branches spread over the two farms, who owns the fruit? The question has troubled the owners, been productive of fist fights and settled by the courts.

A case involving such a dispute was heard by the New York courts many years ago, and the decision then given has been followed in many other states. It appears from the printed case that one Dr. Hoffman had a cherry tree which stood on his side of the line fence. The branches spread over the adjoining land of Mr. Armstrong. Dr. Hoffman told his sister to go out and pick the cherries and while she was doing so Mr. Armstrong came along and ordered her to stop. It appears, however, that she was bound to get the cherries, and while endeavoring to stop her it was claimed that Mr. Armstrong was guilty of assaulting her. She sued him for the assault, and got a judgment of one thousand dollars. He claimed that he used no greater force than was necessary in defense of his property, and therefore, was justified in using force. The court held, however, that inasmuch as the trunk of the tree stood upon Dr. Hoffman's land, he was entitled to all the fruit even though the branches projected over the land of his neighbor and when the neighbor attempted to prevent the gathering of the fruit, he was a wrong-doer. It was further held, following the decisions of the courts of England, that an adjoining owner does not have title to any part of a tree projecting over his land, unless the trunk of the tree stands on the line or on his side of the line, although it was admitted that there had been some cases decided otherwise.

But it does not follow that the man who does not own the trunk of the tree has no rights or remedies. If he is damaged by reason of the overhanging branches, he can collect his damages. Moreover, if he sues for it, he is entitled to an injunction restraining his neighbor from planting trees so near the boundary line as to injure him.

HEREFORDS HAVE HIGH SALE.

Twenty-seven Hereford females sold for \$20,200, or an average of \$748.14. Six bulls sold for \$3,285, or an average of \$547.50. The average for the whole sale was \$711.66. This was a good sale from every viewpoint. The cattle were good and the prices were good; a combination that should always obtain.

A new buyer in Wm. Briggs of Dixon stepped in and bought six of the good ones, paying \$6,475 for them, or an average of \$1,095. H. H. Gable came next, buying five for \$4,950, paying an average of \$990 for the five. Molton Warner of Cool, El Dorado County, bought four, but did not pay as high an average for them. The remainder went mostly to individual buyers. H. M. Barngrover of Santa Clara bought three.

The top of the sale was Miss Dale with calf at foot, a cow consigned by the Hereford Corporation of Wyoming, purchased by Wm. Briggs of Dixon for \$1,450. Several brought over \$1,000 each. Altogether, it was a "Whiteface" day.

Col. Earl Gartin of Greensburg, Ind., cried the sale in a very acceptable manner, but it is doubtful in the minds of many if he brought in a dollar more than "Coast" auctioneers would have done:

Cows.

Bessie Donald, W. S. Walters, Healdsburg	\$ 400
Fair Lassie, H. M. Barngrover, Santa Clara	275
Calis Randolph, Molton Warner, Cool	650
Lady Jane, H. H. Gable, Esparto	1050
Neitia Cook, Miss Bemmerly, Woodland	775
Lady Ramer, J. A. Bunting, Mission San Jose	1050
Sue Clark, Molton Warner, Cool	575
Golightly 9th, P. W. Snyder, Los Molinos	500
Normalene, H. H. Gable, Esparto	575
Sally Clark, W. J. Bemmerly, Woodland	925
Lady Amethyst 3rd, H. M. Barngrover, Santa Clara	225
Lady Berendo 20th, Howard Tilton, Madrone	200

Mabel Lass 4th, Molton Warner, Cool	250
Elma Oregon, J. A. Barngrover, Santa Clara	450
Hylas Randolph, Molton Warner, Cool	300
Jas 2nd, Wm. Briggs, Dixon	1100
Standard Eyes 2nd, H. H. Gable, Esparto	1225
Cleo 4th, H. H. Gable, Esparto	1000
Venetia 2nd, H. H. Gable, Esparto	1100
Marian's C. P., Chas. Rule, Jenner	775
Eva S., F. G. McCullough, Dunnigan	650
Miss Friday Alamo, W. S. Walters, Healdsburg	775
Miss Dale, Wm. Briggs, Dixon	1450
Miss Dare 10th, Wm. Briggs, Dixon	800
Miss Dare 11th, Wm. Briggs, Dixon	1175
Miss Bra 14th, Wm. Briggs, Dixon	1025
Beauty, Wm. Briggs, Dixon	925
Bulls	
Sonoma, F. Work, Monterey	585
Gracioso, Miller & Lux, San Francisco	425
Witchford, L. F. Brackett, Oakland	475
Nevada Lad 8th, W. D. Duke, Gazelle	600
Nevada Lad 2nd, Miller & Lux, San Francisco	500
California Prince Donald, La Honda Stock Farm	700

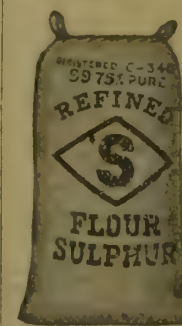
STOCKMEN'S BANQUET.

(Written for Pacific Rural Press.)

Friday night at the Palace Hotel a banquet was given, which was attended by about 100 stockmen, as well as officers and directors of the California International Live Stock Show. President W. T. Sesnon acted as toastmaster, welcoming the visitors and introducing the speakers. The keynote of the meeting was that the stock should be made an annual event at San Francisco; this city being the logical headquarters of the livestock industry and the first event, successful as it was, but pointed the way for greater expositions in the future.

Among the speakers were Ralph P. Merritt of Berkeley, Frank Thompson of Chicago, C. N. Hawkins, president of the California Shorthorn Breeders' Association; H. M. Barngrover of San Jose, representing the Hereford Association; A. B. Cunningham, President State Swine Association; Fred Ellenwood of Red Bluff, president of the State Wool Growers' Association; Bob Jones of Sacramento and Geo. E. Hecke, State Director of Agriculture. In closing the meeting President Sesnon said that he hoped for a permanent organization, and modestly refused to accept but a small share of the credit of conducting the first exhibition, stating that the directors and particularly the executive committee, composed of T. W. Dibblee, A. W. Foster, R. B. Hale, M. H. Esberg, Frank Honeywell, C. K. McIntosh, B. F. Schlesinger and F. L. Washburn, as well as the Manager, Gordon H. True, had worked untiringly to make the show successful.

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For LIME-SULPHUR SOLUTION, use our DIAMOND "S" BRAND REFINED FLOUR SULPHUR. We can furnish you this Sulphur at such a low price that it would pay you to mix your own solution and net you a profit equal to the amount paid out in labor for spraying your orchard, even if you pay your men \$1 per day for making the solution and applying same.

To create additional available plant food, drill into the soil 100 to 400 pounds per acre DIAMOND "S" BRAND POWDERED SULPHUR, 100% pure. This has increased various crops up to 500%.

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A Few Hundred Yards May Cost 10,000 Miles

A MAN with a new car had one of his tires blow out. He didn't have a spare, so he decided to run a few hundred yards to a friend's house. When he got there he discovered that neither the tire nor the tube was worth repairing, for running on the rim had fractured the casing fabric. And the tube was riddled with holes caused by being pinched against the rim. Those few hundred yards of running on the rim probably cost him 10,000 miles—miles that could have been saved by properly caring for the tube. Proper care of tubes saves miles in many other ways—not only in emergencies, but all the time. Ask your Goodyear Service Station, or write to Akron, for Lesson 5 of the Goodyear Conservation Course—telling how to increase tire mileage by proper care of tubes.



Repairing a tube with the Goodyear Tube Repair Kit

PROPER care of tubes increases by thousands of miles the life of even the best of tires. For whenever a tube fails, the casing is seriously damaged by being run flat.

Only a few hundred yards of such running may utterly spoil the tire; and even if the tube merely has a slow leak the tire will suffer the inevitable injuries due to under-inflation.

Take care of your tubes, if you wish to get the most from your tires.

Tubes inserted in the casing without being properly talced, either stick to the casing and tear because of the lack of French Talc or—when too much of this lubricant is used—they are injured because the talc collects in puddles and hardens.

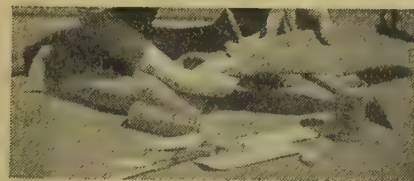
Tubes must be properly inserted in the casing; otherwise they will be pinched against the rim, or—if the valve stem is at an angle—they may be torn.

Lesson 5 of the Goodyear Conservation Course gives simple but detailed directions for making your tubes serve your tires.

It also tells how tubes can be repaired permanently and in a few minutes with the Goodyear Tube Repair Kit.

Ask your Goodyear Service Station to show you one—and ask also for the other lessons of the Goodyear Conservation Course.

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Akron, Ohio



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GOODYEAR
AKRON
TIRE SAVERS

Here and There in the Fruit Business

THE STANDARDIZATION OF FIGS.

(Written for Pacific Rural Press.)

"The recent action of the directors of the California Fig Growers' Association in attempting to standardize the quality of figs delivered to the packing-house, will have more to do with enhancing the reputation of the California dried fig than anything says I. J. Condit, Horticulturist of the J. C. Forkner Fig Gardens and Director of Experiment Station. The California fig has suffered in comparison with the imported article purely because standardization had not been effected. Comments by the trade to this effect were published in the Pacific Rural Press earlier in the year and their tone resented.

The directors of the Association, on September 20, endorsed the proposition made to it by Dr. J. E. Lea, head of the Pure Food and Drug Department of the State Board of Health, and appointed two inspectors to work in the fig-growing districts during the ensuing two months to examine and pass judgment on the dried figs offered by the growers or delivered to the packing houses. This inspection work and standardization are essential to the life and well-being of the California fig industry for keener competition than ever from Asia Minor will have to be met in the future, and our industry is a live, active, going concern. Complete organization will be necessary for its continued success.

The authority vested in the inspectors recommended is shown under the provision of the State Pure Food and Drugs Acts and is on a pure-food basis.

Figs may be graded into four commercial grades: extra fancy, fancy, choice and standard. The last grade includes figs of the lowest marketable quality to be sold for cooking or packing in bulk or for by-products.

Matters of the utmost importance, including a definite outline of standardization and merchandizing, will come up for consideration, discussion and determination at the next Fig Growers' Convention, to be held early in the year, at which there will be a record of attendance it is anticipated.

MORE ABOUT THE PEACH-ALMOND.

To the Editor: Regarding inquiries about peach-almond for stocks for budding peach and prunes on, I have been experimenting with it for several years, and believe it is superior to peach root for dry land. It might not do as well on wet land. It seems to be freer from root-knot than almond, but is, I believe, more variable. Some of the seedlings appear to be fully as vigorous and drouth-resistant as the almond, while others are more like the peach. I have on sandy loam underlaid with sand and gravel, mixed with some silt and decomposed granite, and with limited irrigation, peach trees, which have considerable "little leaf." On almond root they are practically free from it, but are quite subject to root-knot. On peach-almond, they are but slightly affected with "little leaf," and show no evidence of being dwarfed. I think the dwarfing effect mentioned by Mr. Bergtholdt must have been from some other unknown cause as far as my experience goes. I consider the peach-almond superior to peach-apricot, or Myrobolan for dry land. Contrary to the usual belief, I find the Myrobolan root stands drouth on sandy soil much better than peach, and some better than apricot.—T. J. True, Lancaster.

Mr. Bergtholdt Still on the Trail.

To the Editor: Referring to our recent correspondence relative to the peach-almond as a root stock, I have continued my investigation, and recently in conversation with Millard Sharpe at Vacaville, who does a great deal of practical experimental work in horticulture, I was advised that a certain proportion of peach-almond, when planted, will revert to a less

thrifty and more inferior type, and that seedlings grown from seeds gathered from the same tree will show a proportion of seedlings less thrifty and that will dwarf any stock propagated on them, while a certain proportion of seedlings grown from seeds gathered from the same parent tree did not do so, but on the contrary are a thrifty root stock for whatever tree is propagated on them. This is one feature that would discount the desirability of the peach-almond as a root stock and probably accounts for the dwarfing tendency which was observed by our Mr. Reinecke, as noted in my former letter.—J. E. Bergtholdt, Newcastle.

SAVES MONEY PRUNING GRAPES.

Mr. H. P. Bralle of Sanger has for several seasons effected a saving of one-fourth to one-half in the cost of pruning his Thompson seedless vineyard. He found that a fast experienced pruner could do 124 vines a day on this vineyard. Before doing the actual cutting close to the stump of each vine he had to spend most of his time tearing the canes from the wire trellis to see just where to make his cuts. Mr. Bralle set two cheaper and untrained hands at tearing the canes from the wires. It was then found that the experienced man could just keep up with them and do three times the number of vines he originally pruned in a day.

Even though the price of the unskilled labor is equal to that of the skilled, say \$5 per day, as is the case in many localities, a saving results from the faster work. Where it took 16 days to prune the vineyard at a cost of \$80, it takes only 5 days at a cost of \$65 the better way.

POISONING RATS WITH APPLES.

(Written for Pacific Rural Press by Samuel Haigh.)

Rats invaded our premises after we got rid of them two years ago, but the newcomers refused to take an egg that had been poisoned. When the apples began to ripen we noticed that quite a lot of them were being eaten. Close examination showed that the predators were not either birds or poultry, but a rodent, as the marks of their teeth showed very plainly. At first we thought it was 'possums, although no claw marks could be seen on the bark. As rats had gnawed several holes through the floor and began to destroy the grain and feed in our grain house, we cut some apples into 6 or 8 pieces and dusted them over with powdered strychnine and placed them among the sacks of grain and barrels containing corn meal, etc. The result was that they left the grain untouched, but took every piece of apple for several nights. We allowed them the run of the grain house for several nights, or until the apples were left undisturbed, showing that they had either been killed off or scared away. Pocket gophers are equally as fond of apples as rats are. By cutting apples in pieces, dusting them with strychnine, impaling them on sticks about 1 foot long and inserting them in the main runway, gophers can be exterminated.

San Jose.

The citrus fruit growers of the State are already preparing for their tenth annual exposition, which will be held in San Bernardino, February 13-23, 1920.

The Federal Farm Loan Act does for the American farmer what the Federal Reserve Act does for the business man and banker.

If citrus trees are sprayed in winter the operation should cease by two o'clock if there is a likelihood of light frosts.

Play the game straight and watch your opponent closely—not necessarily with suspicion, but to forestall his moves.

[This is one of a series]

Spray thoroughly or not at all

Results will be disappointing, and therefore
A dead loss, in time and material,
Unless the orchard is sprayed thoroughly.
Use the proper material and spray to cover
Every trunk, branch, twig and leaf
(if they are on).

Some insects breed very rapidly, and
Sparing application means sure reinfestation.

ZENO

Spreads easily—covers remarkably.

Is an internationally used miscible oil spray, and
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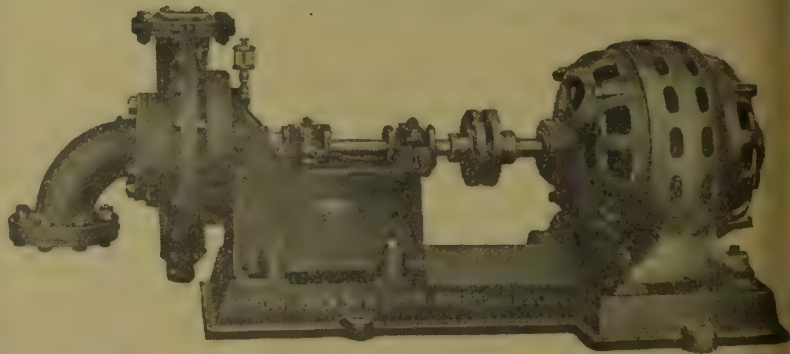
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NEW PRUNING AT SHORT COURSE.

Inquiries and statements by people all over the State indicate that there will be an overwhelming enrollment in the Horticultural Short Course to be held at University Farm December 20 according to Prof. W. L. Howard. This is largely because of the interest in the systems of pruning young deciduous trees which has been proved out at University Farm and as overturned the popular notion of cutting-back to gain stockiness. Ever since the startling results were announced about a year ago the stream of visitors and correspondence has so impeded the normal routine of this department that it is only now that a bulletin describing the experiments and results has gone to press.

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BROWN ROT AND "DIE-BACK" ON APRICOTS.

(Written for Pacific Rural Press.)

In regard to the badly shot condition of so many apricot trees from Brown rot this year, Wm. T. Horne of the University of California said: "I wonder if you have noticed that this condition is worse when there are frost pots? Not that the frost pots are not beneficial, but as an indication that cold weather is experienced and expected." We had, as a matter of fact, noticed that this condition was worse in cold sections or on cold, heavy land, or on hillsides in places where air drainage was bad. Continuing, Mr. Horne said: "When men have decided to plant out an orchard to apricots they should give grave consideration to these important points: (1) Shall I have to fight frost? (2) If so, how much will it cost and how effective is it likely to be? (3) Can I afford to lose a single crop on such valuable land? (4) Would not something else thrive better here and be safer? There is no doubt that the apricot belongs in the thermal belt and then you get thermal belt soils too in which the apricot feels most at home."

Cold Dampness Inimical to the Apricot.

It would seem that the cold sets up a circulatory and sap condition that is favorable to the growth and spread of the brown rot fungus which this year developed in a rotting of and under the jacket or calyx as well as at the buds where no fruit showed. The best locations, Mr. Horne said, for the health, well-being and fruitfulness of the apricot, must be free from cold and dampness. These are almost as bad for this delicate-tissued and sensitively vigorous-growing tree as an actual frost. The locations really suitable for apricots then are very imagined and yet there is still plenty of it that is suitable. The San Fernando Valley is becoming a competitor with the Santa Clara and Santa Cruz valleys; so is King's county, Hemet and other new sections. Professor Horne's advice with regard to selecting more salubrious locations for apricots will be considered in future plantings.

**NATIONAL ASSOCIATION OF
COUNT AGENTS.**

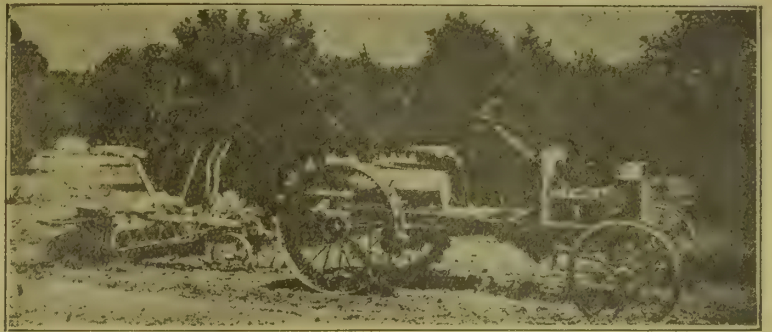
County Agricultural Agents from all over the United States are invited to be present at the Third National Association Conference held in the Live Stock Record Building in Chicago, December 1 and 2, at the time of the International Live Stock Show. The conference will start on Monday at 3:00 p. m. and the first session will be for county agents only. On Tuesday the sessions will be open for all. A big banquet will be held on Tuesday evening, to which everyone who is interested in county agent work is invited. Reservations should be made with Carl N. Kennedy, Des Moines, Iowa.

Some of the high-lights of the conference will be a discussion of the problems in each state by a representative from the different states; work of the National Federation of Farm Bureaus by some officer of that Association who is elected in Chicago, November 12; "Representing Farmers' Interests in Washington," by J. R. Howard, President of the Iowa Federation who was a spokesman for farmers when they helped kill the Day-light Saving Bill.

Generally it is well to let fall plowing for summer crops lie rough all winter and work it down before there is reasonable chance for the rains to stop. Better work it down too soon than too late, for repeated cultivations after late spring rains will do more good than harm.

About 4,000,000 cases of canned tomatoes are this season's pack in California as estimated by officials of the California Packing Corporation. Last

Plant some carrots for the horses. These roots promote thrift, keep the digestive organs in good shape, and save much food.



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is a strong, well-built attachment, which in only 20 minutes, converts a Ford touring car or runabout (or similar light car) into a powerful farm tractor, which can be changed back into a touring car or runabout in the same short length of time. The equipment consists of 2 all steel driving wheels, with Hyatt Roller Bearings, (8 inches wide by 39 inches high, with grousers), 2 large driving gears, 1 pair 6 tooth pinions, "special" heavy duty radiator, centrifugal water circulating pump, force feed oil pump, "special" fan, fan bracket and belt. Axle is of 2-inch steel, fastened to frame by heavy channel irons. This equipment is also suitable for building or converting Ford (or other small cars) into a permanent tractor.

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Exhaustive tests prove the Staude Tractor to be a proven success. In the citrus and deciduous orchards it has been through all the practical operations of plowing, harrowing, discing, cultivating, and furrowing for irrigating, etc. Hundreds of letters from farmers offer positive proof of the above facts. Any variety of farm work that can be done by 4 horses, can be accomplished, quicker and better, and at less expense by the Staude Mak-a-Tractor.

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The Staude Mak-a-Tractor, with 6 tooth pinions, when attached to a Ford (or similar car) in good condition, is guaranteed to deliver not less than 750 pounds draw-bar pull, S. A. E. rating, which is more than the average continuous work of 4 horses in reasonable soil conditions. Every part is protected from dust and wear.

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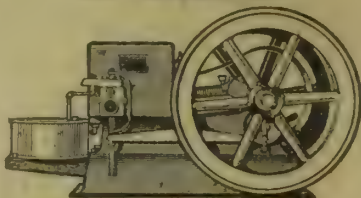
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Palestine, Strong Competitor in Almonds

(Written for Pacific Rural Press.)

"The total annual world production of almonds is about 400,000 tons. Of this quantity California produces about 6,000 tons—at the highest average cost per pound of any almonds produced. Palestine, a country very similar in climatic conditions to California, produces almonds in constantly increasing quantities, at a production cost so low as to be almost unbelievable."—Geo. W. Pierce, President, California Almond Growers' Exchange.

Mr. Pierce recently spoke to us on the subject of low cost-production of almonds in Palestine, saying he believed they could be delivered at the port of Jaffa at the cost of as low as two cents a pound. He spoke of a visit he had received from a gentleman, native of Palestine, who had come here to study our system of growing and cultural methods, processes of harvesting, grading, cleaning and packing, and above all, our system of market through the growers' association—the Almond Growers' Exchange. This man wishes his own fellow countrymen to profit by following our methods and by organization that they may themselves receive the full fruits of their labor instead of handing it over to a dealer.

From an article written by Mr. Pierce in the Almond Growers' Exchange we will quote some "detailed information relative to the practices and conditions under which almonds are produced and marketed in Palestine," learned from his visitor from there.

"It is most fitting that reports of progress in almond culture should come to us, one of the most recently developed almond sections, from Palestine. For the almond had its origin somewhere in the vicinity of the Holy Land. It is more pathetic, however, that the old, still handicapped by primitive conditions, should need to come for counsel and advice to one that feels itself still in its infancy, and with many of its known problems awaiting solution."

"Roughly speaking, Palestine is about 120 miles long and 70 miles wide or about as large as Kern county. It has four seaports, neither of which has a natural harbor of any considerable proportions. It is described as

a marvellous mixture of hilly and level country, with all kinds of climate.

Mr. Pierce's visitor "resides on the plains of Sharon, about seven miles from Jaffa in Palestine, on the highway and railway from that seaport to Jerusalem, which is some 30 miles to the East. The annual rainfall there is light, but is usually sufficient to insure crops. Practically no water is available for irrigation. The chief crops of the section are grapes, figs, almonds, oranges and wheat. The almond does well and in recent years the planting of almond orchards has greatly increased."

"Previous to about six years ago the prices received by producers was so miserably low that the industry was not attractive. The growers were not organized and were at the mercy of the speculator. From what we can gather we are inclined to believe that the speculator in Palestine and in California operate along the same lines. They take unto themselves all the traffic will bear, never for a moment entertaining a thought for the welfare of the producer. They figure that if the almond grower falls by the wayside that there will be other lines to invite the activities of the wrecker."

"Under Turkish rule but little protection was given the property owner. So marked was this that the farmers did not reside on their farms but lived in the cities and towns, going back and forth daily to their work. Employees, upon the farms lived in nearby villages. Sometimes trusted native employees remained as watchmen on the place."

"Taxation was most inequitably levied and taxes most atrociously collected. The privilege of collecting the taxes was sold at auction to the highest bidder. He then became responsible for the entire amount levied and proceeded to collect to his heart's content. He was both Assessor and Collector and from his ruling there was no appeal."

In planting, "no thought was given to alternating varieties, nor are varieties in all cases kept separate when harvested. Pruning and cultivating are carefully attended to, but spraying has not yet become common. Cultivation is done with utmost care. Little or no scientific work is being done to advance horticultural interests."

"As the harvest time approaches the farmer engages such help as his necessities demand. These are engaged for the season and are paid at the end of the season, when they are called together and the employer states the daily wage to which, in his opinion, each is entitled. This decision is final. Compensation fluctuates between certain well-defined limits."

The nuts are gathered from the tree by hand (with a step-ladder, as we gather peaches) as the almonds begin to open only, so the tree has to be gone over several times. "The gathering is done in this way to preserve the light color of the partially ripened almond. This they consider their choicest product. The men who do this work receive 15 to 20 cents a day, boarding themselves."

"The almonds are put into baskets, somewhat larger than our bushel basket, tamped down and heaped up for good measure. Women hull these by hand for one cent a basket, the average daily wage being about 10 cents."

The "almonds are grown all around the shores of the Mediterranean Sea, in Europe, Asia and Africa. Much of the outside product is shipped to Spain, France and England, where it is prepared to meet the demands of other markets, when it is again exported, this time to its final destination."

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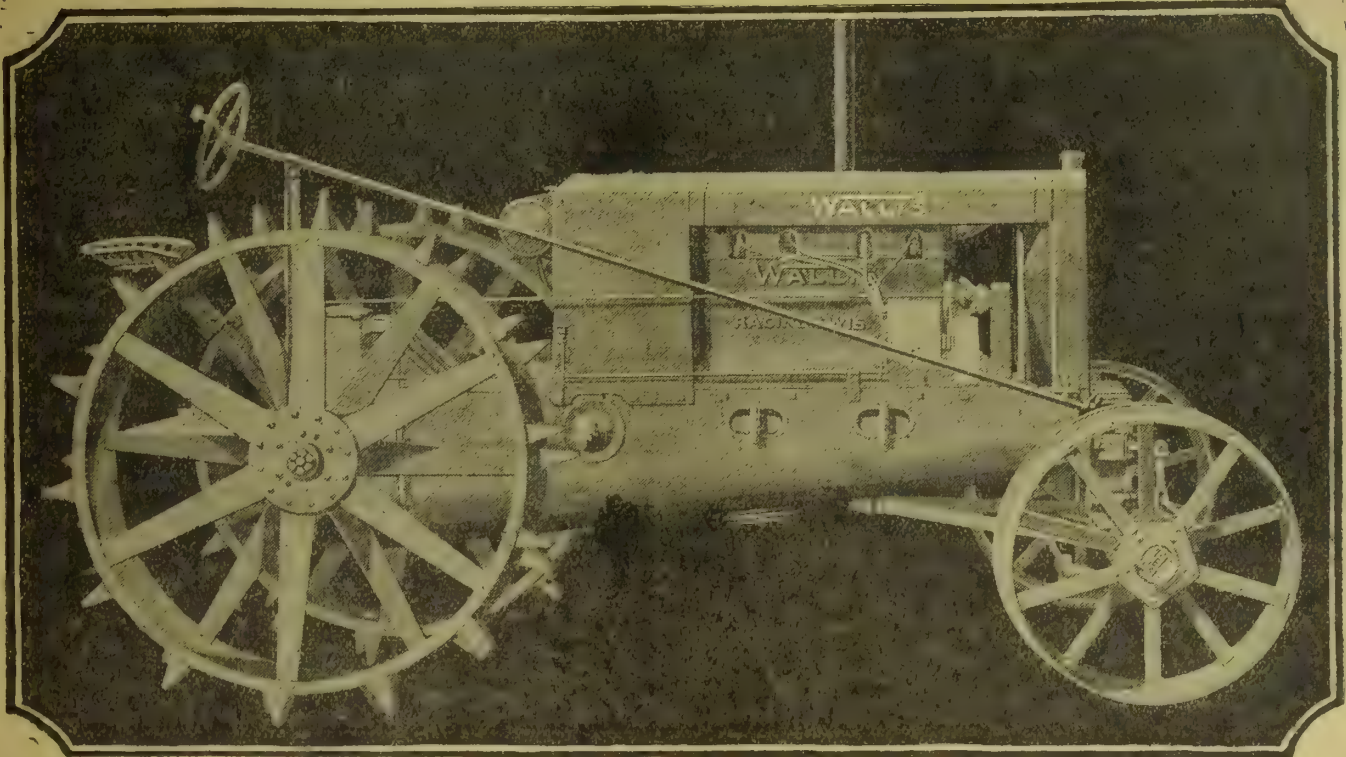
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constant bath of clean oil—the over-size bearings—the exact machining of every part and the unusual care in every step of Wallis building, are responsible for this tremendous success.

Wallis has proven that the rough work required of the farm tractor demands the finest materials and most accurate workmanship. Long life lies in quality and design, not in bulk or heavy weight.

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Farmers' Attitude in Industrial Conference

(Written for Pacific Rural Press.)

In our issue of November we outlined the obsequies of the Industrial Conference at Washington, which perished because of the withdrawal of the representatives of organized labor and their refusal to proceed farther with deliberations unless their basis of collective bargaining, the right to strike and the closed shop idea were agreed to. Since the date of that occurrence there have been rumors of the appointment of another conference and continued effort to arrive at an industrial code which will be approved by both employees and employers, and what comes of that remains to be seen.

We have several times protested that farmers, as the greatest employing class in this country, were not adequately represented in the wrecked conference. Such representatives as they had, however, were good and influential and declarations which they made to the Employers' Group, to which they belonged and which were later submitted by this Group to the Conference itself, constitute a statement of farmers' duties and farmers' rights which all farmers should carefully consider. The representatives were C. S. Barrett (president of the Farmers' Union); T. C. Atkeson (representative of the National Grange), and J. H. Tittmeyer of Wisconsin. Their declaration is printed herewith.

Farming and farmers must have the economic, social and political justice which will make farming as profitable and livable as any other occupation involving the same amount of hard work, business ability and investment, or the balance between farm production and urban consumption cannot be maintained. It is unfortunate that a technical meaning has arisen to the words capital and labor, which in many minds excludes agriculture from either class when from the standpoint of capital the business is easily the largest business, and from the standpoint of labor there is no other industry that includes nearly as many laborers within its activities. Any conclusions, therefore, that may be reached in this conference can scarcely prove to be permanent unless they shall include the welfare of farmers as laborers and farm owners as capitalists. And added to this is the fact that if any industry may be defined as basic, it is the one that independently of all others is self-sustaining and self-perpetuating; one that was in the beginning with the birth of civilization and without which civilization must perish. The great bulk of the actual wealth of the nation springs from the soil. And the balance of trade that has made this nation rich comes from the same source.

Modern Agriculture.

Farmers have responded to the ever-increasing demands of modern industrial and economic developments. The modern farm is no longer a self-sustaining unit as in primitive days, but has become a highly specialized production plant, the operation of which requires technical skill and managerial ability with large investments in modern labor-saving machinery. Six million such farms make up the vast industry of America's agriculture, on the uninterrupted operation of which depends the daily supply of food to all the people.

The Farmer as a Laborer.

The daily manual labor of operating farmers in this country is equivalent to that of 13,000,000 adult workers. The price of farm products determines the farmer's wage. The solidarity of labor is such that farmers cannot continue on one wage level while the rest of labor is on another level. One must rise or the other fall until a level is reached.

The Farmer as an Employer.

American farmers employ more laborers than any other single industry. The number of operating farmers and their hired employees is greater than that of laborers in all other industries combined. Any adjustment of industrial wage disputes to be fundamentally sound and permanent must give full consideration to the relation between wages on American farms and in other industries. To pay higher wages on the farm inevitably means higher prices for farm products. The present level of wages makes it impossible to cultivate American farms with the greatest efficiency and must reduce production.

Reciprocal Duties and Obligations.

To produce sufficient food is the

primal duty of those engaged in agriculture, and to the limit of their physical and financial ability this duty should be performed. For this there must be an equivalent in value. Farmers discharging this duty to organized society have a right to demand:

(a) Such returns as will fairly compensate them for their capital invested, their technical skill, their managerial ability and their manual labor.

(b) That they and their families have social, educational and political opportunities equal to those engaged in other activities.

Failure to meet these demands will result in a continuance and an acceleration of the decline in agriculture. Increased production is still the slop of the hour, and the farmer is still working at high speed and long hours and without adequate help, and facing falling markets for his products. He now appeals to those in other callings to buckle down to work and turn out the product, stop the profiteering, and all together begin to pay the debt that hangs over the land.

Farm Production.

The demand for farm products should be scientifically satisfied. Over production, as well as under production dislocates industrial and economic balances, and in the end, results in economic waste. In 1910 we produced over eleven million bales of cotton. In 1911 we produced fifteen million bales and yet received sixty million dollars less than for the 1911 crop. Society had the benefit of the four million bales of cotton, but the farmer got sixty million dollars less than nothing for them. In 1915 we produced one billion and twenty-five million bushels of wheat and received nine hundred and forty-two million dollars for it. In 1916 we produced six hundred and forty million bushels and received one billion and twenty-five million dollars for it. Society had the benefit of three hundred and eighty-five million bushels of wheat, but the farmer received seventy-eight million dollars less than nothing for them. Thus it will be seen that simply to produce will not mean prosperity. Reliable official cost of production studies and records are in existence, proving inadequate returns to agriculture. This information should be widely circulated so that the public may know the truth. Further studies of cost of production, together with comprehensive studies of marketing, including prices actually received by farmers, are also needed.

Hours of Labor.

Neither the day nor the week is a unit upon which agricultural costs or income can be satisfactorily based. Conditions are so variable that it is difficult to prescribe a rule applicable to all localities or to any locality at all seasons. It is, however, becoming most difficult for farmers to secure laborers who are willing to work more hours than do laborers in other industries. Experience shows that the hours of farm hired laborers approximate the hours of labor finally prescribed in other industries. The nature of agricultural work is such that it cannot economically adjust itself to

a specific hour day. If a definite hour per day basis is determined upon in day must be the unit of all estimates in farm production costs.

Soil Fertility.

Economic conditions should be such that the farmer may operate his land so that its fertility shall be maintained and perpetuated. An adequate future supply of food requires that the fertility of the soil should be conserved and replenished. The people should unite in all measures, legislative or otherwise, that will permit and accelerate the movement of fertilizers in such form and quantities and at such prices as will enable farmers to maintain and conserve soil fertility.

Co-operative Marketing.

Economic and industrial conditions in agriculture necessitate co-operative marketing. Legal obstacles are now handicapping such effort. All necessary amendments should be made to State and Federal laws to clearly preserve to farmers the right of co-operatively marketing their farm products.

Farm Organizations.

Economic efficiency in agriculture is promoted by every agency which

adds to the knowledge, experience, satisfaction, technique and equipment of the individual farmers. For these purposes strong self-supporting farmers' organizations are urged, to develop leadership from their own ranks and in accord with their own best interests; and to represent the industry in its contact with other industries and with the public.

Storage.

Adequate food storage reservoirs are essential to a well-fed people. In time of heaviest production foods should be stored away in such quantities as will tide over periods of non-production. Depletion of these supplies during the harvest months will probably mean bread lines before spring. Wise public policy will encourage properly regulated storage by farmers and others of essential reserves of food.

The High Cost of Living.

Much of the complaint of the high cost of living is the result of extravagant living. The cost of living is high or low, according as the price of necessities of life rise above or fall below the general level of salaries, wages, and income. The present cost of



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living is not due to the prices received by the farmer for his products, as shown by a comparison between farm prices, food prices, and wage levels. Reliable Government statements indicate that the percentage of increase in food prices is not as great as that of other commodities entering into the cost of present-day living or of the level of wages in other industries.



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CASING**

Noted
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Evenness
of Fit

For strong, smooth, perfect-fitting well casing, specify Madewell.

—Made from Hard Red or Galvanized sheet metal.

—Joints fit perfectly, because they're built to an exact standard.

—Made in all sizes, single or double.

Write for Catalogue A

It describes Madewell Well Casing and other Madewell Sheet Metal Products in detail.

**MADEWELL PIPE
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Dept. 1.

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MADEWELL

Land Tenures.

Land Tenancy is increasing, farm ownership is concentrating in the hands of non-resident land owners, a condition which from historic precedent presages declining national virility and if not checked ultimately a feudal peasantry. An independent, successful and permanent agriculture with the essential schools, churches, and social facilities, cannot be maintained on the basis of absentee ownership. Its inevitable end is not only a social cleavage which is opposed to the principles of our American Democracy, but another new and dangerous line of industrial cleavage and conflict. A permanent agriculture must be predicated on voluntary home-owning farmers politically free, socially satisfied and economically independent.

Farm Depopulation.

The farmers' efforts to secure higher wages or better working conditions are not based on an organized refusal to work. His environment gives him those qualities which make him sought by many other occupations and professions. Banks, factories, stores, transportation and commerce call to him to come to them, and the professions make their fine appeal. In the quiet of his home, with his family about him, his boy and girl decide to heed that call. One more family has left the army of food producers and another family has joined the army of food consumers.

Financing Agriculture.

The availability of capital used in agriculture is a matter of public concern. Direct extension of Federal credit through the land banks will reduce the cost of this capital and should be made easier of access to all farmers. Associated credits of farm communities should be developed under proper laws and leadership.

RIVERSIDE ALFALFA OFFICE.

The Alfalfa Growers of California, Inc., have opened a local office in Perris for the benefit of its members in that district. R. C. Hoyt, the present Riverside representative of the association, will be in charge, and invites all members, or those interested in the raising of alfalfa, to call on him in his new quarters in J. L. Greenleaf's office.

In opening this office, the Alfalfa Growers are putting into practice a new policy of opening local offices in all the alfalfa districts of the state as fast as it is found practicable and where they have a sufficient membership.

The local representatives in charge of these offices will, in all cases, be men who are well known by the members and the community at large, and in a great many instances, will be members of the association they represent.

Perris Valley is one of the important alfalfa sections of the state, as it produces a quality of alfalfa that is unsurpassed and that commands the top price at all times, and is in great demand.

The choicer grades have been bringing, within the past ten days, as high as \$33.50 f. o. b. Los Angeles.

Although the height of the shipping season is well past for this year, the members of the association are showing a great deal of interest and activity as they are already planning for the 1920 season. They expect to have a grading shed or warehouse of their own, under the control of their own Alvisory Board, where, if they desire, they can store their own hay and hold it for the higher prices in the winter months. It is planned that this warehouse is to be financed by the growers themselves, with the assistance of a local bank. There will be conspicuously posted, at the local office, the price alfalfa is worth to the grower, either at the ranch or f. o. b. his shipping point.

Coachella Valley cotton men are claiming 650 pounds of lint per acre.

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Tobacco Co.



Prince Albert is supplied in tippy red bags, tidy red tins, handsome pound and half pound tin humidors—and in that classy, practical pound crystal glass humidor with sponge moistener top that keeps the tobacco in such perfect condition.

PUT a pipe in your mouth that's filled brimful of Prince Albert, if you're after smoke peace! For, no matter how bad has been your pipe-past or your experience rolling your own, P. A. will hand you such tobacco joy you'll wish your job was to see how much P. A. you could get away with!

You can "carry on" with Prince Albert through thick and thin and no matter how hard you test it out you'll find it true to your taste and tongue. You'll be after laying down a smoke barrage that'll make the boys think of the days in France!

Prince Albert never tires your taste because it has the quality! P. A. is made by our exclusive patented process which cuts out bite and parch—assurance that you can make new smoke records without any comeback but real smoke joy every time you fire up!

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**A WADE does 10 mens work
Saws 25 cords a day!**

A money-maker and hard work saver for land clearers and wood-cutting contractors. One man can move it from cut to cut. Simple and reliable. Hundreds in use all over the U. S. When not in use for wood cutting, the 4 H. P. motor will run mills, churns, pumps, etc.

"My Wade Saw is cutting wood for less than 3 cents a cord."—F. J. Williams, Burns, Ore.

"I have sawed through five-foot solid oak logs at the rate of one foot a minute."—N. P. Myers, Laton, Calif.

Quick deliveries from over 100 points throughout the United States.

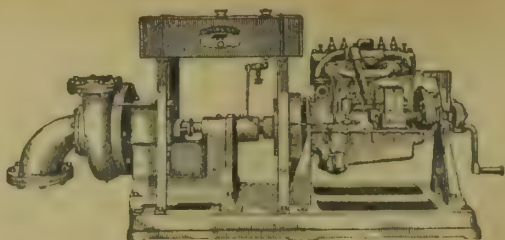


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Renewed screw casing costs from one-half to two-thirds less than standard pipe. Large savings on standard pipe, fittings and valves; special fittings made to order. Pacific Pipe is thoroughly tested and guaranteed for 150 pounds working pressure; asphaltum dipped; serves every purpose. Let us save you money. Write!
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THE ARNOTT ENGINE HARROW
This is the strongest engine harrow of its type sold on the Coast. Heavy axles, heavy discs. Built for service. Do not accept any imitation said to be the same. Only one genuine "ARNOTT" eight, nine and ten feet wide. Write or call for full information.
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112-18 S. Los Angeles St., Los Angeles



Reliable Pumping Without Electric Power

—It Runs All Day Practically Without Attention

WE have built a special pumping outfit for a special demand where men can't get or don't want to use electric power.

The pump is direct connected to a highly efficient engine. Shoulder your shovel and work in another part of the field—you can leave this outfit to itself. You can rely on it—it will keep on pumping, maintaining the greatest volume of water possible.

This is the nearest thing to electric direct connected outfit that has ever been devised. It represents the very highest development in pumps of this type—the result of careful engineering by experts after years of experience.

Don't try old engines on your pump—install a complete outfit designed to do the work.

"BEAN" Universal Direct Connected Engine Driven Pump

The pump is thoroughly braced to withstand vibration, containing more metal than any other pump that we know.

Distance to water below surface of ground.....
 Probable distance to water when pumping.....
 If water is to be raised above surface of ground how high? (feet) and size of pipe lines.....
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 (Inches).....
 If you have pit, give width..... length.....
 depth.....
 H. P. of motor or engine if you have that equipment.....
 Give total depth of well.....
 Inside diameter of well.....
 Is well straight and true?.....
 Is electric power available?.....
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The extra heavy shaft is supported by an outboard bearing of most unusual size. The shaft can't get out of line.

Another distinctive "Bean" feature is the water seal. The shaft is continually surrounded by water where it enters the case, so there's no chance to lose the priming. The pump is automatically water balanced.

Mail the coupon for full information. This outfit can't be adequately described in the space of one announcement. You want to know all about it. Let us tell you. Mail the coupon now.

Bean Spray Pump Co.

211 San Julian St., San Jose, Calif.
 Branches: Fresno, Los Angeles

ERADICATION OF BERMUDA GRASS.

(Written for Pacific Rural Press by Prof. P. B. Kennedy, Univ. of California.)

In attempting to eradicate Bermuda grass, one must keep in mind the following points: Bermuda grass dislikes frost, drought, shallow plowing, and shade.

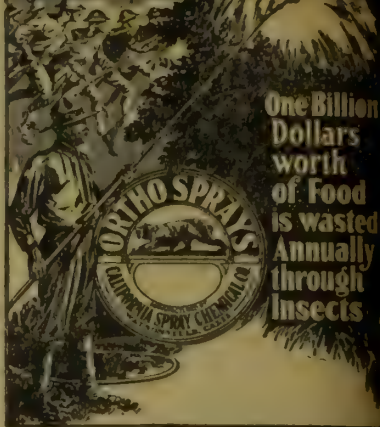
The first process should be the weakening and destruction of the plant as much as possible by close pasturing with sheep, and if possible in addition by hogs, which when not ringed will eat with relish large quantities of the roots. The leaf foliage also is excellent forage. When this is continued as far as seems practicable, the land should be plowed three or four inches deep, being careful to cut the furrow slice off clean and turn it over completely.

Next disk the sod with heavily weighted disks, going over it a sufficient number of times to cut the sod up thoroughly. This will loosen the dirt and separate it from the grass roots. Then go over the land with a spring tooth harrow to bring the pieces of grass to the surface and expose as much as possible of them to the drying-out powers of the sun. Wherever possible, these are raked together and burned. In the fall the land is plowed deeply, the deeper the better, and then planted to a winter crop. The character of the crop would depend upon the locality. The following season, which would be spring, if it is irrigated land, it may be put into an intertilled crop, or else it may be summer-fallowed, with thorough cultivation in either case. This will kill the sprouts which have recovered from the previous season.

Or, a third choice would be to put the land into a summer crop, such as Blackeye beans. These should be thoroughly cultivated until the rows meet, when they would produce a dense shade, which would be very hard on any remaining Bermuda grass.

The success of the method depends upon how much frost there is in the locality, and to what extent the weather will permit thorough dessication at the time of cultivation.

ORTHO SPRAYS will win the War against the Insects



ARCADIAN Sulphate of Ammonia

Watch for our talks on Top Dressing with ARCADIAN Sulphate of Ammonia. You will find them interesting as well as instructive.

ARCADIAN Sulphate of Ammonia is the well-known standard article that has done you good service in your mixed fertilizers for years past. Especially kiln-dried and ground to make it fine and dry. Ammonia 25 1/4%. Made in U. S. A. Arcadian is the great American Ammoniate.

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For information as to application, write

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IRRIGATING PUMPS



Single Stage Motor Driven Pump

KROGH PUMPS absolutely hydraulically and automatically water balanced. No end thrust whatsoever. Also DEEP WELL TURBINE PUMPS for bored wells 10-inch diameter and up.

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Buy only Melilotus seed that has a quality tag on each sack. It protects you against the low germination seed so general on the market this season. This seed is above 90 per cent pure and above 90 per cent germination.

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Supplies brilliant illumination in the house, barn, everywhere about your farm. Just press a button—and the light is there! PROVIDES RUNNING WATER wherever you want it (send for booklet on Dure Deep Well Systems). SUPPLIES POWER to run small farm machinery: churn, separator, washing machine, etc. QUIETEST RUNNING and most powerful motor used on any similar plant.

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420 E. Third St., Dept. A,
LOS ANGELES

Dressed Meat Demonstration.

A very interesting part of the California Cattlemen's Convention to be witnessed it, was a meat demonstration conducted by C. E. Schmidt of the Oakland Market. The object of the demonstration was to show the different cuts of meat and their weight from one-half a beef carcass, and the price for which each

would sell at retail. The wholesale price which the butcher would have to pay for the beef was estimated by Mr. Schmidt and Mr. Gallagher of the Western Meat Co.

First, the half carcass was weighed and then Mr. Schmidt commenced to cut it in just the same manner that he would in his market, weighing each piece and telling what it would be sold for today. After the cutting, weighing, and naming of each piece, the weight, name and the price per pound retail with total which would be received for it, was set down on a blackboard so that spectators could see it. After the cutting and weighing was completed a comparison was made between the total retail price of the different cuts and the whole price of the half carcass. The retail prices quoted were those paid for the same grade of beef over the block in the above mentioned market in Oakland. The results tabulated follow:

Total weight of the half-beef carcass—313 pounds at 15½ cents per pound\$47.52
Different cuts with price for which each would be sold:

Hind Quarter.			
Kidney	6½ lbs. at 11 cents	.71	
Flank steak	2 lbs. at 25 cents	.50	
Flank	9½ lbs. at 8 cents	.78	
Short loin of porchouse	21 lbs. at 35 cents	7.35	
Sirloin	31 lbs. at 28 cents	8.65	
Rump roast	14 lbs. at 20 cents	2.80	
Round roast	36 lbs. at 25 cents	9.00	
Heel piece	7 lbs. at 20 cents	1.40	
Hind shin	15 lbs. at 5 cents	.75	
	142	\$31.97	
Fore Quarter.			
Cross rib	11 lbs. at 24 cents	\$2.64	
Front shin	18 lbs. at 6 cents	1.08	
Plate	40 lbs. at 12½ cents	5.00	
Prime rib roast	26 lbs. at 28 cents	7.28	
Standard roast	13 lbs. at 22 cents	2.86	
Neck	20 lbs. at 10 cents	2.00	
Chuck	46 lbs. at 14 cents	6.44	
Prime rib roast	13 lbs. at 22 cents	2.86	
	174	\$27.32	
		\$31.97	
		\$59.29	

MORE LIGHT THAN 20 OIL LAMPS
AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving brilliant, steady, restful, white light of 100 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electricity for light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The

COLEMAN QUICKLITE
No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over—will last a lifetime.
Write our office for Catalog 21-R. P.
THE COLEMAN LAMP CO.,
(Successors to)
COLE LITE & SALES CO.,
120 S. Los Angeles St.,
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RHUBARB WAGNERS
PLANT NOW IMPROVED
Growers making \$1000 and over per acre annually. Splendid results in six months. Special prices for immediate planting. Also trees and small fruit, etc. Write to the originator, J. B. WAGNER, Rhubarb and Berry Specialist, Pasadena, Calif.

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Thousands of Happy Housewives
in WESTERN CANADA



are helping their husbands to prosper—are glad they encouraged them to go where they could make a home of their own—save paying rent and reduce cost of living—where they could reach prosperity and independence by buying on easy terms.

Fertile Land at \$15 to \$30 an Acre

—land similar to that which through many years has yielded from 20 to 45 bushels of wheat to the acre. Hundreds of farmers in Western Canada have raised crops in a single season worth more than the whole cost of their land. With such crops come prosperity, independence, good homes, and all the comforts and conveniences which make for happy living.

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are sources of income second only to grain growing and stock raising. Good climate, good neighbors, churches, schools, rural telephone, etc., give you the opportunities of a new land with the conveniences of old settled districts.

For illustrated literature, maps, description of farm opportunities in Manitoba, Saskatchewan, and Alberta, reduced railway rates, etc., write Department of Immigration, Ottawa, Can., or

GILBERT ROCHE,
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San Francisco, Cal.
Canadian Government Agent.



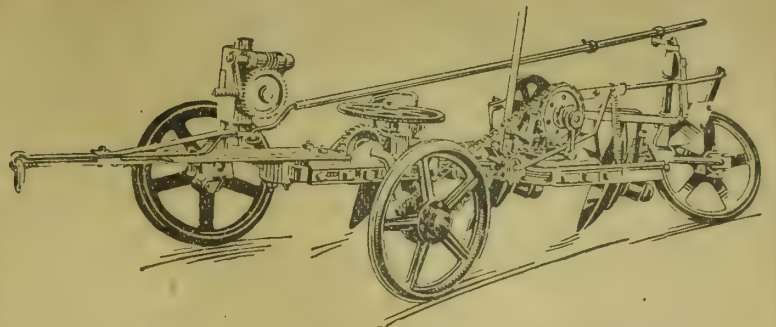
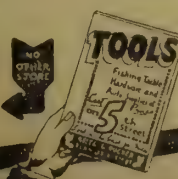
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—Order NOW for Christmas

A practical gift at a bargain price! This Electric Iron of highest quality, best workmanship—with ordinary care, it will last a lifetime—forever ends the killing drudgery of the old-fashioned iron. Point scientifically shaped—will not catch or tear work—has built-on stand—when not in use simply stand on end; nickel-plated, ebony finished with 6-foot cord; written guarantee for one year. Send for this iron TODAY, only \$3.69—if not perfectly satisfied—send it back—money will be refunded without question or cost to you.

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—this is the only power lift plow that actually does the work! It goes right up close to the trees—to within eight inches, even when throwing the soil away. Your tractor isn't complete without a

Knapp Tractor Disc Plow

behind it. It has a real Power lift, too. A slight tug at the rope and up comes the plow CLEAR of the ground. No drag!

There are no levers to come into contact with the limb—no projections to catch and give trouble.

Plows in any soil that can be plowed, turns the heaviest cover crops completely under, and does everything that a thoroughly good plow ought to do.

SEND FOR NEW FOLDER

which tells you all about the Knapp Line of Tractor Plows for all makes of tractors.

H. G. KNAPP & SON

1022 SO. FIRST ST.,

SAN JOSE, CAL.

SAVAGE

ASK YOUR FATHER

if some of his happiest memories do not center around boyhood days spent with his rifle in field and forest.

He doesn't want you to grow up without such golden days.

Some day he is going to bring home a rifle, and is going to train you fully in its use and care.

He is not going to let anyone else do this—he wants the fun of it himself—it is part of your education he need not delegate.

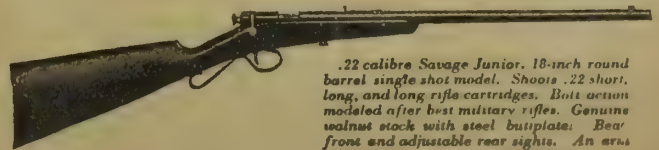
Your future will be safeguarded by such knowledge, and you will have merry times together.

The sturdy, accurate Savage Junior Rifle will please you both. See it at your dealers or write for a catalogue.

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UTICA, N. Y.

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.22 calibre Savage Junior. 18-inch round barrel single shot model. Shoots .22 short, long, and long rifle cartridges. Bolt action modeled after best military rifles. Genuine walnut stock with steel buttplate. Bear front and adjustable rear sights. An arm which wins the respect of experts.

THE HOME CIRCLE

TELLING STORY.

I know of a boy that's sleepy.
I can tell by the nodding head,
And the eyes that cannot stay open
While the good-night prayer is said.
And the whispered "Tell a 'tory,"
Said in such a drowsy way,
Makes me hear the bells of Dream-
land,
That ring at close of day.
So you want a story, darling!
What shall the story be?
Of Little Boy Blue in the haystack,
And the sheep he fails to see,
As they nibble the meadow clover
While the cows are in the corn?
O Little Boy Blue, wake up,
For the farmer blows his horn!
Or shall it be the story
Of Little Bo Peep I tell,
And the sheep she lost, and mourned
for,
As if awful fate befell?
Oh, the pigs that went to market—
That's the tale for me to tell!
The great big pig, and the little pigs,
And the wee, wee pig, as well.
Just look at the baby, bless him!
The little rogue's fast asleep.
I might have stopped telling stories
When I got to Little Bo Peep.
—Eben E. Rexford.

GRANDMA'S BIRTHDAY PARTY.

It was the evening of Marjory's birthday, and now she and grandma were having their usual, cosy bedtime chat. Marjory was perched on the arm of the great arm chair, telling grandma all about the party.
"Oh, it was the loveliest party, grandma!—and just think how many pretty gifts they brought me! Ruth says each one of them is a forget-me-not. Isn't that a nice way to think of birthday gifts? O grandma, what kind of a party did you have when you were seven?"
Grandma smiled, and her eyes

looked far away. "I had a very different party from yours, dear," she said, as she stroked the little girl's shining hair. "My parents loved me, as yours do you; but parties were few and far between in those days, and birthday gifts were as uncommon.

"I remember my seventh birthday. I wanted a party more than anything else in the world, I think, but I did not ask for one; some way I did not think it would be of any use. There were so many of us, and so little time for mere play; but after a while I thought out a plan all to myself.

"I went out under the pine-trees and raked the old, dead pine needles up into a great, brown square. That was to be my house. I gathered with care bits of spruce 'gum' from the gnarled spruce-trees in the grove, and hoarded it carefully for my party.

"Then I picked wild gooseberries,—not many, for the sharp thorns tore my hands dreadfully. Those, with the gum, were to be my feast. Spruce gum and sour green gooseberries are not very like your pink ice-cream and pinky white cake, are they, dear?"

"And next there must be presents. Think of a real birthday party without presents! But where were they to come from? Suddenly I thought of a new way of present giving.

"I went to the little box under mother's bed where I kept all my treasures. In it there were the three queer, pretty buttons that my Aunt Nancy had given me the day I stayed with her and gathered caraway seed for her spice box; and there were a few bright bits of calico, strung on a string, waiting some far-away piecing time. They were very precious to me, for you see even small pieces of cloth were not plentiful when I was a little girl. Then there was my knitting spool—such a very nice spool, with pins stuck neatly in the end of it, and purple and red yarns started on it. There were a few pink shells, and other things that I have forgotten. It was but a little girl's treasure box, and they were treasures indeed.

"Out they went into my apron, and then out with me under the big, beautiful, shadowy pines. What a great time I had then, trying to decide which of my sisters should have the precious buttons, and to whom should the calico pieces go. Of course, it was easily settled that little Joe must have the pink shells, for they were the only part of my treasures that a boy would really care for, you know.

"At last my party was ready for its guests, and I ran in half timidly to invite them. They were to be your great-aunts, Elizabeth and Mary and Ann, and then little Joe.

"The girls were all busily sewing, and I remember Elizabeth saying, 'Oh, dear, I don't want to stop and go out to that foolish party!' You see she was just learning to sew, and she felt very big and important. But dear Sister Mary said: 'Bless the child! Come on, every one of you.' And so they came, little Joe hopping and skipping beside me as we went.

"When we came to the grove, there was the little pine house, and there were four large plantain leaves on the ground, a place for each guest, and each leaf held the hoarded spruce gum and a few of the little green gooseberries; then on each leaf was a gift.

"I had chosen the quilt pieces for Elizabeth; the buttons for Mary (such bright, pretty buttons they were); and Ann received the knitting spool. Little Joe turned a handspring in delight at becoming the proud owner of the wonderful pink shells.

"What fun we had, and how they laughed! But, when it was over, Mary held me close and said: 'Bless the child! To think of her giving away her keepsakes for her birthday gifts!'"

"But, grandma," broke in Marjory, "didn't you even have a place at the table, and didn't you get a single thing?"

"Well, no," laughed grandma. "You see I was so busy fixing things that I forgot all about myself; but it didn't spoil my good time, and I didn't miss

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Barker Bros. publish several magazines and Special Booklets on the subject of Home betterment. They are for complimentary distribution to home lovers but are much too fine to be sent broadcast or mailed to those who are not interested.

We will gladly mail them to you, from time to time, if you will make request. Not the slightest obligation is incurred.

READY NOW

Our beautiful Magazine, **BETTER HOMES**. This is the Holiday Number, and its pages are filled with words and pictures that will delight any Home-loving woman.

Another worth-while magazine for the woman who is studying ways and means of making her Home more attractive is **PLEASING HOMES**.


We have also just published a booklet, "AT YOUR SERVICE," which tells the whole interesting story of Barker Bros. Organization and its practically unlimited ability to serve your Home Furnishing needs.

May we send you these?

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ESTABLISHED 1890

Complete Home Furnishers.

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LOTS of chores about the farm—up late and early—out in all sorts of weather. Farm folks need a food-drink like Ghirardelli's Ground Chocolate—delicious, rich, strengthening! A steaming cup of Ghirardelli's has saved many an exposure from developing into a serious illness. Made in a jiffy, too!

Never sold in bulk—but in cans only.
In ½ lb., 1 lb. and 3 lb. sealed cans—
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Say "Gear-ar-delly"
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Since 1852 (F3)

GHIRARDELLI'S Ground Chocolate

DREADNAUGHT
BLAZING AWAY IN COST-DEFENCE!



TRESPASSING FORBIDDEN

He Who Invades the Realm of My Sway—BEWARE.

—Jack Frost.

All bunk—we have already "invaded" and are rapidly "busting" up the whole of Jack's kingdom. We are publishing the glad tidings that we may reach the few remaining victims of this shivering career.

On a cold morning—the real battle front of a man's life—if you can hop out of bed, strike a match, hop right back again, then get up and dress in a nice warm room, doesn't it beat all this fussing around with kindling and hustling wood?—the "battle" is over before it can start. The day starts right; you feel right and stay right. Let us show you how to overcome all this unpleasant stuff, put a stop to the expense and worry about fuel. You do not have to buy a new stove, not even change the old one. There is no question about oil being the fuel of the future—it is Nature's most abundant supply. When a simple, but natural operation, turns this fuel into a wonderfully clean, dry gas, as with the Dreadnaught Burner, you have an ideal condition that you will never depart from. Write for our Circular.

Four Cookstoves and Heating Stoves,
Burner and Combination Valve,
Parcel Post, Prepaid Anywhere.....\$7.50

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FREE  **GOLD**

GUARANTEED 5 YEARS

U. S. SUPPLY COMPANY, Box 358 Greenville, Pa.

the gifts, for you see I was not used to them. It was my very happiest day, and I am sure I could not have enjoyed it more had I received a great armload of gifts."—Grace G. Crowell, in Northwestern Christian Advocate.

The proof of the apple is in the eating, carrying and keeping.

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GALLONS
PER MINUTE

WATER

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TURBINE CENTRIFUGAL
PUMPS

—give most dependable
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Layne & Bowler Corp.
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Cal.

ASK FOR ILLUSTRATED FOLDER No 25

THE THANKSGIVING DINNER.

Thanksgiving, the happiest holiday of the autumn, is an occasion anticipated by all members of the family. The home-coming, reunions and festivities and the thoughts of the bounteous dinner, gives the day a peculiar joy. The religious character of the day may have changed, but the sincere feeling of thankfulness in every heart remains the same.

For that happy day, the house should be decorated with ferns, autumn leaves with their glowing colors, ears of corn, sheaves of wheat and bowls or baskets heaped with fruit and nuts. A well-shaped pumpkin hollowed out will make an attractive dish in which to pile fruit for the dinner table. Place cards with little personal jokes or rhymes are an addition to the jollity of the meal.

If it is desirable to dress the table more, use for a centerpiece a large pumpkin covered with yellow crepe paper, prettily crinkled, and green vines trailing down the sides. Make nut cups for each individual of the same color paper and connect with the centerpiece by yellow ribbon. Yellow candles in glass candlesticks help to carry out the color scheme.

The dinner itself is the crowning event of the day and most households cling to the traditions of New England in the type of meal served. Roast turkey or meat, cranberries, an abundance of vegetables, cider, steamed puddings and pies of mincemeat, pumpkin and apple usually grace the Thanksgiving table.

A very delicious soup may be made of lean meat to which is added when tender, carrot and turnip cubes, chopped onion and celery, as well as seasonings. When these vegetables are done, strain, cool, remove fat and put away. When reheated and served with crisp crackers, it will be found much better than a cream soup to precede a hearty meal.

Olives, celery and salted nuts add flavor to the meal and apple noisette is delicious with the meat course. Place a layer of apple sauce in a buttered baking dish, sprinkle with chopped almonds, macaroon crumbs and lemon juice, dot with butter, add a quarter of a cupful of hot water and bake for twenty minutes. Chill and serve with the meat.

The crowning glory of the meal is the roast turkey with its skin browned to a luscious crisp and its body filled with a delicious stuffing, but this year there will be many tables where the turkey will be replaced with chicken or a roast.

An attractive garnish for the platter is apple ginger in apple cups. Wipe, pare and chop two quarts of sour apples. Cook slowly for three hours with one and one-half cups of brown sugar, the juice of a lemon, two tablespoons of ginger, and enough water to prevent the apples from burning. This mixture may be made days ahead. Serve in cups made by cutting a thick slice from the stem end of bright red apples and removing the pulp with a spoon.

Any of the common vegetables are suitable for a Thanksgiving dinner—Browned mashed potatoes, boiled onions in cream sauce, squash baked and served in the shell are all acceptable.

For dessert, pies with flaky crusts and fruity puddings with sauce have the right of way.

Even the younger generation, whose usual choice of a dessert is ice cream, are willing on this day of all the year to accept the pudding and pies.

To conclude the dinner, serve nuts and raisins with coffee.

MINCE MEAT.

Six cups cooked beef chopped fine; 3 cups suet, chopped fine; 12 cups apples, peeled, cored and chopped; 2 cups sugar; 2 cups molasses, New Orleans; 2 pounds seedless raisins; ½ pound citron, shaved fine; 3 cups boiled cider; 1 tablespoon each ground cinnamon and nutmeg; 1 tablespoon each cloves and allspice; 1 tablespoon salt; 2 oranges, juice and grated rind; 2 lemons, juice and grated rind; 1 tablespoon almond extract; 1 glass of currant or quince jelly.

Put meat, suet, apples, sugar, molasses, raisins, citron, salt and cider into a large kettle; place over a slow fire, heating gradually. When apples and suet are cooked, add remaining ingredients and store in glass fruit jars. If more liquid is required, use the broth the meat was cooked in.

KINDERGARTENS.

That the great world war will be followed by years of agitation and change in which all institutions of government, including our own, will be tried and tested severely, is already evident from what is now taking place both in Europe and in America.

Intelligent democracy is the only protection against reaction toward autocracy on the one side and class rule, disintegration, and anarchy on the other.

Our American democracy, the hope of the world, demands universal education of the best type—education of all for freedom, initiative, self-restraint, co-operation, and obedience to law. In this education the kindergarten has a very important place. Its spirit is that of democracy, and tends toward freedom, initiative, self-restraint, co-operation, and obedience to law.

It is significant that the kindergarten did not receive governmental approval in Germany, because of this very fact of its spirit of democracy, and that Froebel looked to America for the attainment of his ideals in education.

For all our young children, both of native born and of foreign born parentage, and especially for the latter, kindergarten schools should be provided, either by public or by private support. Our millions of children of kindergarten age should no longer be deprived of the training which the kindergarten gives in industry, loyalty, patriotism, and the social virtues which are so essential in our political, social, and industrial democracy.

I should like to urge all school officers and all citizens who are interested in the welfare of the people and in the permanency and fullest development of our democracy to use their influence for the establishment and maintenance of kindergartens for all children.—P. P. Claxton, Commissioner of Education.

Go to the Ant, thou Sluggard,
Consider her ways and be wise.
She romps through the pantry and cupboard,
And eats all the bread and pies.
She lugs off the grains of sugar;
She gets in the oatmeal box;
She chews at the cakes and cookies;
She cares not for bolts nor locks.
Yes, go to the ant, thou sluggard,
Consider her ways and get wise.
A man can get rich off of others
Without working so hard, if he tries.
—Selah!

THANKSGIVING PUDDING.

Two and ½ cups of bread crumbs, 1 cup brown sugar, 1 cup raisins, seeded and cut in pieces, 2 tablespoons citron, ½ cup chopped walnuts, ½ teaspoon nutmeg, 1 teaspoon salt, 1 cup scalded milk, 3 eggs, ¼ cup each of currants and figs, 2 tablespoons candied orange peel cut in small pieces, 1 teaspoon cinnamon, ½ cup finely chopped suet.

Soak the bread crumbs in milk, add sugar, spices, salt and eggs, slightly beaten, raisins, currants and nuts, dredged with flour, the candied orange peel and citron. Cream the suet and work in the chopped figs. Combine mixtures, turn into a buttered mold and steam four hours. Serve with nectar sauce made by mixing half a cup of creamed butter with one cup of powdered sugar and one well-beaten egg. Beat over hot water until perfectly smooth and flavor with one teaspoon vanilla, or other flavoring, if preferred.

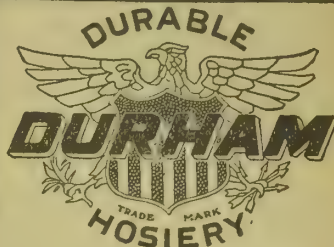
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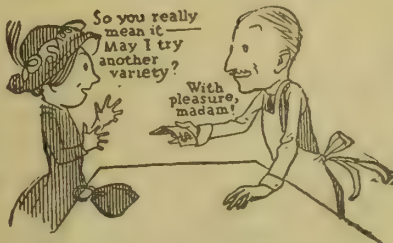
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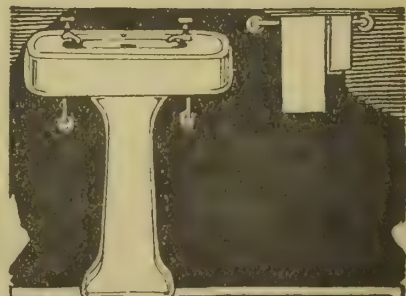
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TRUCK HAULS CHILDREN TO SCHOOL.

Some fine work in making the high school available to all children of the district is being done by the directors of the Washington Union high school of Easton, Fresno county. This is a strictly agricultural population, covering a large area, and the only way the children can attend is to provide their own transportation or have it provided. In order to make it possible for every child of proper age to attend, a motor truck has been purchased and fixed to carry 40 passengers. This is run free for pupils over a route of 12 miles, getting all of the pupils living in the direction traveled. The driver is paid \$75 a month, this small salary being possible through the fact that he has most of his time for himself.

The truck is left at the end of the route at night and the driver rides a

motor bike home, riding out to the truck in the morning. Then he leaves the truck at school during the day and comes back to it when school is out. This is cheaper than having him take the truck home with him. It makes one one trip a day, instead of two trips—a total of 24 miles a day. The truck is used to capacity and it saves the upkeep and expense of providing autos and horses for 40 separate children.

This truck is only an experiment, and a successful one. It is planned next year to put on two others like it, to cover the whole school district. The cost of the truck, complete, was \$4,300.

This school is doing fine agricultural work. The principal, G. N. Steyer, is the teacher of agriculture, and also owns a farm. There are 15 members of a very flourishing pig club, and 20 children extra in it from the grammar grades. According to J. A. Poytress,

a leading rancher of the district and a director of the Farm Bureau, this pig club work is one of the finest things ever used to develop agricultural interest among the children.

GIBLET SAUCE.

Pour off liquid in pan in which turkey or chicken was roasted. From this liquid, skim 5 tablespoons of fat, return to roasting pan and add 5 tablespoons of flour, stirring until smooth and brown; gradually add 3 cups of stock in which giblets were cooked. Stir until thick, season and add the giblets finely chopped.

DAZZLING DICKY.

"Such vivid neckties Dicky wears! They're simply dazzling."

"Yes, his idea seems to be 'Best is the tie that blinds.'"—Boston Transcript.

APPLE BUTTER.

The mere name of "apple butter" brings memories of that spicy, toothsome dainty which is old fashioned but which never goes out of fashion. As it holds the concentrated flavor of the apple, many people think it has no equal as a spread for bread or for serving with meats.

Almost any variety of apple will make good apple butter, but those of good quality which will cook well are most satisfactory.

Sometimes sweet apples are used with tart apples, the usual proportion being one-third of the former to two-thirds of the latter. Overripe apples do not make good apple butter, but if they are used, a little vinegar should be added to give snap to the butter. Only fresh, sweet cider or commercialized sterilized cider should be used; boil down to about half its original quantity.

The peeled and sliced apples may be cooked in the boiled cider to make the butter in one operation, or they may be made into apple sauce, which is then cooked in the boiled cider. With apples of coarse texture the latter method is preferable. Continue the cooking until the cider and apples do not separate and the butter when cold will be as thick as good apple sauce. Determine the thickness at frequent intervals by cooling small portions. About equal quantities of sweet cider and peeled and sliced apples are required to make butter of the right consistency. Five gallons of sweet cider should be boiled down to two and one-half gallons and five gallons of peeled and sliced apples should be added to it.

Two essentials of making good apple butter are long, slow cooking and constant stirring. Four to six hours are required for making the butter.

If sugar is desired in the butter add it after the cooking of cider and apples is about two-thirds finished. One pound of white or brown sugar to one gallon of apple butter is the usual proportion.

Spicing Apple Butter.

Apple butter is spiced according to taste, about a half-teaspoon each of ground cinnamon, cloves and allspice being used for each gallon. These are stirred into it when the cooking is finished. While still boiling hot, apple butter should be packed in hot boiled glasses, glass jars or hermetically sealed stone jars, with tightly fitting covers, and be boiled in steam as follows:

Place the containers, filled and with tops on, in a vessel fitted with a false bottom and deep enough to hold them. Pour in a little water, put on a cover to hold in the steam and place over the fire. Begin to count time when the steam starts to escape, and after five minutes for quart or smaller sizes, ten minutes for half-gallon sizes, and 15 minutes for gallon sizes, take the containers out to cool.

Place them away for future use. Do not disturb the covers until the apple butter is to be used. If covers do not fit tightly place wax or oiled paper in them to make a tight fit before boiling. The boiling prevents any molding, spoiling or infection of the top layer of apple butter and also takes the place of paraffin, which is now quite expensive.

VEGETABLE GARDEN TIME.

Fresh green things are always craved in the winter, and to have them then it is the right time now to plant such seed as lettuce, radish, beet, carrot, turnip and parsnip. Get the best seed possible, as it is such a loss of energy and time to work with poor seed.

WHAT HE LEARNED.

Mrs. Styles—"Did your husband get any decorations in the war?"

Mrs. Myles—"No; but he learned how to cook."—Yonkers Statesman.

A man down in Missouri put his hand in a mule's mouth to see how many teeth the mule had. The mule closed his mouth to see how many fingers the man had, and the curiosity of both man and mule was satisfied. We like to see everybody pleased.

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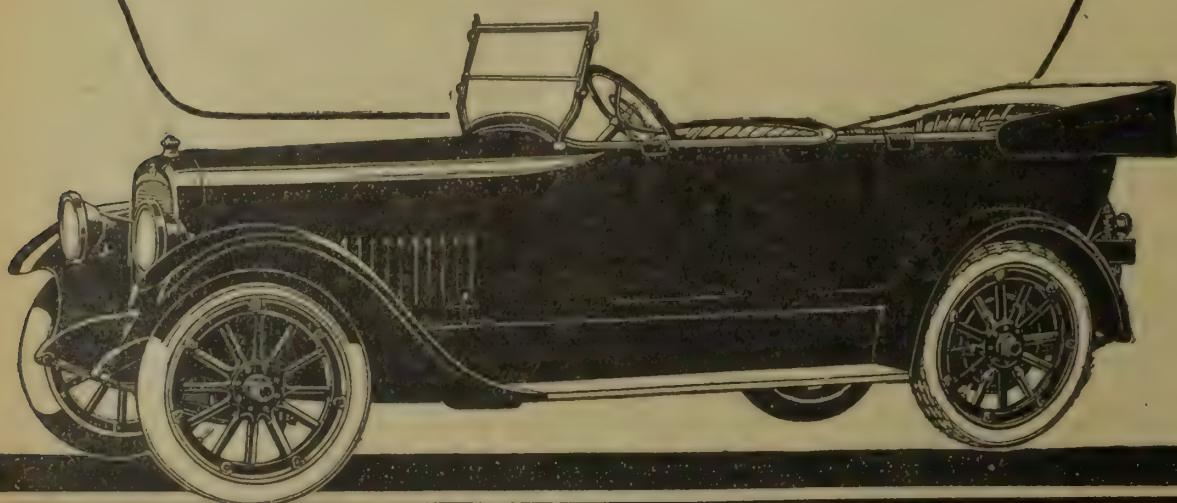
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Tractors or Horses—Ranchers' Estimates

Written for Pacific Rural Press by R. E. Hodges.

"What do you think of tractors for my place?" asked H. G. Hansen of Monterey county recently. Mr. Hansen raised 400 acres of barley and about 300 acres of beans this season on a granite loam upland farm practically level. He has farmed 40 years more or less, and he still uses horses for power. Magnificent animals they were as we watched two of the boys, each taking an eight-horse team to the field. Mr. Hansen is proud of them, for most of them are of his own breeding and he has understood that breeding.

"A horse is good for many years," said he, and when one is gone another has been raised to take its place. With a tractor I know people that have a lot of trouble and must buy an entirely new one about once in four or five years. That looks like it costs too much. But I don't know."

Neighbors' Experiences and Estimates.
To answer Mr. Hansen's question from experience under conditions similar to his own, we visited two of his neighbors who are farming similar acreages to the same crops. One is Chris Fanoe, whose new 22-45 horsepower tractor we had seen delivered a year ago last September. The other is a successful rancher, well known and highly respected in these parts for many years. He is H. P. Nielsen.

Mr. Nielsen works 400 acres, mostly in beans and grain. He keeps twelve horses busy or otherwise to handle the work; but he says it is cheaper to buy a horse than to raise one. A neighbor recently bought a good broken three-year-old for \$95, although Mr. Nielsen figures his own horses worth an average of \$150 each. The figures he gave us on the cost of farming by horses were not premeditated, but each of our readers can vary them to fit your own local experience. To estimate the cost per year of keeping and using his twelve work horses, he gave items about as follow:

Costs of Operation with Horses.

Interest on investment in horses (average \$150 @ 6%, 12 horses).....	\$108.00
Interest on investment in harness (six sets at \$40 per set)	14.40
Depreciation on horses (average working life 14 years)	128.57
Depreciation on harness (average life seven years)	34.28
Harness repairs	8.00
Losses by accident, disease, etc. (average one horse per year).....	150.00
Veterinary bills	50.00
Feed (50 ton barley hay, probably salable at \$10 per ton on the ranch unbaled as an average price for the past year)	500.00
Barley (five pounds per feed three times a day while working, say 250 days per year, 450 cents @ \$2.50, f. o. b. ranch)	1125.00
Pasture three months at \$3 per month while horses are idle	9.00
Care (probably 115 idle days, ½ hour per day at 25c per hour)	14.37
Drivers (Two at \$3 per day, 250 days)	1500.00
Total cost per year of keeping and using twelve horses	3641.56
Average cost per horse	303.46

Explanation of Estimates.

The fourteen years average working life of a horse is based on the practice of breaking them at two years old. Mr. Nielsen is working a horse now that is several years past fourteen. The seven years' life of harness and the harness repair bills are our own estimates in the absence of Mr. Nielsen's consideration of this point.

Losses by accident and disease were placed at one horse per year after recalling one year in which \$2,000 worth of horses died, one year in which only one died, and last year in which none were lost. Veterinary bills were vividly in mind at the time of our call, due to one of the horses being in hospital for a wire cut.

Feed runs high, as the rotation of crops enables Mr. Nielsen to keep the horses working almost every good day. Some hay is fed even when the animals are idly pasturing the acre lot containing a strawstack. Barley hay is fed because it is just a part of the home-grown crop. Its value, f. o. b. ranch, is taken because that is what it could be sold for if a tractor were used. It is unfair to base the

figures on its value at harvest time or after several months, so an approximate average valuation is placed by the writer on the amounts Mr. Nielsen feeds. Every reader may judge the fairness of these figures for his own ranch.

Tractor Replaces 22 Horses.

In order to make a fair comparison with tractors, it is necessary to figure the amount of work done as compared with a tractor. The operation of plowing will be a fair index for all operations. Mr. Nielsen uses six horses for three ten-inch bottoms or eight horses for four bottoms. This averages five inches of plow bottom per horse.

Mr. Fanoe emphatically maintains that his 22-45 h. p. tractor does as much work per day on the average as 22 horses could do, though this is true only on the larger operations of plowing and cultivating. At the rate and depth Mr. Nielsen's horses work, this would make the tractor plow 110 inches. But Mr. Fanoe gains something here. He pulls only 90 inches of plows; but he has 96 inches of harrow following to counterbalance the extra 20 inches that 22 horses would plow. The gain is in getting the ground harrowed immediately without any travel over its soft surface.

The past season's work for the tractor included plowing and harrowing 750 acres at the rate of 18 or 20 acres per day and cultivating 200 acres (for beans) three times with a battery of cultivators. This battery consisted of a ten-foot Killefer cultivator, followed by a ring roller and a harrow, each ten feet wide. This tractor certainly replaced the 22 horses on all work where that much power was adaptable.

Excess Power a Godsend.

Moreover, the excess power was a Godsend last year. On account of the flu, the plowing was started late and the day's work lasted from daylight to dark with noontime lunches eaten en route. Practically all greasing and oiling was done after dark. Each noontime the tractor was stopped just long enough to screw down a grease cup which could not be done while the engine was running. Mr. Fanoe was enabled to get his crops in in time whereas horses could not have stood the pace and at least three drivers would have had to be found in a time of labor scarcity. Finding the drivers would have been the least of his troubles, too. Keeping them would have been impossible on such a job. With the tractor there were no labor troubles.

Expenses as figured below are based on data given the writer by Mr. Fanoe as we rested beside the tractor, which had been carefully overhauled and sheltered after its season's work.

Cost of Keeping and Using Tractor.

Interest on investment (\$4,850 @ 6%)	\$291.00
Depreciation (see discussion below) ..	250.00
Repairs and overhauling	30.00
Driver (self, 70 days at \$5 per day) ..	350.00
Distillate, gas and oil (50c acre plowing, or 37½c acre cultivating or harrowing)	450
Total	\$1,371.00

The depreciation item is a surprise. We asked about this point particularly with questions recently asked by Mr. Hansen and others in regard to how often it would be necessary to buy a new tractor.

"I wouldn't take a price \$250 less than I paid for it. I consider my tractor practically as good as new," said Mr. Fanoe. "The tracks are not worn and there is every reason to believe that it will be good for five years. I took it down last spring after the plowing was done to see if it was worn. There has been no expense for repairs. We have just overhauled the engine and ground the valves, so it is ready for another year's work. I did most of the work myself and will do it all next time. I had an expert mechanic to help me this time and I suppose he will charge about \$15. The reason my tractor is

in such good shape is that I ran it myself and I always greased and adjusted it after dark while the machine was still warm and comfortable to handle. I've been careful to test occasionally for loose bearings; but the only ones found loose enough to take out a shim 5-1000ths of an inch thick were the end crankshaft bearings and one connecting rod bearing.

Mr. Fanoe's farm operations are more or less similar to those of Mr. Nielsen, and we can assume that his cost of keeping horses would have been the same. He was unready to give any estimate.

Big Money Saved Annually by Tractor.

Mr. Nielsen's cost of keeping and using horses was \$1.21 per working day. If Mr. Fanoe had rented 22 horses and used them at the same total cost per day for 70 days for the plowing and seedbed making, they would have cost him \$1,863.40 besides the worry of finding and keeping drivers and the risk of damage to horses and implements from careless or dissatisfied help.

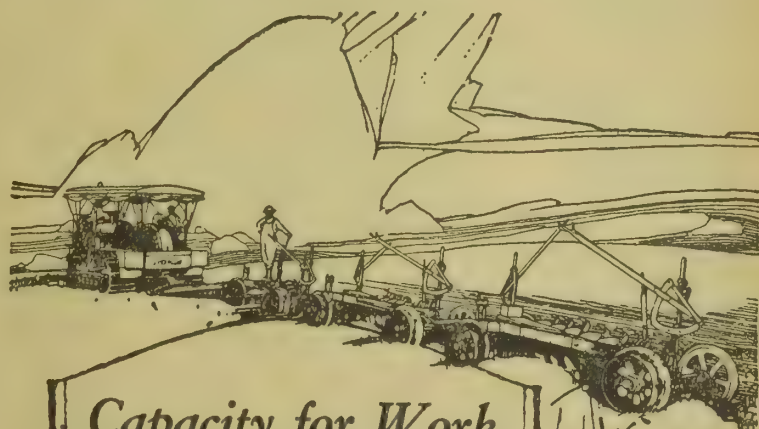
The difference would be approximate—the difference between cost of keeping 22 horses (\$1,863.40), or keeping the tractor (\$1,371). At that rate, he will soon have more than he can spend and will buy another 500 acres in addition to the 500 he bought this fall.

Mr. Hansen, your neighbor, who once used horses as you do, tells us he is "tickled stiff" with the tractor and would quit farming if he had to do without it!

TRACTOR AND DISK TURN PRUNINGS INTO HUMUS.

On one of the older Valencia orchards near Lindsay, where the trees were planted only 20 feet apart, the branches for several years have been so near touching that a wagon could not be driven through the orchard and the fruit had to be hauled out on a sled. No sled large enough to carry the prunings properly could be used, so the manager had the prunings shoved under the branches of the trees, out of the way of cultivation.

That was not a satisfactory way of doing and after getting a tractor that would navigate between the trees, and putting a sharp, well weighted disc behind it, he had the prunings raked out into the middle of the rows. They were pretty brittle and aged by that time, so the tractor first crushed them down and then the disc cut them all to pieces and got them so they would make humus in due season. In this way the prunings, which formerly were a nuisance, became a soil improver.



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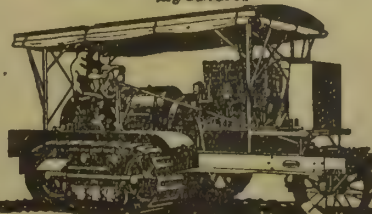
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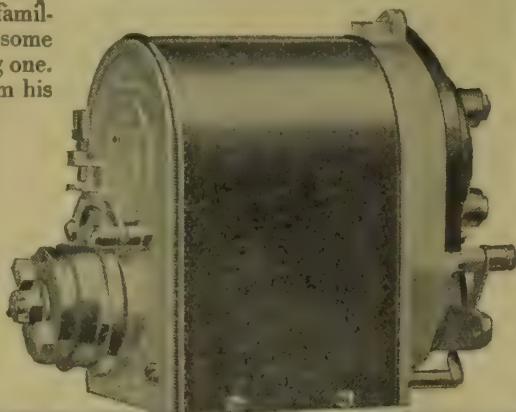
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Citrus Orchard Tractorists

(Written for Pacific Rural Press by D. J. Whitney.)

Orval Overall, President Kaweah Lemon Company, Lemon Cove, with 300 acres of citrus orchard: "We have two orchard tractors now with engines of 25 horsepower, and we intend to purchase two others before the spring work begins. We also intend to buy a powerful tractor of the track-laying type for the special purpose of sub-soiling the whole ranch deeply and doing other heavy work. Tractors have proved their worth with us as it is six years since we bought our first machine and we could not run the place right without them.

"Their greatest value for citrus work is during the spring rush. One shower is likely to follow another at frequent intervals in spring, leaving perhaps only four or five days between when the land can be worked. If horses alone could be used, they would cover very little ground in this space of time, but by having tractors available we can get the whole place worked up nicely before it gets too late. Tractors always give deep and thorough cultivation also.

"Horses will do a good deal of the work on this place, even after we have all the power machinery we expect to buy, but their use will be mainly in hauling brush and fruit and in cultivating the steeper hillsides where tractor work is inconvenient."

Chas. Goodale, manager of the Honora Realty Co., says that he would not know how to run an orchard without tractors. They have four orchard tractors now and do most of the cultivating on a 1000-acre ranch with them. A large part of the ranch is in citrus fruits. He says:

"Tractors beat out horses in economy, efficiency, and durability. A horse eats whether he is working or not! a tractor costs nothing when it is not used. As to efficiency, the hotter the day the better the tractor works, but if the day is very hot a horse may be wanting to rest all the time. During the hot summers here we need plenty of irrigation and thorough cultivation following it. As to durability, the tractor we bought three years ago seems as good as the one we bought a year and a half ago and the expense of upkeep is less than what it would take to feed and look after horses, doing an equal amount of work. Besides the hauling and various odds and ends of horse work needed about a place, we do our furrowing out with horses and pull in the furrows with them, but the tractor is the thing for heavy cultivation. Horses also are good for hillside work, particularly where the soil is light, for then, even if a tractor has lots of power, it cannot get a good foothold. Where the soil is heavy, as is the case on most hillsides in Tulare county, tractors can work on much steeper slopes than where the soil is a sandy loam.

"We are told that a rancher had better use horses on account of the fertilizing value of the manure; we are also told that we should keep tractors on account of the way they get the work done, but the way that tractors are coming in I do not know where the stable manure is coming from which all good citrus growers want for their trees. That is the main fault with the tractor. It provides neither manure nor colts. When a man's horses are worn out he can have a bunch of young stock from them to take their place, but when a tractor wears out, he has to go into his pocket to buy a new one. Even at that the tractor is the thing. If it could only have a young one every couple of years that was growing up while it was wearing out, it would be perfectly all right."

Chas. Howison, foreman of an 80-acre orange ranch at Lindcove, owned by James Madison, says: "We have used a tractor on the ranch for two years and can keep the soil in the finest kind of shape. Instead of a tractor packing the soil, as some claim, it seems to cultivate it, with the open work wheels of our tractor at least. Clods are crushed and weeds are cut by the tractor even before the tool we are dragging gets to them.

"By using a tractor with plenty of power a man can till the soil closer to the trees than he could with horses without the slightest danger of bruising the young fruit or hurting the trees. Then the tractor does such thorough cultivation that a man can keep his land in first-class shape.

VINEYARD TRACTOR QUALIFICATIONS.

Circumstances alter cases with tractors. In the Tulare citrus district tractors are becoming as numerous as tin Lizzies on a highway, for the soil is heavy enough to hold them up well and the trees are far enough apart to give plenty of elbow room. Not far off, on Fresno county vineyards, mostly with sandy soil, the user of a tractor is an exception.

There are several reasons for this. One is, particularly on the smaller vineyards, that the vineyards were planted with no thought of tractors and not enough space has been left to turn around nicely at the end of the rows. Next, the wear on the machinery is more on sandy soil than on clayey soil and vineyardists look for as dust proof, sand proof a machine as possible. Third, the lighter soil means harder pulling on round wheel tractors than they have on firm ground and in bad places they will dig themselves in. Consequently track-layer types are favored and they are more expensive than round wheel machines. They give full power on any soil, though, and never get stuck, so when required, justify a higher price.

One large and well known vineyardist near Fresno said this on the subject: "I do not feel by any means that we yet have the right tractor for vineyard work here (using reasons just given), but I have been using two or three on my vineyards and am putting a number more on. I can do this when men on small places might not on account of having too many turns. Since it is possible to go a mile straight on some of my ranches without turning, you can see what an advantage I have. For tractor work in vineyards I simply say: They are good when they can be used conveniently. Meanwhile the manufacturers should strive to give as much power as possible in as small a space as possible, and to make the machines as dust proof and sand proof as they can."

TRACTOR CLEARED 50 ACRES.

To use a tractor in pulling big bushes and small stumps ordinarily involves a lot of starting and stopping. One farmer with a 10-18 tractor cleared 50 acres in a more convenient way. He pulled about nine stumps without stopping, although he pulled only one at a time. Nine chains of various lengths were used. The longest was thirty feet. The rest were hooked to this one and around nearby bushes and stumps with varying amounts of slack. When the tractor started up, it tightened one chain at a time and dragged each stump until the rest were pulled.

POWER NOTES.

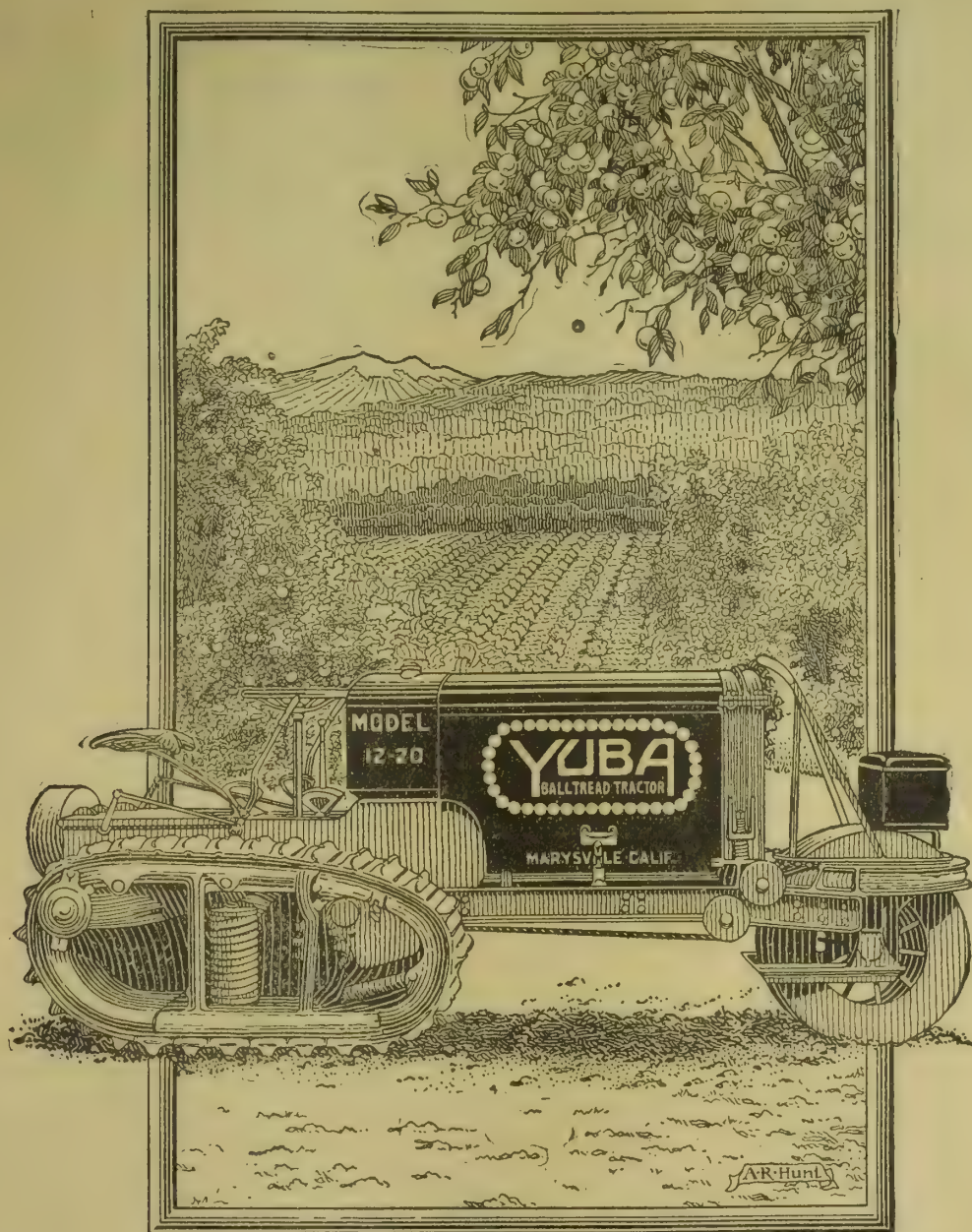
Pumps supplemented mountain water in the rice fields of the Oakdale (Stanislaus county) district and made the difference between big crops and ordinary or small crops.

A young lady who went down to pick prunes in Santa Clara county remained to drive a tractor at \$90 per month and board. Later on she may be working for her board and clothes, etc.

Fifty-eight new service stations have recently been added to those representing the American Bosch Magneto Corporation so that they now have nearly 300 in this country and over 30 in foreign countries.

A hundred-thousand-dollar contract, mostly for Killefer double disks to be used in rice fields, was recently closed with a Colusa dealer by G. A. Flood for the coming year. Last year's contract covered \$67,000 worth of implements.

THE REASONS *for* BEING PROUD



You'll be
proud to own either model
12-20 or 20-35
ready for immediate
delivery

Successful farmers; proud of their horses,
of the speed and grace of their two-year olds, of the weight
and stamina of their Percherons, were not satisfied with
plugs.

Successful farmers, proud of their Yuba tractor,
of its alloy steels and advanced design, of its ability to stand
up under hard service, of the soundness of their investment,
are not satisfied with any less perfect.

Successful farmers are not only proud of their Yubas
but they are a bit cocky about their own discrimination —
their intelligent appreciation of mechanical superiority.

Successful farmers like the feeling of being in good com-
pany —
the experts employed by big agricultural corporations de-
mand Yubas.

Successful farmers, with their Yuba tractors,
fear neither soil nor weather, neither strain of strenuous
season nor breakdown.

Write us fully about
your requirements; how
many acres you cultivate; the
crops you raise; the
nature of the
soil.

YUBA MANUFACTURING COMPANY

MARYSVILLE, CALIFORNIA

YUBA DEALERS:	A. F. GEORGE CO., Inc., Los Angeles	SAN JOSE TRACTOR & TRUCK CO.,	YOUNG HARDWARE CO., Napa
	A. F. GEORGE CO., Inc., Fresno.	San Jose.	ELECTRIC GARAGE CO., Woodland.
	PENGILLY & CLARK CO., Stockton.	KETTERLIN BROS., Santa Rosa	BOOTH BROS., Paso Robles.

Experiences with Centrifugal Pumps

(Written for Pacific Rural Press by D. J. Whitney.)

It seems somewhat difficult to give in proper order various pointers about centrifugal pumps that should be known. Most of the facts given here were learned by experience at various intervals and the way they are given may be due partly to the way they were learned.

A very important item about the installation of a centrifugal, and also a rotary pump, is the design of the shed covering and protecting it. It seems very simple and natural just to put up an ordinary shed to cover it all. To do so in most instances is to prepare for a lot of unnecessary work and expense later, provided anything has to be done with the pump or well. The pump cannot be lifted out conveniently, or pipe pulled, nor sand pump lowered unless a derrick is erected over the well and this cannot be done without tearing the shed to pieces, and later putting it together again, and the way labor costs now, money is thrown away every time this is done. The proper idea is to erect the shed over most of the pit and machinery, but to have a lean-to a couple of feet off the ground, covering the well. Over this lean-to, with the center directly over the well, a permanent derrick of substantial timbers should be erected.

Then whenever it is necessary to pull up pump, motor, or pipe, a man can usually do it himself with the help of a hired man, without hiring a regular pump man, and the time and expense of preparing for the work is next to nothing. Or, if the pump men have to come out, they can start right in without erecting or removing the derrick and less time need be charged for. Sometimes a derrick is built over the shed when that covers everything. There is then some trouble with the roof every time pump or pipe has to be lifted, but the trouble is not large.

Foot Valves and Check Valves.

The older installations of centrifugal pumps have mostly foot valves, that is, valves at the bottom of the suction pipe to hold the water in the pump while the plant is not in operation. The newer and more convenient installations are valves at the elbow of the pumps. As the writer has had very little experience with these, he will not discuss them. Foot valves invariably, however, are noted for their tendency to leak, so that with rare exceptions it is necessary to pour water down the discharge before starting the pump, until the pump is full of water and the runner will get a grip on the water. Occasionally, with a very leaky valve, this is a hard job. Just as sand in a leaky bucket will stop leaks, so mud will block a leaky valve. When ordinary priming will not do, drop a small can of loose loam, or a chunk of clay, or something of the sort into the pump, and the priming will then be effective. On one very troublesome pump the writer used to drop in small particles of newspaper.

Depth of Suction.

Occasionally you hear it advised to have the suction deep in the well. This is bad business. The writer purchased a plant which had been installed in a place where there was no water and in the new installation 60 feet of suction was used. This brought the foot valve close to the bottom of the well, where sand filtering in partly checked it so that in time the water column was breaking and the limit of suction reached, while the water in the well was only 22 feet below the center of the pump. Inside the suction pipe, of course, it must have been 28 to 30 feet down. This was a waste of power and a strain on the pump, and there was trouble and expense in getting it fixed. Every foot of unnecessary suction or discharge means just so much more friction, even if the suction pipe is fully open at the bottom, and so much waste of power. Put on as much suction as is needed and no more. The limit of need is about 35 feet, and if a man is sure of his well he can use

less. The reason why 35 feet may be good even though the working limit of suction on an ordinary centrifugal is about 25 to 28 feet is that air may get into the suction if the inlet is too close to the surface and cause the water column to break and pump to run free and dry. Therefore, have the suction a little lower than you ever expect the water to drop down. Furthermore, the larger the suction and discharge pipes, the less power will be needed for a satisfactory flow.

Packing a Centrifugal.

A centrifugal pump has to be airtight. The natural leak is where the runner shaft enters the pump shell. The nearer the pump is to the water the less the strain on packing and the less strain on the bearings, so keep the pump as near the water as possible. Deep suction is a heavy strain on the packing.

The popular packing in this section seems to be braided hemp well mixed with graphite—graphite packing, it is called here. The writer, however, prefers asbestos packing, using it in long, thin strips, heavily covered with graphite grease, which is far prefer-

able to ordinary motor grease. This gives excellent satisfaction. Loose hemp is poor stuff if there is any strain upon it. When packed too tight it will simply burn, leak, and air will enter. The asbestos packing is wrapped around the shaft the way the runner turns, otherwise the shaft might loosen it.

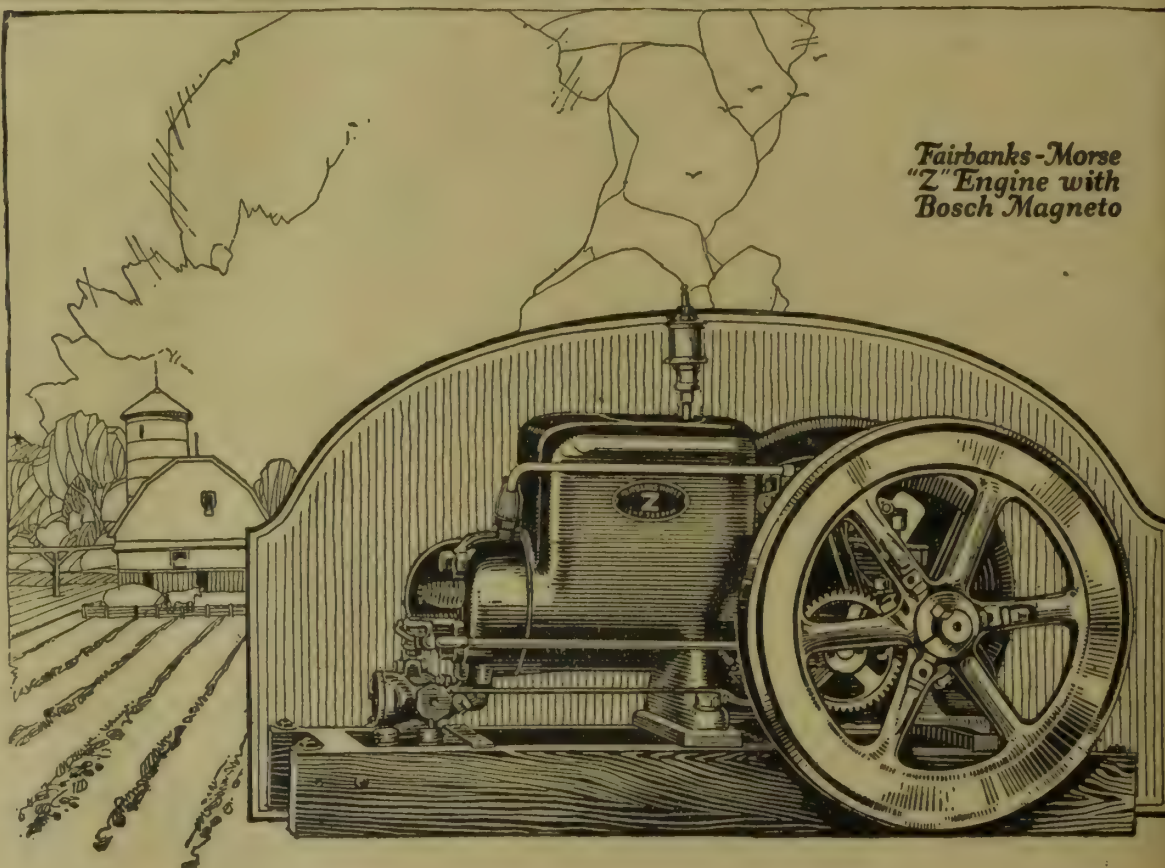
When the pump was installed a grease cup was used over the packing, but trouble lead to the discovery of a better way which is fairly common and ought to be universally used. It is cooling by water, not grease. Water will always keep a bearing, or packing cool; grease may not.

Water Seal.

From the top of the runner shell have a small pipe come up and lead over to the water bearing of the pump. The motion of the runner forces water through this pipe, and instead of sucking air through packing, the tendency will be for this water to take the place of the air, though of course, loose packing will make the pump leak air anyway and the water seal will be useless. Also have a small cut-off on an arm of this pipe and have a short piece of garden hose leading from it to the place where the grease cup is used. A piece of pipe on the end of the hose takes the place of the grease cup. The cut-off should

then be adjusted so that the faintest trickle of water will pass to the packing, which it will keep cool under all conditions, preventing excessive wearing of the shaft and the sucking of air, provided the packing is in good shape. Sand in the water may cut the shaft, but a sand trap can be used and the adjustment of the cut-off to make a small, slow flow will help also. If pump and motor get out of a straight line it wears the shaft badly. A well adjusted plant will run smoothly, so if your pump begins to make a noise, line it up again. Put a block under your discharge also, as this may keep the weight of water in the pipe from pushing the pump out of line.

A few words about ordinary horizontal centrifugal pumps may be said here. The typical pump of this kind has the water come in at the center on one side, while power is applied from the other side on runner shaft. This causes a side strain on shaft and runner, which can be offset or over come in various ways. There are some pumps so well water balanced that this strain is hardly noticed. Others are not so well balanced. There are closed runner pumps and open runner pumps, but these are technical matters which need not be described.



Fairbanks-Morse
"Z" Engine with
Bosch Magneto

SINCE the "Z" was put on the market, over 250,000 farmer buyers have pronounced it the greatest farm engine value. ☐ We felt the same way about it. ☐ But following our policy to improve our product whenever possible, we are highly pleased to announce a new

FAIRBANKS-MORSE "Z"

with Bosch Magneto—high tension ignition which adds the one possible betterment. ☐ Call on the "Z" dealer near you—see this world's greatest engine—understand the full meaning

for you of the engine service which over 200 Bosch Service Stations give, in co-operation with every "Z" dealer, to every "Z" engine buyer. ☐ Prices—1½ H.P. \$75.00—3 H.P. \$125.00—6 H.P. \$200.00—All F. O. B. Factory.

Fairbanks, Morse & Co.
MANUFACTURERS CHICAGO

Cletrac

TANK-TYPE TRACTOR

(Formerly known as the Cleveland Tractor)



No "Off Season" for the Cletrac

THERE is no "off season" for the Cletrac. It is a season 'round investment—paying you a steady interest 365 days in the year.

When it is not necessary in the fields, it never need be idle. For it is a master at belt work and knows no equal at dragging dead weight.

Grade with the Cletrac. Haul with the Cletrac. Use it to pull your logs and stone boats. Saw with it. Run the feed mill with it. Let it do *all* the work that you formerly did with your stationary engine and horses.

And then when it comes time for field work again remember that the Cletrac *does far more than merely plow*. It is the one tractor that successfully goes through with the *entire preparation of the seed bed*—plowing, harrowing, planting—*without sinking in—without packing down the soft earth*.

No power wasted

The Cletrac runs on metal tracks like a locomotive. No extra power is required to push it *through* the soil. It rides on its tracks *on top of the ground* and consequently most of the power goes *into drawbar pull* where it should go.

This track-laying, tank-type of construction permits the Cletrac to go over uneven ground, soft sandy soil,

and even the muck of the Southern rice fields without slipping, sliding or floundering. It permits side hill work ordinarily considered dangerous for tractors.

It is ideal for orchard work

Because of its small size, its short turning radius and its power, the Cletrac has become the standard tractor among orchardists.

The Cletrac operates on a very small amount of distillate, kerosene or gasoline. It does *more* work, *more* days in the year and does it *better, cheaper* and *faster*.

Every Cletrac dealer is a service man. When you buy a Cletrac, you are assured of a service fully in keeping with the excellence of the machine—a service backed by The Cleveland Tractor Company itself—a service that is prompt, courteous, efficient and economical.

Order your Cletrac *now* for prompt delivery. Cash in on it *now*. Have it ready for field work when the time comes.

Write today for a copy of our interesting thirty-two page illustrated booklet "Selecting Your Tractor." It gives you in addition a rich fund of information on every phase of the tractor situation.

The Cleveland Tractor Co.

19079 Euclid Avenue

Cleveland, Ohio

The largest producers of tank-type tractors in the world

SMALL COMBINED HARVESTER FOR RICE.

The small combined harvester and thresher operated by two men has become very popular in California. But a new one on this machine is the use being made of it by a Butte county rice grower. This man does not haul his rice to the thresher, but hauls his small combined harvester around the rice field and handles the rice bundles only once. Four or five men are needed to keep it busy. The platform has been taken off and a stationary threshing-machine self-feeder has been put on for the rice. It turns out over 300 sacks per day and leaves straw spread over the field where it does the most good.

COMMUNITY SILAGE EQUIPMENT.

Co-operation has solved the farm labor shortage for a group of seven ranchers in the vicinity of Tulare. When the men, C. O. Martin, Sam Burgan, H. E. Martin, Henry Beckman, M. B. Crossley and B. M. Hargis, found it impossible to secure labor for their ranches they held an informal meeting, selected Mr. Riley secretary and Albert Martin as manager, named their organization the Tulare Silo company and proceeded to build a silo on each place, each man putting up his own. Then the group purchased a 45 horse power gas engine, mounted on a truck, an ensilage cutter and a corn binder. Twelve men are necessary to operate the machinery, the seven members of the company forming the nucleus of the crew. The company has between its members some 80 acres of excellent Indian corn.

BEETS FROM WAGON TO CAR.

Many are the devices intended to make it easier to unload sugar beet from wagon to freight car. At one place we recently saw them being hauled with eight horses per wagon to the "dump," where the whole load would be off in less than two minutes from the time the horses stopped. wagon bed has a steep inverted V-shaped bottom and sides hinged along their top edges so their lower edges could swing outward when released. They were held in place by a ratchet, which was disengaged with a small bar to dump.

A bin under the platform extended on both sides to receive the beets. Its bottom sloped steeply to the point where a vertical bucket-conveyor dipped them up. This carried them to the top of a chute whence they slid into the car. The floor of the chute was slatted to let dirt and some loose leaves through. It had hanging gates at intervals to break the fall of the beets. At its lower end were flaring sides which prevented the beets from falling off the car while the latter was being heaped up. It was loaded at one end and shoved along by a man with a pinchbar as it filled up.

SHOW MANAGERS TO MEET.

Chas. R. Thomas, manager of the Los Angeles Live Stock Show and G. H. True of the San Francisco Show agreed this week to call a meeting of Livestock show managers to be held at San Francisco, January 5th next. The states to be represented in the conference are Washington, Oregon, Idaho, California, Nevada, Montana, Utah, Arizona and Nevada. The object of the meeting is to arrange for a circuit of show dates covering the western territory.

As a wise man goes to his banker for advice on business affairs, so a motorist may well go to lubrication experts for suggestions. The Standard Oil Co. maintains a Board of Lubrication Engineers, who have prepared a chart showing their recommended lubrication for every type of car. This chart is free for the asking.

A system of lubrication, by which grease is forced into all bearings conveniently with no loss of time is the Alemite, exhibited at the Los Angeles tractor demonstration. A nipple containing a spring and ball to close its opening is screwed on in place of each grease cup. On its side are points

over which it is the work of an instant to hook the end of a flexible tube from a grease pump, so tight that 400 pounds pressure exerted by the screw on the pump forces grease past the ball into the bearing but does not waste any of it.

BOY RUNS ORCHARD TRACTOR.

One of the interesting features at the Los Angeles tractor demonstration was a boy eleven years old driving a 12-20 track-type tractor and double disk in and out among stakes set 18 feet apart to represent an orchard. The boy is Honore Griffen of Los Angeles county. During the past season Honore did most of the work on 40 acres of oranges on rocky land without barking a tree.

The friction-drive on a small tractor operated by an orchardist in Orange county slipped and wore out in a year so it had to be replaced. That orchardist is not a booster for friction-drive tractors, and he wants to sell this one at half-price. It stands idle now while horses do the work.

PROTECT FOREST SETTLERS AGAINST DEER!

To the Editor: As crop reporter in this section, and in behalf of my neighbors, I am writing the following to the Secretary of Agriculture and the State Fish and Game Commissioners:

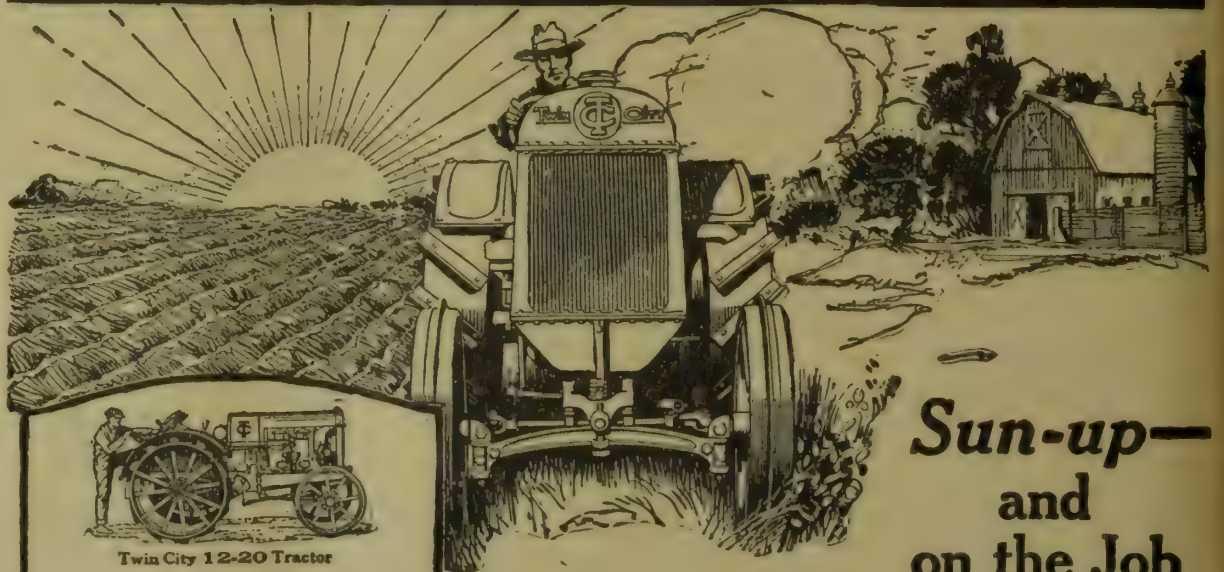
Several of the neighbors have, within the past two years, planted young orchards of apples, prunes, almonds, etc. Without exception, these orchards have promised well, but for one drawback—and that is the deer. They go about when the orchards first leaf out, and eat off the tender sprouts and leaves, and in some cases, even the bark. During the time the deer horns are losing the velvet, the bucks assault the larger trees and whip them to pieces, often ruining them entirely, not only by breaking them, but by knocking off the buds and grafts. They also cause much damage by shaking off fruit while green in the older orchards. When standing on their hind legs they are much taller than a man, and break off many limbs in that way. Field

crops of corn, beans, potatoes, and the like, suffer largely on their account.

Placing a shake box around each of the small trees has been tried by some of the orchardists, but to no avail. Besides, this is expensive. The ordinary fence is no protection whatever, less than six or seven feet high; and this is also expensive, especially for people just starting out. As you no doubt are aware, these deer are protected by law. And even if they were not, the people here do not like to kill them, nor do they begrudge them their feed, if they could be kept out of serious mischief. Is there no way of helping them out, by the government at least providing the fence to keep out its own proteges from encroaching upon the rights of the citizens? People are surely entitled to as much protection as deer.—M. F. Still, Crop Reporter, La Panza.

This is a very old trouble, recently greatly exaggerated by the protection of the deer. The proposition of protection to farmers should be agitated until the public has better understanding of it.—Editor.

Built to meet the work—not to meet a price



Sun-up— and on the Job

IN the rush times, when every moment is precious, from sun-up to sundown, TWIN CITY tractors and threshers are ready to go. They are built that way.

Dependable TWIN CITY design is well shown in the 12-20 motor—a 16-valve-in-head, 4-cylinder engine.

The double valve capacity burns the kerosene charge so cleanly that carbon clogging, pre-ignition and overheating are eliminated. A finely counterbalanced crankshaft (drilled for force-feed lubrication) reduces the "whip" of vibration to harmlessness. Cylinder sleeves are removable—re-boring is never necessary.

Rated at 20 horse power, this engine delivers an unusual surplus of power at its normal speed of 1,000 r. p. m. Its power reserve is on a par with its reserve endurance.

And the TWIN CITY spur-gear transmission is as far in advance of the times as is the engine—with its direct drive on both forward speeds, its steel cut and case hardened gears completely enclosed and running in oil, mounted on Hyatt roller bearings.

There is TWIN CITY power for all farm work on any size farm. So write us today for booklets and complete information concerning the tractor and thresher that fit your needs.

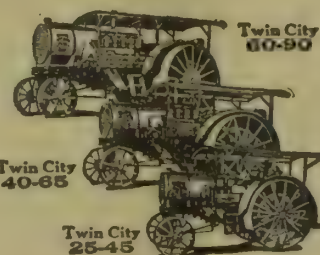
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Twin City 12-20 Tractor



Twin City 40-65

Twin City 25-45



Twin City 16-30 Tractor



The New Twin City All-Steel Thresher
—a Farmer's Machine for Life.
time Service

TWIN CITY

12-20 Kerosene Tractor with 16-valve engine

CAL. INTERNATIONAL SUCCESS.

(Continued from page 669.)

commended the exhibitors on the fine lot of hogs they displayed, expressing regret that their uniform excellence could not have been tested out against a competitor.

Dr. James J. Summerfield of Santa Rosa, Cal., brought in a show herd of Tamworth hogs, being the first time that this bacon breed has been shown in such large numbers at a California



The Alpha and Omega of Shorthorns.

show. Dolcini also stated in regard to this class that competition would have been lively had another herd been shown.

Milk Goats Get Fine Prizes.

The milk goat industry in the Bay region is certainly making much progress judging by the exhibit at the great San Francisco show. Awards were made too late for publication last week, but the detail is given below.

Pure Toggenburg.

Doe, 2 years or over—1st, 2nd, Richards & Wagner, Montara, Calif.

Doe, 1 year and under 2—1st, 2nd, Richards & Wagner.

Doe under 1 year—1st, 2nd, Richards & Wagner.

Champion Doe—Richards & Wagner on Las Cabritas Capella 3rd.

Reserve Champion Doe—Richards & Wagner on Maria 2nd de las Cabritas.

Grades and Cross Breeds.

Doe, 2 years or over—1st, Richards & Wagner, Montara, Calif.

Doe, 1 year and under 2—Richards & Wagner; 2nd, L. A. Bridinger, Santa Rosa, Calif.

Doe, under 1 year—1st, Richards & Wagner; 2nd, Mrs. T. B. Dean, Walnut Creek, Cal.

Champion Doe—Richards & Wagner on Salva de las Cabritas.

Reserve Champion Doe—Richards & Wagner on Ariella 2nd de las Cabritas.

Pure Saanen.

Doe, 2 years or over—1st, 2nd, L. A. Bridinger, Santa Rosa, Calif.

Doe under 1 year—1st, 2nd, Bridinger.

Champion Doe—Bridinger on Lucerne Echo.

Reserve Champion Doe—Bridinger on Bralef Herma.

Pure Anglo-Nubian.

Doe, 2 years or over—1st, 2nd, A. B. Ingham, Pacific Grove, Calif.

Doe, 1 year and under 2—1st, Ingham on Fern of Yucca Land.

Doe under 1 year—1st, 2nd, Ingham on San Jose 2nd and Marie Baltene.

Hampshire Swine Show Awards.

Owing to the fact that the Hampshire swine judging was incomplete at the time of going to press last week it was impossible to print the results then, but will be found below. W. H. Pew, Ravenna, O., was judge.

Hampshire.

Aged boar—1st, Conejo Ranch, Newberry Park, Cal.; 2nd, C. J. Gilbert, Lancaster, Cal.

Senior yearling boar—1st, Conejo Ranch.

Junior yearling boar—1st, Roy E. Fisher, Lincoln, Nebraska; 2nd, 3rd, Conejo Ranch; 4th, 5th, Gilbert.

HOLMES STOCK FARM

WATERFORD ROAD, MODESTO

Registered Holstein Friesians

Prize winners at all the Shows. Inspection invited and satisfaction guaranteed.

Write for prices.

R. L. HOLMES, Prop.

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding.

Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.

R. D. "A" Box 437.

Two miles out North First Street.

Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1890 as the complete milk substitute. Costs less than half as much as milk—prevents scours—promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data. See actual figures showing you how to increase your calf profits.

COULSON CO. - - - Petaluma, Cal.

Senior boar pig—1st, Fisher; 2nd, Gilbert. Junior boar pig—1st, 2nd, Conejo Ranch; 3rd, Gilbert.

Aged sow—1st, Fisher; 2nd, Gilbert; 3rd, Fisher; 4th, Gilbert; 5th, Conejo Ranch.

Senior yearling sow—1st, Fisher; 2nd, Conejo Ranch.

Junior yearling sow—1st, 2nd, 3rd, 4th, Conejo Ranch; 5th, Gilbert.

Senior sow pig—1st, Fisher; 2nd, 3rd, Conejo Ranch; 4th, Fisher; 5th, Conejo Ranch.

Junior sow pig—1st, Fisher; 2nd, Gilbert; 3rd, 4th, 5th, Conejo Ranch.

Senior champion boar—Fisher on Black Beauty.

Junior champion boar—Conejo Ranch on Rex 2nd.

Senior champion sow—Fisher on Dukes Florine 2nd.

Junior champion sow—Fisher on no name.

Grand champion boar—Fisher on Black Beauty.

Reserve grand champion boar—Conejo Ranch on Liberty.

Grand champion sow—Fisher on Dukes Florine 2nd.

Reserve grand champion sow—Fisher on Flora S.

Aged herd—1st, Fisher; 2nd, 3rd, Conejo Ranch.

Young herd—1st, 3rd, Conejo Ranch; 2nd, Fisher.

Herd bred by exhibitor—1st, Conejo Ranch; 2nd, Gilbert.

Get of sire—1st, Conejo Ranch; 2nd, Fisher; 3rd, Gilbert.

Produce of dam—1st, 2nd, Conejo Ranch; 3rd, Gilbert.

Duroc-Jersey Show Awards.

To F. M. Johnson of Napa, Cal., went the highest honors to be won when his great boar, King Orion Jr., was awarded grand championship honors in the Duroc-Jersey swine division, while to Conejo Ranch, Newbury Park, Cal., went the grand championship female honors on Grand Lady 66th. These two animals were the outstanding features of the Duroc show. In numbers and quality the senior sow pig class was a show in itself, as no show this year has brought out so many real outstanding animals as was found in this class, the blue finally being awarded to Conejo Ranch on Lady Wonder 1st. While other shows in the State have had a larger number of entries, no show ever held on the coast has produced a greater number of animals exhibiting the class



THOS. HARRISON - And Dual Purpose Shorthorns.

and quality found in this one. Following are the awards made by Prof. H. H. Kildee of the Iowa State College, Ames, Ia.:

Boar 2 years old or over—1st, F. M. Johnson, Napa, Cal.; 2nd, Harvey M. Berglund, Dixon, Cal.; 3rd, Roy Fisher, Lincoln, Neb.

Boar senior yearling—1st, Conejo Ranch, Newbury Park, Cal.

Boar junior yearling—1st, Conejo Ranch; 2nd, Roy Fisher; 3rd, Jersey Queen Farm; 4th, S. E. Whiting, Sacramento; 5th, J. H. Rosseter, Burke, Cal.

Boar senior pig—1st, Conejo Ranch; 2nd, Roy Fisher; 3rd, S. E. Whiting; 4th, Roy Fisher.

Boar junior pig—1st, Western Laboratory Serum Farm; 2nd, 3rd, Conejo Ranch; 4th, 5th, J. E. Thorp, Lockford.

Sow 2 years old or over—1st, Conejo Ranch; 2nd, 4th, J. E. Thorp; 3rd, Jersey Queen Farm; 5th, Harvey M. Berglund.

Sow junior yearling—1st, Conejo Ranch; 3rd, 5th, Roy Fisher; 4th, J. E. Thorp.

Sow senior pig—1st, 2nd, 3rd, Conejo Ranch; 4th, J. E. Thorp; 5th, S. E. Whiting.

Sow junior pig—1st, J. E. Thorp; 2nd, 3rd, 4th, Conejo Ranch; 5th, S. E. Whiting.

Senior Champion Boar—F. M. Johnson on King Orion Jr.

Junior Champion Boar—Conejo Ranch on Big Model.

Senior Champion Sow—Conejo Ranch on Grand Lady 66th.

Junior Champion Sow—Conejo Ranch on Lady Model 1st.

Grand Champion Boar—F. M. Johnson, on King Orion, Jr.

Reserve Grand Champion Boar—Conejo Ranch on Big Model.

Grand Champion Sow—Conejo Ranch on Grand Lady 66th.

Reserve Grand Champion Sow—Conejo Ranch on Wonders' Bell.

Boar and 3 sows 1 year old and over—1st, Conejo Ranch; 2nd, Roy Fisher; 3rd, J. E. Thorp.

Boar and 3 sows under 1 year old—1st, 3rd, Conejo Ranch; 2nd, J. E. Thorp.

Boar and 3 sows, bred by exhibitor—1st, J. E. Thorp; 2nd, Harvey M. Berglund.

Four animals of either sex, any age, get of one boar, owner by exhibitor—1st, 2nd, Conejo Ranch; 3rd, Roy Fisher.

Four animals of either sex, any age, produce of one sow, owned by exhibitor—1st, 3rd, Conejo Ranch; 2nd, Roy Fisher.

SALE EXTRAORDINARY!!

Circumstances over which I have no control force me to sell now instead of next Spring, as I intended, fifty head of

Registered Poland-China Hogs

consisting of a few bred sows and boars, all the rest are open gilts, just ready to breed for March litters. This is by far the choicest bunch of pigs I have ever owned. The cream of the East and West in breeding.

I surely hate to part with them, but my loss is your gain.

SALE ON

SATURDAY, NOVEMBER 29, 1919,

At King's County Fair Grounds,

HANFORD, CALIF.

Free lunch at 11:30.

Sale begins at 12:30. Everybody come.

W. BERNSTEIN, Owner,

COL. G. W. BELL, Auctioneer.

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One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars for shipment anywhere.

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Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Our last carload shipment dressed 72.30 per cent and brought 1½c above the market price.

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Over 100 mammoth brood sows, headed by HIGHLANDER, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

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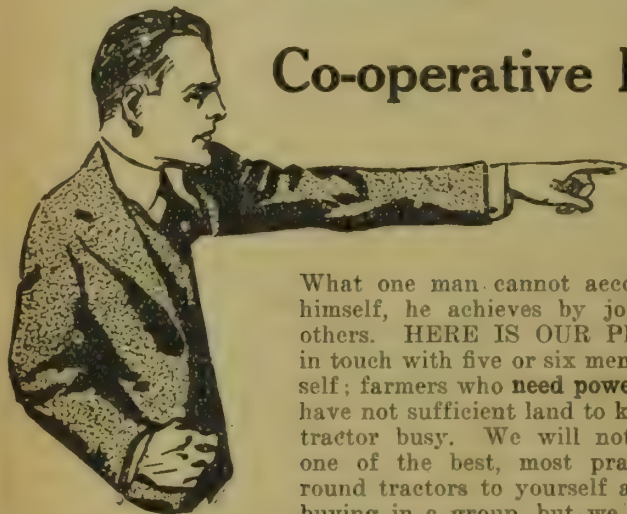
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through participation in our

Co-operative Plan



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What one man cannot accomplish by himself, he achieves by joining with others. HERE IS OUR PLAN. Get in touch with five or six men like yourself; farmers who need power, but who have not sufficient land to keep a farm tractor busy. We will not only sell one of the best, most practical, all-round tractors to yourself and friends buying in a group, but we sell it to you on

EASY TERMS AT DIRECT-FROM-FACTORY- TO-YOU PRICES

You will get all the power you need at a VERY SMALL COST and you can spread this small expense over a number of months. Our plan calls for only \$100.00 down and \$25.00 per month on our co-operative plan.

You cannot be a successful farmer unless you adopt modern methods. The farm tractor is one of these.

Write us for Full Particulars

Give us the names of your friends who may join with you. We will send them details about our plan without mentioning your name. DO IT NOW! and get your tractor in time for this season's plowing.

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WANTED We want reliable men to represent us in every district and will pay good money to men who will take this exceptionally liberal Co-operative plan direct to power users. Only reliable, trustworthy men wanted. Send references with your inquiry.

AUTOMOTIVE PRODUCTS CO.

112 Market Street,

San Francisco, Calif.

Chester White Choice Ones.

Although the Chester White show was made up exclusively by C. B. Cunningham, owner of the Billiken herd at Mills, Cal., it was a creditable representation of this breed, according to V. F. Dolcini of Davis, Cal., who placed the awards. Cunningham had some excellent specimens of the breed and his winnings would probably have been almost as good a walk-over had he had competition.

The awards are as follows:

All awards to the Billiken herd owned by C. B. Cunningham, Mills, Calif.



Cunningham and Chester Whites.

Guernsey Awards.

The Guernsey show was a walk-over for A. B. Humphrey of the Grape Wild Farm of Escalon, Cal., carrying away the major portion of the awards on his string of cattle that are winding up a strenuous show season.

Judge J. B. Fitch of Manhattan, Kansas, spoke highly of the Guernsey show. Even though not as strong in numbers as some of the other breeds it was strong in quality.

L. D. Smith of Berkeley made a creditable showing although his string of cattle was not as large as that of Humphrey.

The complete Guernsey awards are as follows:

Bull, 3 years old or over—1st. A. B. Humphrey, Escalon; 2nd. L. D. Smith, Berkeley.

Bull, 2 years old and under 3—1st. Humphrey; 2nd. Smith.

Senior yearling bull—1. Humphrey; 2nd. Smith.

Senior bull calf—1st. Humphrey; 2nd. Smith.

Junior bull calf—1st. Humphrey; 2nd. Smith.

Cow, 4 years old or over—1st. Smith; 2nd. Humphrey.

Cow, 3 years old and under 4—1st. Smith.

Cow, 2 years old and under 3—1st. Humphrey; 2nd. Smith.

Senior yearling heifer—1st. Humphrey; 2nd. Smith; 3rd. Humphrey.

Junior yearling heifer—1st. Humphrey; 2nd. Smith.

Senior heifer calf—1st. Humphrey; 2nd. Smith; 3rd. Humphrey.

Junior heifer calf—1st. 2nd. Humphrey; 3rd. Smith.

Cow having official yearly record begun under the age of 5 years: 1st. Smith; 2nd. Humphrey.

Senior Champion Bull—Humphrey, on Escalon Challenger.

Junior Champion Bull—Humphrey, on Escalon True Type.

Senior Champion Cow—Humphrey, on Escalon Fairy.

Junior Champion Heifer—Humphrey on Escalon Evangeline.

Grand Champion Bull—Humphrey, on Escalon Challenger.

Reserve Grand Champion Bull—Humphrey on Escalon True Type.

Grand Champion Cow or Heifer—Humphrey on Escalon Fairy.

Reserve Grand Champion Cow or Heifer—Humphrey on Escalon Bo-peep.

Aged Herd—1st. Humphrey; 2nd. Smith.

Young Herd—1st. Humphrey; 2nd. Smith.

Calf Herd, bred by exhibitor—1st. Humphrey; 2nd. Smith.

Four animals, either sex, get of one sire—1st. Humphrey; 2nd. Smith.

Two animals, either sex, produce of one cow—1st. Humphrey; 2nd. Smith.

Ayrshires Are Numerous.

Although confined to two herds, the Ayrshire show was one of the strong features of the cattle division of the California International, bringing out a fine lot of cattle. Prof. H. H. Kildee, of Manhattan, Kans., who placed the awards, said that it was seldom his pleasure to go down the line on better classes of cattle.

J. Henry Meyer of San Francisco and Watsonville put over most of the championship awards, but his win-

nings at other fall shows were slightly disarranged when Holshouse Secretary Imp. was dropped to reserve champion and the senior bull calf, Elkhorn Public Opinion, given the premier male award.

E. B. McFarland of the Steybrae Ranch of San Mateo carried off a good measure of awards, particularly in the 2-year-old female class, winning all awards except fourth. McFarland moved in on the purple with the junior champion heifer. The University of California was an exhibitor only in the produce of cow class with a winning.

The Ayrshires were placed as follows:

Bull, 2 years old and under 3—1st. J. H. Meyer & Co., San Francisco, Cal.; 2nd. E. B. McFarland, San Mateo, Cal.

Senior Bull Calf—1st. 3rd. Meyer; 2nd. McFarland.

Junior Bull Calf—1st. Meyer; 2nd. 3rd. 4th. McFarland.

Cow, 4 years old or over—1st. 4th. 5th. Meyer; 2nd. 3rd. McFarland.

Cow 3 years old and under 4—1st. 2nd. McFarland; 3rd. Meyer.

Cow 2 years old and under 3—1st. 3rd. 4th. 5th. McFarland; 2nd. Meyer.

Senior Yearling Heifer—1st. 3rd. Meyer; 2nd. McFarland.

Junior Yearling Heifer—1st. 2nd. McFarland; 3rd. Meyer.

Senior Heifer Calf—1st. Meyer; 2nd. 3rd. 4th. McFarland; 5th. University of California.

Junior Heifer Calf—1st. 3rd. McFarland; 2nd. Meyer; 4th. Univ. of Calif.

Senior Champion Bull—Meyer on Holshouse Secretary Imp.

Junior Champion Bull—Meyer on Elkhorn Public Opinion.

Senior Champion Cow—Meyer on Highland Ithian.

Junior Champion Heifer—McFarland on Burnside Miss Courtney.

Grand Champion Bull, any age—Meyer on Elkhorn Public Opinion.

Reserve Grand Champion Bull, any age—Meyer on Holshouse Secretary Imp.

Reserve Grand Champion Cow or Heifer, any age—McFarland on Burnside Miss Courtney.

Aged Herd—1st. Meyer; 2nd. McFarland.

Young Herd—1st. McFarland.

Calf Herd, all bred by exhibitor—1st. 2nd. McFarland.

Four animals, either sex, get of one sire—1st. 2nd. 3rd. McFarland.

Two animals, either sex, produce of one cow—1st. McFarland; 2nd. Meyer; 3rd. University of California.

Dairy Herd, consisting of 5 cows in milk, all to be owned by exhibitor—1st. McFarland; 2nd. Meyer.

Milking Shorthorn Show Excellent.

Two of the great herds of the State were lined up in competition. Alexander & Kellogg of Suisun carried off both grand championships, although there are those who are making a study of this strain of Shorthorns who think that Westward Ho is rather too beefy in type for the best example of the breed. There is some difficulty in getting judges who have made a specialty along dual-purpose lines.

Thos. Harrison of Santa Rosa carried off first honors in aged bulls



Sheep, Shorthorns and Shetlands.

on Foothills Pioneer, senior bull calf, and senior heifer calf classes.

Altogether it was a great showing of the breed that furnishes milk in abundance and of excellent quality and steers that top the market.

Awards follow:

Bull, 3 years old or over—1st. Thos. Harrison, Santa Rosa, Calif., on Foothills Pioneer;

2nd. Leon F. Douglas, San Rafael, Calif.

Bull 2 years old and under 3—1st. Alexander & Kellogg, Suisun, Calif., on Westward Ho.

Senior Bull Calf—1st. Harrison.

Junior Bull Calf—1st. 2nd. Alexander & Kellogg.

Cow, 3 years old or over—1st. 2nd. Alexander & Kellogg.

Cow, 2 years old and under 3—1st. Harrison; 2nd. Alexander & Kellogg.

Senior Yearling Heifer—1st. 2nd. Alexander & Kellogg.

Junior Yearling Heifer—1st. 2nd. Alexander & Kellogg.

Senior Calf—1st, Harrison; 2nd, Alexander & Kellogg.
 Junior Heifer Calf—1st, Alexander & Kellogg; 2nd, Harrison.
 Senior Champion Bull, 2 years old or over—Alexander & Kellogg on Westward Ho.
 Junior Champion Bull, under 2 years old—Alexander & Kellogg on Inisfail Favorite.
 Senior Champion Cow, 2 years old or over—Alexander & Kellogg on Bellevue Daisy.
 Junior Champion Heifer under 2 years old—Alexander & Kellogg on Valley Bell 6th.
 Grand Champion Bull—Alexander & Kellogg on Westward Ho.
 Reserve Grand Champion Bull, any age—Alexander & Kellogg on Inisfail Favorite.
 Grand Champion Cow or Heifer, any age—Alexander & Kellogg on Valley Bell 6th.
 Reserve Grand Champion Cow or Heifer, any age, Alexander & Kellogg, on Valley Bell 6th.
 Aged Herd—Alexander & Kellogg.
 Young Herd—Alexander & Kellogg.

Shorthorn Awards.

Judge W. H. Pew of Ravenna, Ohio, judge of Shorthorn cattle, pronounced the show of this breed one of the best he had ever judged and one of the best ever made in America. Judge Pew is a famous breeder of Shorthorns and a judge of international reputation.

The complete Shorthorn awards follow:

Bull, three years old or over—1st, Estate of Thos. B. Dibblee; 2nd, Henry Elberg, Woodland; 3rd, William Henn, Kansas City, Mo.
 Bull, 2 years old and under 3—1st, Caledonia Farms, San Francisco; 2nd, Pacheco Cattle Co., Hollister; 3rd, T. S. Glide, Davis.
 Senior Yearling Bull—1st, Dibblee Estate; 2nd, Elberg; 3rd, Pacheco Cattle Co.; 4th, Henn.
 Junior Yearling Bull—1st, 2nd, Thomas Miller, Hollister; 3rd, William A. Bond; 4th, Henn; 5th, Ormondale Co., Redwood City.
 Senior Bull Calf—1st, 2nd, Miller; 3rd, Dibblee Estate; 4th, Glide; 5th, Pacheco Cattle Co.
 Junior Bull Calf—1st, University of California, Davis; 2nd, Glide; 3rd, Pacheco Cattle Co.; 4th, Ormondale Co.
 Cow, 3 years old or over with calf at side nursing—1st, Glide; 2nd, Ormondale Co.
 Cow, 2 years old and under 3—1st, Glide; 2nd, Dibblee Estate; 3rd, Pacheco Cattle Co.; 4th, Elberg.
 Senior Yearling Heifer—1st, Glide; 2nd, 3rd, 4th, Dibblee Estate.



Cebrian of Caledonia Farms.

Junior Yearling Heifer—1st, Elberg; 2nd, 3rd Ormondale Co.; 4th, Glide; 5th, Bond.
 Senior Heifer Calf—1st, 4th, Pacheco Cattle Co.; 2nd, Glide; 3rd, Dibblee Estate; 5th, Junior Heifer Calf—1st, Pacheco; 2nd, Elberg; 3rd, Bond; 4th, Glide; 5th, Dibblee Estate.
 Senior Champion Bull—Caledonia Farms, on Gainsford Matchless.
 Junior Champion Bull—Dibblee Estate, on Bashan Augusta.
 Senior Champion Cow—Glide, on Little Sweetheart.
 Junior Champion Heifer—Glide on King's Countess.
 Grand Champion Bull—Caledonia Farms, on Gainsford Matchless.
 Reserve Grand Champion Bull—Dibblee, on Bashan Augusta.
 Grand Champion Cow or Heifer—Glide, on Little Sweetheart.
 Reserve Grand Champion Cow or Heifer—Glide, on King's Countess.
 Aged Herd—1st, Dibblee Estate; 2nd, Glide; 3rd, Elberg; 4th, Pacheco Cattle Co.
 Young Herd—1st, Glide; 2nd, Pacheco Cattle Co.; 3rd, Ormondale Co.
 Calf Herd—1st, Dibblee Estate; 2nd, Glide; 3rd, Pacheco; 4th, Miller; 5th, Pacheco.
 Four animals, either sex, get of one sire—1st, Ormondale Co.; 2nd, Pacheco; 3rd, Glide; 4th, Dibblee; 5th, Miller.
 Two animals, either sex, produce of one cow—1st, Dibblee; 2nd, Glide; 3rd, Bond.

Awards in Aberdeen-Angus Classes.

Although the breeding classes of Aberdeen-Angus were shown only by one exhibitor, the interest in the "Doddies" was as keen as though there was active competition. Congdon & Battles of Yakima, Wash., who were the only ones showing in the breeding classes with this breed, won a lot of admirers for the black ones. The feature of the judging was the upset given the lining up of awards on this herd from the manner in which they were placed at other shows up and down the Pacific Coast. Alex

McDonald, the veteran beef herdsman of the University Farm at Davis, Cal., made the senior yearling grand champion female, whereas at all other shows the two-year-old came in for the purple, and all the other beef cattle authorities about the ring concurred in McDonald's judgment.
 The awards in this class follow:
 All awards to Congdon & Battles, Yakima, Wash.

Draft Horses to the Front.

"While I have judged larger classes of draft horses out here, I have not seen a more creditable lot of real good quality stuff than what has come into the ring in this show," said Dean C. F. Curtiss, of Ames, Ia., in commenting upon the draft horse show at the California International. "The high standard of excellency went on through with the different



MARK BASSETT.

Bassett Believes in the Poland-Chinas.

breeds. The Dibblee Clydesdales were a high class lot. The Percheron stallion was an exceptionally good one and the Belgians were a credit to the breed. The Blackhawk pair of mares shown under heavy harness were good enough to go into any show ring in the country, and the gray Percherons of the University of California were of exceptional excellence."

Draft horse breeders were highly pleased with the interest taken in their show, and the following around the judging rings was keen on all the different breeds. One of the strong features of the heavy horse department was the showing of the Ratto Stock Farm of Napa that took away both grand and reserve championships in the mare classes.

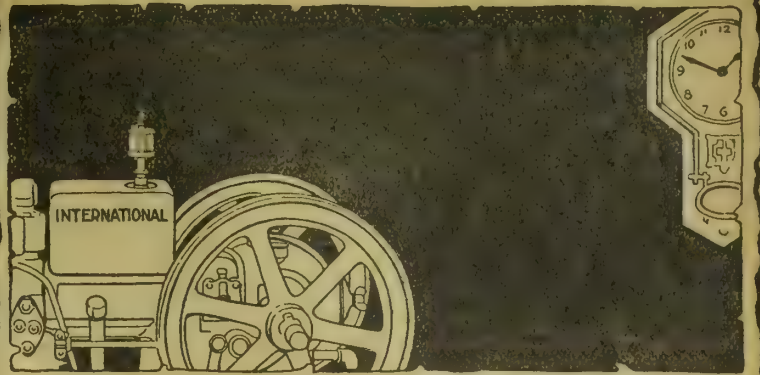
The draft horses under harness were featured frequently during the special Night Horse Show, attracting admiration from thousands.

The complete awards for drafters follow:

English Shires.

Stallion, 4 years old or over—1st, 2nd, 3rd, Easton & Ward, Diablo, Calif.

(Continued on page 698.)



How You Dread Wash Day!

WE are talking to you, Mrs. Farmer. And we want to help you. You have the meals to get for the men folks on wash day the same as every other day—and there are the children to be looked after as usual, as well as your regular housework and chores. Even without these added tasks, the family wash is usually enough to break any woman's back and to wear her out generally. Working in the fields and around farm machinery makes dirty clothes—as you well know.

An International Kerosene Engine—1½-h. p. size—will take the hard work and backache out of the family wash for you as well as removing all of the dirt just as efficiently as you could do it yourself. You need a power washer and one of these little engines just as much as your husband needs a mower or grain binder. He doesn't cut the hay and grain with a sickle or scythe—modern machinery has taken the hard work and backache out of these tasks for him. So you are certainly entitled to an engine and power washer to do as much for you.

And between times the engine will churn the butter, turn the cream separator, shell corn for the chickens, turn the grindstone, pump water, saw wood and handle other chores, saving work for the whole family. Write for a descriptive catalogue so that you can show your husband just the engine you want. There are three sizes—1½, 3, and 6-h. p.

INTERNATIONAL HARVESTER COMPANY

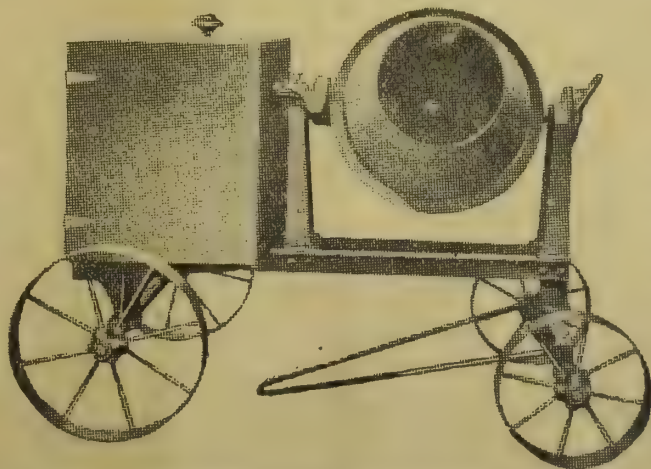
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Can be furnished on skids or trucks with or without power, or with side loader.

Sizes from 2 to 11 cubic feet loose material per batch or 20 to 120 cubic yards mixed concrete per day.

THE IDEAL MACHINE FOR FARM USE, SILO BUILDING, FOUNDATION and GUTTER WORK

HARRON, RICKARD & McCONE

SAN FRANCISCO

LOS ANGELES

Calif. Shorthorn Breeders' Assn. Sale.

A fitting place for a cattle sale! Plenty of room alike, for spectators, buyers and cattle! Plenty of light without shadow, and air without drafts, made the California Building at the California International Livestock Show an ideal place for holding the Shorthorn Sale of the California Shorthorn Breeders' Association, November 6, 1919.

Consignments from several of the prominent herds of the Pacific Coast made up a bunch of cattle of excellent breeding and type, many of which brought good prices, although the sale could not be called a sensational one.

The top of the sale was the red yearling heifer, Willow Brook Maid, consigned by Caledonia Farms, San Francisco, and going to Geo. C. Dier-son of Sacramento, who is establishing a fine herd of Shorthorns.

The white yearling bull, Orden's Sultan, consigned by Thos. T. Miller of Hollister, was bought by Wm. T. Chapple, Fair Oaks Ranch, Willits. At one time it looked as though this bull was going to the \$1,000 mark or beyond.

The average for the 25 females sold was \$458; and the 6 bulls brought an average of \$610.

The cattle were distributed widely, several going to the Warren Creek Land & Live Stock Co., Wells, Nevada; some to Fresno, Willits, Clements, and quite a number to Sacramento. In fact, the firm buying the largest number was Edinger-Johnson Co. of the latter place.

Details of the sale follow:

Females.	
Ramona Miss, W. O. Blasingame, Fresno	\$370
Caledonia Glen, T. S. Glide, Davis	200
Ormondale Violet, O. B. Fuller, Los Angeles	445
Caledonia Purity, Geo. E. Dier-son, Sacramento	675
Glenbessie 2nd, W. O. Blasingame, Fresno	350
Orange Crest 5th, Mrs. T. S. Glide, Davis	375
Siguet's Memory 6th, Edinger-Johnson Co., Sacramento	325
Pacheco Lass 141st, Warren Creek Land & Live Stock Co., Wells, Nev.	650
Fayette's Heiress 2nd, G. J. Meister, Sacramento	300
Ormondale Bud, Edinger-Johnson Co., Sacramento	385
Caledonia Princess, Thos. T. Miller, Hollister	230
Crimson Bud, Warren Creek Land & Live Stock Co., Wells, Nev.	700
Winsome Memory 4th, Mrs. T. S. Glide, Davis	400
Roselawn Bud 86th, Geo. Gardiner, Pierce, Davis	620
Winsome Memory 5th, James F. Dunne, Gilroy	425
Roan heifer, Thos. B. Hawkins, Hollister	300
Willow Brook Maid, Geo. E. Dier-son, Sacramento	1000
Lady Champion 3rd, Edinger-Johnson Co., Sacramento	650
Milmar Star, James F. Dunne, Gilroy	250
Champion Penelope, Geo. J. Meister, Sacramento	380
Lucy Lee 4th, Pen Featherstone, Clements	400
Ringleader Beauty 81st, W. T. Chapple, Willits	400
Paicnes Nora, Geo. J. Meister, Sacramento	600
Ormondale Beauty, Murphy, Brentwood	610
Siguet's Memory 8th, Geo. Gardner, Pierce, Davis	410
Bulls.	
Ormondale Laddie 2nd, Peter Nichols, Napa	\$ 500

THE OTIS HERD

WILLOUGHBY, OHIO.
Milking Shorthorns



LADY OF THE GLEN.

Bred by us and acknowledged the best and most valuable individual of the breed. Largest herd in America with the best connection. Many cows weighing 1,700 lbs. and above with records of over 10,000 lbs. of milk. Winners at the recent Congress sale owned by us or of our breeding. Sale cattle in carload lots or single. Calf clubs a specialty.

Write T. H. Harrison.
Santa Rosa Stock Farm, Santa Rosa, Cal.
California Representative.

Milmar Stamp, Elinger-Johnson Co., Sacramento	825
Spicy Champion 2nd, Mrs. Susan Kohen, 270 10th Ave., San Francisco	635
Ormondale Radium, W. E. Dale, Menlo Park	450
Orden's Sultan, W. T. Chapple, Willits	900
Beaver Creek Bud, W. O. Blasingame, Fresno	350

The sale was cried by Col. Earl Gartin of Greensburg, Indiana, in a manner that was acceptable to both consignors and buyers. Col. Ord L. Leachman of Sacramento, by his brilliant work in the ring, was of much assistance to Col. Gartin.

CALIFORNIA SHORTHORN BREEDERS' ASSN. BANQUET.

The Shorthorn banquet held in connection with the Livestock Show at the California Building on Thursday evening of last week, was a very enjoyable affair.

Chas. N. Hawkins presided in his usual genial and informal manner and made everyone feel right at home. The herdsmen in charge of the prize winning Shorthorn herds were introduced by Mr. Hawkins as deserving the major credit for the success of the show.

B. O. Cowan was introduced as the man who knows more about Shorthorns than any one else and as the most beloved by Shorthorn men. Mr. Cowan emphasized the sentiment connected with the Shorthorn business.

L. A. Nares, President of the Cattle-men's Association, briefly sketched his experience in the cattle business, beginning with Mexican Long Horns and culminating with the importation of a carload of registered Shorthorn bulls from the East. Frank D. Tom-son, Manager of the American Shorthorn Breeders' Association and publisher of "The Shorthorn in America," said there was no fraternal order in which the members were closer and more harmonious than were the breeders of Shorthorns throughout the country. He ascribed the stability of the Shorthorn industry to the fact that it comprises numerous farmers with small herds. He estimated the number at thirty-five thousand and the average size of the herds at about 20 head. He suggested that breeders interest their neighbors in Shorthorns especially with respect to the purebred business.

THE WESTERN MEAT COMPANY AT THE CALIFORNIA INTERNATIONAL.

Through the winnings of the Western Meat Company of San Francisco in the carlot classes at the International Live Stock Show, the Red Cross and the Infant Shelter of San Francisco will be enriched \$370, according to the statement of F. L. Washburn, manager of the company, after the winnings were announced.

"It is not the policy of the Western Meat Company to be competing against stockmen," said Washburn, "and we will not show in stock shows of the future. In this show we simply entered to encourage the showing of carload lots and to insure this feature of the show being complete. The prize money we won will go to the Red Cross and the Infant Shelter."

The Western Meat Company won first and fourth in carlots of steers over three years old, including the champion carlot of the show. The Kern County Land Company of Bakersfield won second, and the New-hall Land and Farming Company of San Francisco third. C. Swanston & Sons of Sacramento won the first prize and reserve champion carlot of fat cattle in the class for two-year-old steers.

The Western Meat Company also won first prize with a carlot of fat sheep, carrying along the championship award in this class. The Foster Company was second and reserve champion, and the Union Land and Cattle Company third.

The winnings of the Western Meat Company in the hog carlots was first in the light hogs and third in the heavy packer hogs.



Model 265
Calco Sheep Feeding Rack

for sheep

These two Calco Stock specialties are especially for sheep. They are made of durable, rust-resisting "Armco" Iron, and will last a life time.

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A real money saver. As sheep draw the hay through the rack, the fine chaff drops into the feed pan. Adjustable slides (not shown in the picture) can be so placed as to protect the sheep's eyes, or lowered for the feeding of alfalfa meal. The legs can be bolted down, if desired. Choice of two sizes, 5 or 10 feet long.

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This trough is built narrow and deep, but wide enough to permit drinking from both sides. Sheep cannot jump or be shoved into it. Can easily be kept clean, preventing disease. The edges are smooth and cannot injure the sheep. Built of "Armco" Iron—in four lengths from 7 ft. 9 in. to 19 ft. 8 in.

Send for complete description and price list.

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All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, winner of 1st premium in two-year-old heifer class, and also awarded grand championship in both the State Fair and the Los Angeles Livestock Show in 1919; sire also of Ormondale Maid 2nd, winner of 2nd premium in the strongest junior yearling class ever shown at the California State Fair.

Every animal positively guaranteed.

Prices on application.

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Also some very choice cows and heifers.

H. L. & E. H. MURPHY,

6 miles east of Sacramento.

Perkins, Calif.

The Retail Price of Milk

[Written for the Pacific Rural Press by Thos. F. McConnell.]

This is a subject attracting the attention of the consumer all over the country at the present time and by reflex action the attention of the producer as well. During the war the upward trend of prices was accepted with good grace by a very large majority of those concerned. Now that the war is practically over the consumer commences to be restive under the continued high prices, especially of the necessities. Then if there is a further advance this consuming public commences to want to know "the whys and wherefores" for such action.

The first thought with a majority of the consumers affected is that the producers, if they are organized, are simply boosting the price of their product with the idea of getting "all the traffic will bear," regardless of cost of production. There are always hot-heads among those affected adversely that will believe anything bad about the producer and commence to talk about boycotts and legal redress. There are also some people who always see a chance for eventual profit to themselves by "adding fuel" to this fire of discontent and rebellion. This is true, not of the consumer of one product, but all that may have increased in price at any time, particularly if it is a product of as much importance as milk.

We all look askance at any organization of business interests thinking that it cannot have motives that are entirely without selfishness. Therefore, when there is a raise in price on any article controlled or partially so by an organization, we immediately think of "profiteering" and know that we are victims of a conspiracy and commence to hold meetings, pass resolutions and perfect plans to reduce the H. C. L. so much talked about.

To get at the subject of "The Retail Price of Milk" in the right way, we ought to consider it in comparison with some of the other staple articles of food, as well as in other ways. Surely it is not any higher than eggs at the present time. In fact is very reasonable when compared with them. The price of sugar is controlled by the government, but at that the milk is not so much higher than the sugar. Beef steak, mutton chops and pork are all running a neck and neck race with milk and ahead at present. The loaf of bread has gotten smaller and smaller and the price higher until calorie for calorie the milk is fully as cheap as bread. Honey, one of the pair of "milk and honey," famous since the days of Moses, is double the price it has been in the past. Potatoes, one of the most common and standard foods, are twice what they were when milk was half what it is now. Olive and salad oils are not cheap by any manner of means.

It has been stated in public that babies were "dying in San Francisco," or soon will be because some of the charitable people cannot afford to buy it for them any more since it has gone up from 14 cents to 15 cents a quart. Times are hard, it is true, and there is a shortage of automobiles and moving picture theatres to accommodate the poor charitably minded people of the cities.

Differences in Cost.

How many of the people who are crying out against the great imposition of having to pay 15 cents a quart for grade A milk delivered to their doors in clean glass bottles, realize the difference in cost between this milk and that they received 10 years ago when babies were not dying for want of it. Dairies have to be clean, the buildings cost three times what

they did 10 years ago, labor is three times as high and the cows are worth three times what they were then.

How many stop to think what 100 good dairy cows are worth at the present time, or at least what they will bring? Fifteen thousand dollars at the very least. The interest on such an investment has to be taken into consideration. We also hear of the cow-to-the-acre dairy ranch, but generally there are at least two acres to the cow or 200 acres for a 100 cow dairy. What is that land worth today? We used to be able to buy it for \$100 an acre and that was a big price not so very many years ago when we were buying dirty milk for 5 cents a quart. Now, that land is bringing \$500 an acre, an investment of \$115,000 for cattle and land alone, and with interest at as low a rate as five per cent the price of milk cannot be low if the dairyman is going to come out at the end of the year with his bank balance in black ink.

Labor is High.

We have said but very little about the price of labor, but every one knows about that, but did those of you who are talking about and complaining and holding indignation meetings over 15 cent milk ever stop to think that the high price of labor, its present unreliability and its scarcity is driving and has driven scores of the best dairymen out of the business? That surely does not mean any lower price for this very necessary article of food, does it?

Cotton and Rice Are Profitable.

Another phase of the matter should be taken into consideration also. How many realize that some of the regions where alfalfa and dairy cows reigned supreme, and it was supposed nothing could break their autocratic control, have been changing their allegiance to another monarch? King Cotton steps in and brings the Salt River Valley of Arizona and the Imperial Valley of California under his rule to a great extent, for these same people who cannot afford to buy 15 cent milk for the "dying babies at San Francisco" must have especially good cotton for the fabric of their automobile tires. The price of the cotton is so high that 15 cent milk to the consumer is not enough of an inducement to keep out King Cotton.


There is another king in California that wants to reign instead of Queen Cow, and that is rice. Perhaps not as much alfalfa land has been plowed up for rice as there has for cotton, but rice takes lots of water and it takes it away from the alfalfa fields. Six cent rice beats fifteen cent milk.

The writer attended a meeting of dairymen in Fresno the past summer and more than one dairyman there said that 6 cent raisins (and that is not near what they received for them this year) was better than the price they were receiving then for their milk, and that was before it went to 15 cents.

Organization.

Nothing so far has been said about organization of the dairymen and it is so large a subject that space will not allow much to be said on that matter. There is an organization of milk producers in the State of California at the present time for the purpose so it is stated of placing the dairyman in a position to manufacture and market his own product at a reasonable profit and at the same time furnish the milk and its products to the consumer at a reasonable price. So far it looks as though figures on facts will show they are right.

It is hard for an organization of middlemen, who have heretofore placed their own margin of profit on the dairymen's milk, to be told by the organization of dairymen how much they may receive for selling the dairymen's product for them. It is rather irksome for them not to be able to buy at their own price and sell at their own. The "dear consumer" will find that the middleman wants to do just as he always has done. The dairymen of the State of California today are better friends of the "dying babies of San Francisco" than the middlemen ever have been, and it is safe to say ever will be.



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Jerseys are the real "cow investment"! They start producing at an earlier age than any other breed and are still great milkers long after other cows have gone dry.

Let us give you some surprising information about Jerseys in our free booklet "Profitable Facts About Jerseys". Write today for it.

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Bulls for sale from Register of Merit Cows. Write for information.

W. J. HACKETT,

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Get one of my young Jersey bulls from a high producing dam. They are rich in the blood of Gertie of Glynilyn and Lady Letty Lambert. Occasionally one old enough for service.

A. A. JENKINS,

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EASTMONT FARM

Young Jersey bulls from Register of Merit dams with records up to 621.2 lbs. butter fat. Financial King breeding.

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whose dam in two consecutive yearly tests (one made as a 3-year-old) has produced:

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A large part of our herd consists of daughters of Hollywood Lilith Korndyke, son of Pietertje Korndyke Abbekerk, the great yearly record daughter of Korndyke Abbekerk.

His dam and sires dam average:
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Herd under State supervision.
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OWNERS,

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For 23 cents per animal you can insure your calves against loss from Blackleg by having them vaccinated with PURITY BLACKLEG AGGRESSIN (Germ-Free Vaccine made by the Kansas process). ONE TREATMENT immunizes calves for LIFE, and there is no danger of introducing blackleg into healthy herds. We also have PURITY ANTI-HOG CHOLERA SERUM, PURITY MIXED VACCINE for swine, and PURITY HEMORRHAGE SEPTICEMIA VACCINES for cattle and for sheep. For service that counts and does not end with selling, write, phone, or wire PURITY SERUM CO., J. L. Thatcher, Manager (Successor to Thatcher Serum Co.) Riverside, Calif. Sacramento, Calif.

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32x3 1/2...	7.00 2.00	36x4 1/2...	11.50 3.40
31x4...	8.00 2.25	36x5...	12.50 3.50
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"My hens have never done so well as this year and haven't lost a single chick."—Mrs. Flora Koppie, Walker, Ia. "Simply grand for rabbits."—L. W. Browning, Boone, Ia. "Cannot praise Germozone enough. I use it for chickens, stock and household."—Mrs. Wm. Hoeppel, Hugo, Okla. "My bird puppies don't know what distemper is and I never had such good success before with chicks."—Curley Smith, Kennett, Mo.

Germozone is sold by most drug, seed and poultry supply dealers, or mailed postpaid in 25c, 75c, and \$1.50 packages from Omaha. Book on treatment of diseases free with each package.
GEO. H. LEE CO., Dept. 428, OMAHA, NEB.

Livestock and Dairy Notes

Dairy Notes.

R. S. Holmes of Modesto, recently sold to Mr. Logan of Stockton, a very fine Holstein-Friesian bull.

E. B. McFarland of San Mateo and owner of Steybrae Farm, reports the sale of three of his finest Ayrshires.

R. F. Guerin of Tulare, made a recent sale of two crackerjack Holstein bulls to dairymen of the Paige district of the San Joaquin valley.

L. Dee Smith of Oakland, reports another remarkable record of the senior 2-year-old Guernsey heifer, Mysie's May of Claremont 71778, in class F F. She gave 779.70 pounds butterfat during past year, dropped a fine heifer calf during the California International, as well as taking first prize in her class and first as A. R. O. Guernsey cow.

Winifred Hotaling 3rd, one of that great family of producers, has just finished a fine 30-day record at the Holstein-Friesian farm of W. J. Higdon, Tulare. She gave 110.43 pounds butter and 2598.9 pounds milk. Mr. Higdon has sold a splendid junior yearling, seven-eighths white, Holstein-Friesian show bull to Joaquin Luess of Tulare, for \$500.

Swine.

J. F. Lehman of Lodi, the "strictly big type" man, sold a young boar to Henry Rued, Jr. of Healdsburg. Mr. Rued believes in getting the very best he can buy, regardless of cost.

H. P. Slocum & Son of Willows, have sold lately one Duroc-Jersey boar and 12 sows to John E. Bogue, a new breeder of Newcastle; also one boar to

O. S. Steele of Princeton; one boar to Jasper Jones of Lemoore and 8 head of especially good ones to go to Oregon.

R. G. Hamblin of Kingsburg, a recent member of the Kings County Poland-China Breeders' Association, reports excellent results from the sale of his consignment of open gilts to the semi-annual sale at Hanford, October 11. Mr. Hamblin expects to build up a good-sized herd of large type Poland-Chinas.

Castleview Ranch, breeders of Berkshire swine, report the sale of three service boars, one each to the following parties: Balfour, Guthrie & Co., Brentwood; College of Hawaii, Honolulu; F. E. Crowell, Alpaugh. Mr. O'Connor, proprietor of the above ranch, has just finished a very successful circuit of the fall fairs with his show herd and says that next season he expects to have a larger and stronger herd in the ring than ever before.

At the Farm Marketing Bureau auction sales held in Fresno last week, \$17.80 was the top price paid for hogs. This was the highest price for fat hogs at any sale held in the United States during that week. Six cars in all were sold, the second car bringing \$17.25. The lowest price was \$12.30 for rough, staggly stock. On the day of the auction the top price exceeded the top price in Chicago almost \$3. The high price was due to the excellent quality of the consignments and the demand for such stock.

Tom Bodger, Hampshire swine breeder of Gardena, writes that he has six sows that farrowed 50 pigs. Two of the sows were responsible for 11 pigs each with nearly all perfect white 'belts.' Forty out of the total 50 had perfect "belts" and 7 with three-quarter "belts." He thinks that is "going some." He has recently sold one weanling boar pig to go to Plymouth, Amador county, and one weanling sow pig to Manzanar, Inyo county. Mr. Bodger has a very well-bred lot of sows in his herd carrying the blood of Draper Lad, Director, Gold Mine, Lookout, Cherokee and Captain Kenton.

Beef.

C. N. Langton of Visalia, owner of the Diamond L Ranch and breeder of Aberdeen-Angus cattle, says that the one display "ad" in the Pacific Rural Press sold him out completely. A recent sale of one bull to W. J. Fulham of Visalia, was reported by Mr. Langton on his visit to the California International.

Merritt-Bowers Co. of Tulare, report the sale of one carload of Hereford bulls for range use. Also one carload of Shorthorn females for the same purpose. Extensive preparations are being made for the great sale on December 16 at their Tagus Ranch. Nearly all the prize winners they have shown from Salem, Oregon, to Los Angeles, will be offered.

Thos. Harrison, Milking Shorthorn breeder of Santa Rosa, has made recent sales as follows: One yearling bull to Mr. Truitt of Healdsburg; one yearling bull to J. S. Stump of Bloomfield, the second prize aged bull at Sacramento and a 3-year-old cow to A. J. Tarish of Taylorsville. A man that breeds good stock and lets people know he has it can always sell it for a good price.

Livestock Shippers to Organize.

There will be a meeting to perfect the permanent organization of Co-operative Livestock Shippers December 3-4, on the 3rd floor of the Livestock Record Bldg. Union Stock Yards, Chicago, Ill., during the Chicago International Livestock Exposition. Those interested should attend.

N. W. THOMPSON
PATTERSON, CALIFORNIA

PREMIER STUD OF PERCHERONS and BELGIANS

AT CALIF. STATE FAIR, 1919, our horses won:

- 1st prize, American-bred 4-year-old Percheron Stallion.
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- 2nd prize, 2-year-old Percheron Stallion.
- 1st prize yearling, Percheron Stallion.
- Reserve Champion, Percheron Stallion.
- Grand Champion, Group of Five Best Stallions.

AT CALIF. INTERNATIONAL, 1919, our horses won:

- 1st in every Stallion class in which we had ancestry.
- Including the
- Grand Champion Percheron Stallion.
- Reserved Champion Percheron Stallion.
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IF YOU ARE LOOKING FOR THE BEST,

- Come to Patterson.
- Prices and terms reasonable.
- Every animal guaranteed as represented.

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A BULLARD YEARLING RAM.

Flock founded 48 years ago by the late Frank Bullard. Years of selection has produced the large smooth-bodied, heavy-shearing kind that gives the best results on the range or under intensive conditions.

Home of the \$3,000 ram purchased at 1918 Salt Lake Sale.

Offering yearling rams of supreme quality and great size.

BULLARD BROS.,

Woodland, California

FRESNO EVOLUTION

Will be California's best known boar—a son of the sensational \$25,200.00 Evolution, who was sired by Miller's Giant by Disher's Giant by Big Ben by Smooth Price, by Chief Price 2nd by Chief Price. Each of these names is a milestone in Big Types Poland-China breeding.

2 Poland-China Fall Gilts bred to Fresno Evolution.

2 Poland-China Spring Gilts with breeding privilege will be features of the Fresno County Poland-China Sale, Wednesday, November 19th. A few sows will be accepted for breeding to Fresno Evolution.

WALTER C. FICKLIN,

Rt. A, Box 189,

Fresno.

FOR SALE — 20 HEAD

Reg. Holstein Cows.
Bred to King Riverside Mead, a
1003-lb. bull.

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Beef Cattle Specialist

For 30 years I have been devoting my entire time to purebred beef cattle. I know the kind of cattle California needs and where and how to buy. I make regular trips to the great producing centers and will buy on order. Best of references. Satisfaction assured. Correspondence invited.

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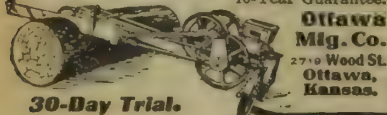
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 Easy to move from cut to cut. Make
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Does 10 men's work at one-tenth the cost.
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GUERNSEYS

Represent the best blood lines of the breed. They combine big production and show type.

L. DEE SMITH, Proprietor

VICENTE ROAD,

BERKELEY, CALIFORNIA

Ormondale Company Sells a Good One.

A heifer sired by Golden Goods, Jr., and out of Gem's Beauty ought to be good and she is. A wonderfully deep, smooth, very thick fleshed animal, she is good enough to go anywhere. Many judges think she will in another year be even harder to beat than now or in other words she is a female of great promise. One of the kind that keeps on getting better as they grow older. Anyw y she is good enough for C. N. Hawkins of the Pacheco Cattle Co., Hollister, to pay the Ormondale Company of Redwood City \$2000.00 or better for her. While that would be a high price to pay for some heifers it is not for this one. She is of the kind that would do good in any herd as a breeder and if a show cow is wanted she will be there "in the money." Many will go further, pay more and buy less. The Ormondale Company seem to be able to furnish winners. They bred Little Sweetheart that has been grand champion Shorthorn female wherever shown this fall and that is pretty nearly everywhere.

Bernstein to Hold Another Sale.

Another sale scheduled by Wm. Bernstein, the prominent Poland-China breeder of Hanford. Everyone knows the Wm. Bernstein auction sales as offering the best of the breed found on the Pacific Coast. Hanford and Kings county have a reputation for top notch Polands and Wm. Bernstein has been one of the leaders in the business. The sale will be on the 29th of November, the Saturday following Thanksgiving. This is one sale you should not miss.

Fresno County Poland-China Breeders' Association Sale.

Look up the "ad" in this week's issue and just notice the blood lines of the swine offered. All the popular strains are in the offerings and being in this sale is conclusive evidence as to the quality of the individuals. If you are in need of Poland-Chinas for breeding purposes, do not miss this sale. Everything from service boars to bred sows.

Good Steers Bring Good Money.

The Ormondale Company had a good Shorthorn steer, so good in fact, that he was awarded first prize in the Yearling class of that breed at the California International. Thos. T. Miller of Hollister had third prize in the same class. After the show was over and the steers had won all they could the buyers of good beef commenced to size up the different animals and finally these two yearling steers were purchaser by the Palace Hotel for twenty cents per pound.

LIVESTOCK DIRECTORY.

Rate 3½ cents per word each issue.

SWINE.

Berkshires.

CASTLEVIEW BERKSHIRES

We Offer

Young Berkshire Boars—Big-boned and smooth—By Mayfield Rookwood 2nd. sire of ALL Champion Berkshire Barrows shown this year. Our money-back guarantee makes mail ordering easy—and perfectly safe. Reasonable prices.

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World, National and State Grand Champions

SANTA ROSA, CALIF.

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAB LEADER. We are now making a special offering of classy boar pigs.

ANCHORAGE FARM, Orland, Calif.

A SOW THAT FARROWS

10-11-15-17-11-10-9-10

Is worth her weight in gold, particularly so if she is royally bred. This is the record of Symbolic Belle. I have a boar pig from her last litter that is a dandy. If you act quickly you can have him for \$75.00. San-drecko Land Co., 23 Montgomery Street, San Francisco, in charge of Natomas Land Sales.

WRITE FOR MY BERKSHIRE CATALOG, giving names, ages, breeding of service boars, bred gilts, specially selected trios. Frank B. Anderson, Sacramento, Cal.

GRAPEWILD FARM BERKSHIRE-GUERNEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRE BOAR PIGS—From large litters. Order one if you want the best. Satisfaction guaranteed. Merrill, Morgan Hill, California.

BERKSHIRES—Closing out entire herd, sows, gilts and boars. Best stock obtainable, priced very low. Wm. C. Laux, Morgan Hill, Cal.

LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write me. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Koumas Registered Stock Farm, Modesto, Calif.

BERKSHIRES—Fair Oaks Ranch, Willits, California.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

Poland-Chinas.

ELDERLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our ½-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA.

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

BIG-TYPE POLAND CHINAS—Have sold my ranch and must reduce my herd before Xmas. Am offering one of my herd boars a 1,000-lb. boar, and a number of bred sows and gilts; also a number of June pigs of both sexes. Address W. S. Adams, Gridley, Calif.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Supera breeding. Gilt edge stud at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D., Box 180.

POLAND-CHINAS—Young boars ready for service; also a few gilts, sired by California Big Bone Bob and Ursus Jr., real 1,000-lb. boars. Prices and descriptions on application. Eugene Miner, Rt. 2, Box 105, Lodi, Calif.

TOHOQUA POLAND-CHINAS—Strictly big type. Junior and Grand Champion sow at Glenn County Fair. Young breeding stock to sell; bred right, grown right and priced right. Ferguson & McKaig, Orland, Cal.

J. F. McSWAIN, Breeder of Poland-China hogs. Herd headed by Big Model Fellow. Reserve grand champion 1919 State Fair. Boar for sale. R. 3, Merced, Calif.

THE PACIFIC HERD of big-type Polands. Herd sire, Hadly Wonder and an outstanding boar by Golden State King. Nettie E. Andrews, Modesto, Cal.

ONBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

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WAKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Lee McCracken, Prop., Ripon, Cal.

A FEW BOARS of May farrow. Grandsons of Big Bone Bob. R. B. & L. J. Montgomery, R. F. D. No. 1, Walnut Creek, Calif.

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LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

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POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

POLAND-CHINAS—Young stock for sale. M. E. McMahan, Lemoore, California.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

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FOR SALE—About 40 hogs, all sizes, both sexes, Durocs. Durocs are offspring from Rucker and Queen is Right 1st. One boar 18 months from Rucker and Queen is Right 1st. Reference El Dorado Co. Duroc Association. Egbert Veerkamp, R. A. Box 113, Placerville, El Dorado Co., Cal.

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HORINE'S REGISTERED DUROCS—A choice lot of oversize weanlings of either sex and a few gilts weighing 350 to 400 lbs. are ready to ship. Write for pedigrees, photos and prices. Money back guarantee on every animal leaving my ranch. Geo. L. Horine, Winton, Cal.

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BIG-TYPE DUROCS—Herd headed by California Orion King. Am offering excellent young boars at right prices. Inquiries invited. Harvey M. Bergrund Dixon, Calif.

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A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

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CHESTER WHITES—BILLIKEN TYPE—The big winners at the State Fair. 15 extra choice spring boars, sired by the Grand Champion boar and out of Billiken sired sows. A few spring sow pigs; three bred Billiken sows and two gilts; all to farrow in October. Priced to sell; a chance to get the best type in the West at farmers' prices. Write for special catalogue and price list. C. B. Cunningham, Mills, Cal.

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REGISTERED JERSEYS FOR SALE—I am now offering my small but select herd of registered Jerseys—ten head. Cows of this class are rarely offered for sale. Most of them with first and second calf. Heavy milkers, high testers, now on official test. Received today monthly report from the Jersey Cattle Club for August, which shows my herd averaged 48.58 lbs. fat per cow. Half of herd heifers with first calf. Come to my place and see these cows. I will meet you in Modesto if you come by train. F. W. Ellerby, Carver Road, Modesto, Calif.

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PAJO ALTO STOCK FARM, Pajo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

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CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

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REGISTERED HOLSTEIN CATTLE—E. B. Freeman, R. B., Modesto, Cal.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

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ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

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SHORTHORNS—Caruthers Farms. Live Oak, California.

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F. A. MECHAN ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

FOR SALE—One good milk goat, and two fine young Toggenburg does, eight months old. Write or call, P. M. Peterson, R. B., Box 137, San Martin, Calif.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

FOR SALE—1500 Merino ewe lambs; 1500 yearling Merino ewes. C. G. Owens, Livermore, Cal.

FOR SALE—About 200 Purebred Shropshire ram lambs in lots to suit. R. J. Curry, Dixon, Cal.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

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MISCELLANEOUS.

BUTTE CITY RANCH SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale at the Ranch—all breeds—April 17, 1920. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn County, California.

FOR SALE—Registered Percheron Mare and eligible mare colt. Unusual opportunity for someone. Forest W. Wood, San Luis Obispo, Cal.

Westrobaac
442-444 Sansome St.
San Francisco, Cal.

Union Stock Yards for California

(Written for Pacific Rural Press by G. Walter Reed.)

With the new trade zone opened up with South America and the Orient, in addition to supplying the Hawaiian, Philippine and other countries of the globe with California-grown products, the Golden State holds the key to the Pacific and is destined to play the important role in the after-war race for commercial supremacy of the world.

The State Board of Control recently gave out statistics showing that California affords and her people enjoy cheaper living conditions than prevail in any other State, all because California is a great empire within her own boundaries and depends upon no other source for her food supplies and little else excepting raw material for certain manufacturing industries.

To make the State still more powerful and dependable, both in its home production and export trade, there will soon be added packing-house products which will bear the California trade mark of excellence and superior quality that has carried the fame of the State throughout every country on the globe where her fruits, vegetables, canned goods, dried peaches, apricots, prunes, etc., have been eaten.

Experts who have studied the physical conditions claim there is the greatest opportunity for not only supplying all local demands for meats, fresh and cured hams, bacon and tinned goods, but filling immense contracts for the American War and Navy Departments and those of other Nations for the distribution in the Pacific and Far East.

Instead of shipping California-raised steers, fat hogs and mutton to packing houses hundreds and even thousands of miles East to be slaughtered, packed and returned with high

freight charges assessed both ways, the waste in time and losses to the producer, due to the lack of a dependable home market will be eliminated, with the additional advantage of having created and materially increased the demand.

During the recent war contractors for the United States Government found it necessary to go into Texas and Mexico for the purpose of gathering up cattle to fill orders. These cattle had to be shipped on the hoof to Eastern packers and when the products was ready to again be shipped—this time to the Pacific Coast—an added expense of transportation across the continent was put on, which naturally was paid by the producer.

It stands to reason that if California can lead the world in the production of vegetables and fruits, and is able to supply her own millions with a cheaper and better food article, while the producer gets a fair profit and return upon the investment, the same can be done in the matter of meats and the by-products of hog, beef, and mutton.

The agencies that will bring California and adjoining states into a full realization of the great opportunities in cattle, hog and sheep raising by providing ample markets for such products, are packing houses and union stock yards.

A packing company capitalized for \$5,000,000 to establish a packing house and union stock yards at Sacramento is headed by Chas. E. Virden, president of the Sacramento Chamber of Commerce and head of a number of producers' organizations that have done much to advance agriculture in this State.

MILLER-MAGRUDER-DEWOLFE COMBINATION SALE.

A successful Holstein-Friesian auction sale was held by C. A. Miller, Gotshall & Magruder, and H. A. De Wolfe at the ranch of Mr. Miller, northwest of Ripon. It was practically a dispersal sale so far as the Miller herd was concerned. Good prices were obtained, and it was a satisfactory sale from all view points. While there were no particularly high prices, the average was excellent.

The grand total for the three consignments was \$20,640, which was quite a sum of money to change hands on 89 head of cattle, including calves and matrons and bulls. The years are not so far past in any part of the world where this would have been considered a phenomenal sale. An average of \$230 or better, when 40 years ago \$30 would have been thought good for the same number of cows in full flow of milk. This, therefore, is one of the successful Holstein sales of the year, everything considered.

Miller Makes Money.

The Miller offering, consisting of 42 head, large and small, of which 26 cows and heifers brought the average price of \$303.85. Six heifer calves sold for \$1,085, an average of \$180.83. Ten bulls, mostly less than one year

old, average \$89 each. The whole consignment brought \$8,970. The top of this consignment was the 9-year-old cow, Sarcastic Dora of Millbrae, which sold to Edwards Bros. of Escalon for \$600. When we consider that no testing for butter and milk production had been done, the prices obtained were very satisfactory.

The Magruder Offering.

The Gotshall and Magruder consignment of 28 head brought good prices, especially the heifer calves. Eight of these sold for \$1,315, or an average of \$164.38. The heifers and cows brought \$4,570, making an average of \$304.66 for the 15 head consigned. The bulls brought \$445, an average of \$89 for the five head.

De Wolfe Does Well.

H. A. De Wolfe of Ripon sent 16 head of excellent Holstein cows and 3 bulls, all of which brought good prices. They were an even lot. The prices ranged from \$200 to \$500 for the 16 cows, bringing a total of \$4,950 of \$309.38. The three bulls averaged \$130 each, and it was not a bully day either.

Why shouldn't rice growers spread their straw back on the land where it is not too much infested with water-grass?

CALEDONIA SHORTHORNS

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Herd consists of 400 wonderful breeding matrons, combining the best blood of the noted Harkness and Elindorff herds. Herd Sires:

IMP. CALEDONIA, considered the best Scotch bull imported in recent years.

GAINFORD MATCHLESS, Grand Champion at the California International Livestock Show and first prize as a Senior yearling at the Chicago International.

PINE GROVE KING, by Champion King of Cumberland, out of Clipper dam, and

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Duroc-Jersey Hogs

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40 sows and gilts, many bred to our great eastern boar, Experimental Defender, by old Defender. Also a few choice service boars, and some topky pigs of King's Col. and Defender breeding. Just the kind you need.

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With Better Poland-Chinas breeding

I have a few young boars by Joe's King just ready for service. They will make your spring crop of pigs profitable in spite of high price of feed and labor. They are the big type, with easy feeding and quick-maturing qualities. I have priced them very reasonably for a quick sale. Write at once for prices and particulars or call and see them.

WAUKEEN FARM

LES McCracken, Prop.

RIPON, CAL.

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Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

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Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

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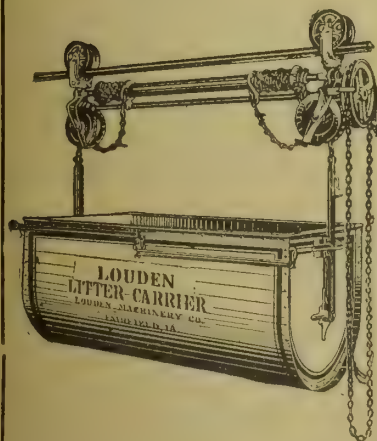
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**AGRICULTURAL PROGRESS IN
NEVADA.**

Storage of water in the Lahonton dam near Fallon began October 21. It is expected that an ample supply of water will be stored before early spring.

For miles in every direction the country surrounding Fallon is dotted with stacks of alfalfa hay estimated to contain over 20,000 tons. So far only about 15,000 tons have been sold at prices ranging from \$15 to \$16 per ton. This valley is unusually well equipped for cattle and sheep feeding. The soil is sandy and does not work into mud so easily as the heavier types of soil.

Following the testing for tuberculosis and condemning of approximately fifty per cent of the milking herds in the upper Carson Valley near Gardnerville and Minden, the Douglas County Creamery has made arrangements to ship in several carloads of tested milk cows from California and Oregon to take the place of the reacting cows ordered slaughtered.

At a recent sale in Washoe Valley to a Carson Valley farmer of a herd of thirty cows the price was \$110 per head for the entire herd.

The bee industry in the Newlands Project near Fallon has grown to be quite a profitable business. Bee keepers have had a very successful year in producing a fine quality of honey. The honey has been shipped out in five gallon cans, selling at 28c. E. G. Norton has the largest apiary in the project. He has been caring for about 700 colonies during the past season. A live organization of some fifteen members has been organized to promote the bee industry in this section.

Continued interest in irrigation projects is being experienced in Nevada, especially in the extreme southern country. State Engineer Scrugham is to meet the farmers of the Mesquit and nearby sections along the Virgin River to organize an irrigation district. The proposed project is to divert a portion of the flow of water from the Colorado River. Arrangements are under way with the Arizona authorities, and no difficulties are looked for from this source, to divert the water from the Arizona side of the river. It is impossible to take water from the Nevada side for a big drift of sand is experienced at this point, occasioned by a large bend which causes huge sand bars to form at the point where the canal should be constructed if the Nevada banks of the river were to be utilized. Chief Engineer Cottrell of the State Highway Department is altering his plan for the construction of a concrete bridge to allow for a suspension flume across the river from the Arizona side, which will deliver water to the project. Without the use of the state bridge the cost of construction would be excessive for this project. The lands are at present unwatered, and there is enough acreage to form an irrigation district. Land in this section is extremely productive. With nearby markets in Southern California and the Nevada mining towns this project will soon be a desirable location for new settlers.

The Office of Cattle Protection caused the arrest of B. Zeff, a slaughterer, at Modesto, for operating a slaughter-house in that city without having first obtained a license to so operate as provided in the "Hide and Brand Law." Zeff was accused of slaughtering cattle that had not been inspected for marks and brands by an Inspector appointed by the Department of Agriculture. James B. Newsum, Secretary for the Office of Cattle Protection, assisted in securing evidence which resulted in the conviction of Zeff, who was ordered to pay a fine and which fine was paid.

BLOOD WILL TELL**AT THE PANAMA-PACIFIC EXPOSITION**

Just 4 years ago in the greatest Berkshire Show ever held in the West, our senior herd sire,

STAR LEADER

was made Reserve Grand Champion to his great sire, Grand Leader 2nd, the Grand Champion of the Show.

AT THE CALIFORNIA INTERNATIONAL SHOW

last week a carload of fat barrows shown by Napa Hospital and sired by a son of Star Leader, was awarded the Grand Championship over all breeds.

AT THE 1917 NATIONAL SWINE SHOW

The Grand Championship was awarded to Baron Duke 201st. This year his son, our Junior herd sire,

NATOMAS BARON DUKE

won Grand Championship wherever shown at the California State Fair and at the California International Livestock Show.

WE WILL SELL

A few daughters of Star Leader, mated to Natoma's Baron Duke for early spring farrow, also a few granddaughters of Star Leader.

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**LEHMAN'S POLANDS
REPEAT**

At the California International Livestock Show their sensational winnings at the State Fair this year. They are the big, easy-feeding type that are in demand. If you want boars that will put your hogs on the profit side, I will sell you some of my best at prices you can't resist.

Call at the farm and make your selection, or write for full particulars.

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By the famous Boars—"Rivera Col. Cherry Chief" and Educator."

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YEARLING RECORD HOLSTEIN CATTLE

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Our remarkable series of winnings at the
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COLTS Sired by CHAMPION IBIDEM.
FOR SALE AT RIGHT PRICES. COME AND
LOOK THEM OVER BEFORE YOU BUY.

GEO. EDWARDS, Prop.

LEE MARCHIS, Mgr.

(Continued from page 691.)

Champion Mare, any age—Dibblee Estate
on Bonnie Bloom.

1 years old and under 2; 2 ewes under 1 year old—1st, Bullard Bros.

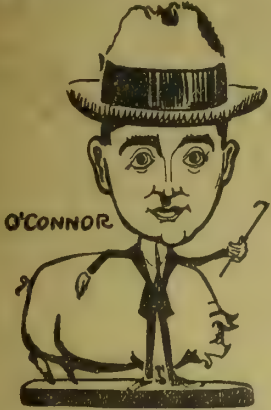
COL. GEO. W. BELL, Auctioneer

Reserve Champion Ewe—Butte City Ranch.
Pen of 4 lambs, either sex, bred by exhibitor—Ratto Stock Farm.
Pen of 4 lambs, either sex, get of one sire—Ratto Stock Farm.

Romney.

All awards to University of California.
Corriedale.

Ram, 2 years old or over—1st, Ellenwood and Ramsey, Red Bluff.
Champion Ram—Ellenwood and Ramsey.



Mr. O'Connor Thought He Would Be Left Out.

DAIRY PRODUCTS EXHIBIT AT SAN FRANCISCO LIVE STOCK SHOW.

The dairy industries exhibit at the California International Live Stock Show was under the supervision of the Dairy Industry Department of the University of California. Seventeen varieties of cheese made in California were shown, including practically every grade and table cheeses. Cross sections of each cheese were on exhibition to illustrate type and quality. The judges of cheese and butter classes were Mr. T. J. Harris of the San Francisco Dairy Exchange, and Prof. H. S. Baird of Davis. Prof. C. L. Roadhouse of Davis judged the commercial milk and cream classes.

It is interesting to note the wide distribution of the exhibitors. Butter and cheese from all parts of the state was shown and all of very high quality. The winning exhibit of Pete Peterson, Valley Flower Co-operative Creamery, Ferndale, was noticeable for uniformity of color, quality and texture throughout.

The butter and cheese awards were as follows:

BUTTER AND CHEESE AWARDS.

(List prepared by J. C. Marquardt.)

Creamery Butter—1st, Pete Peterson, Valley Flower Co-operative Creamery, Ferndale.
Other scores over 90—Western Meat Co., San Francisco, 93; Hooper Creamery, 1801 Polk, San Francisco, 93; J. R. Welke, Sierra Valley Creamery, Layton, 93; San Joaquin, Valley Milk Producing Association, Madera, 92½; A. Wirz, Hollister Creamery, Hollister, 92½; C. A. Holm, Moss Rose Creamery, San Francisco, 92; H. Bino, Petaluma Creamery, Petaluma, 92; Castroville Creamery, Castroville, 92; H. Dors, University Farm, Davis, 92; Carl Hansen, Hanford, 91½; Harry Wolf, Crystal Creamery, Sacramento, 91; Danish Creamery, Fresno, 90½.

Display of Creamery Butter—1st, Makins & Company, San Francisco. Judged by Mr. H. S. Baird, University of California, Davis. T. J. Harris, Official Scorer on S. F. Exchange.

Cheddar Cheese—1st, University Farm, Davis, 94. Other scores over 90—Northern California Milk Producers' Assn., Sacramento, 93.

California Cheese—1st, University of California, Davis, 93. Other scores over 90: Mayrose, Western Meat Co., San Francisco, 92.

Jack Cheese—1st, Associated Dairymen, Soladad, 93½. Other scores over 90: G. V. Quinto, Patterson, 92.

Swiss Cheese—1st, Calif. Central Creamery Co., San Francisco, 95½.

The milk and cream awards were as follows:

Class 688, best bottled certified milk—1st, Hollow Hill Farm of Colton; 2nd, University of California at Berkeley.

Class 689, best bottle certified cream—1st, Hollow Hill Farm of Colton.

Class 694, best bottled pasteurized milk—1st, Columbia Dairy, 231 Franklin, San Francisco; 2nd, San Mateo Dairy, 1818 Howard St., San Francisco; 3rd, Dairy Delivery Co., 3550 19th St. San Francisco.

SHORTHORN BREEDERS' BANQUET.

(Written for Pacific Rural Press.)

The Shorthorn banquet held in connection with the California International Live Stock Show in the California Building on Thursday night of last week, was a very enjoyable affair. Chas. N. Hawkins acted as toastmaster in his usual genial and informal way and made everyone feel right at home. He introduced the group of herdsmen present and declared they deserved a large part of the credit for the success of the show.

B. O. Cowan, introduced as the man who knows more about Shorthorns than anyone else and the most loved by Shorthorn men, spoke on the sentiment in the Shorthorn business. L. A. Nares, president of the California Cattleman's Association, briefly sketched his cattle experience, beginning with Mexican "Longhorns" and culminating with the importation of a carload of registered Shorthorn bulls.

Frank D. Tomson, representative of the American Shorthorn Breeders' Association and editor of the Shorthorn in America, gave a very interesting and inspiring talk. He declared that there is not a fraternal order in which the members are in closer harmony than are the breeders of Shorthorns throughout the country. He ascribed the stability of the Shorthorn industry to the fact that it comprises a very large number of farmers with

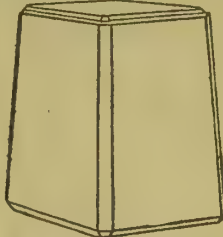
comparatively small herds. He estimated the number at over 30,000 with an average of about 20 head each. He advised that Shorthorn breeders strive to interest their neighbors in Shorthorns.

Cane molasses as a feed for hogs and cattle is coming to the front quite rapidly. It contains a very high percentage of sugar, running all the way from 45 to 50 per cent sugar.



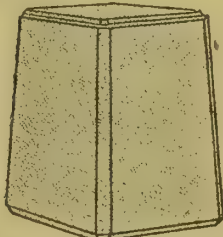
1—Natural Rock Salt

Now generally discarded by stock feeders who have tried Carey-ized Block Salt, because of its impurities, shale and rough edges which frequently lacerate animals' tongues and cause other troubles.



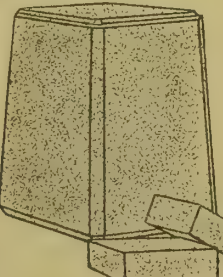
2—Carey-ized Block Salt

composed entirely of Pure Dairy Salt, pressed into solid 50 lb. blocks, overcomes all the troubles of natural rock salt. Placed under a shed in pasture or range it salts animals regularly without waste.



3—Carey-ized Block Salt Sulphurized

combines Pure Dairy Salt with just the right proportion of sulphur to meet the needs of animal systems. Promotes growth of young stock and health of mature stock.



4—Carey-ized Stock Tonic

is composed only of the following: Iron Sulphate, Powdered Gentian Root, Bicarbonate of Soda, Sulphur, Quassia, Carbonized Peat, Charcoal, and Pure Dairy Salt. It prevents worms and scours, keeps digestion in good order and saves feed, vitalizes the blood, promotes healthy activity of kidneys, liver and bowels. Does away with dosing and drenching. Salts animals regularly and economically.

The How and Why of Carey-ized STOCK TONIC BLOCK AND BRICK

Like all really great things in scientific discovery and manufacture, Carey-ized Stock Tonic is the result of gradual development. Years ago we sold the Natural Rock Salt for stock feeding, in connection with our other salts, because there was nothing better to be had at that time. But we found that it often contained impurities which disagreed with animals; stock feeders also complained that their animals suffered from sore tongues, caused by licking the sharp edges and shale in the natural rock salt.

So we conceived the idea of pressing Pure Dairy Salt into solid block form; had special machinery built which exerts a pressure of 3000 pounds to the square inch, and produced the now famous Carey-ized Block Salt. It represents the most convenient, surest and economical way of salting live stock.

The great demand for a Sulphurized Salt among stock feeders next engaged our attention. Sulphur is one of the most urgent needs of all animals, is the very best blood purifier known to medical science. It is direct in its action on the liver and spleen; also a vital element of the muscles, hair and skin. Carey-ized Block Salt, sulphurized, meets this demand at a minimum cost in money and trouble. Finally, after consultation with practical live stock men and with the aid of the United States Bureau of Animal Husbandry, we prepared and adopted the formula for Carey-ized Stock Tonic Block and Brick—

The Guaranteed Worm Destroyer and General Live Stock Conditioner

This product represents the most approved method of promoting animal health. It does away with powders, liquids, dosing and drenching—permits animals to condition themselves according to their own instincts, without bother to the caretaker, and at minimum expense. It supplies, in correct proportions, all the vegetable and mineral salts which animal nature demands, and in which ordinary feeds are deficient, besides being an unfailing worm destroyer.

Carey-ized Stock Tonic was put on the market only after it had been thoroughly tested by practical stock feeders and proven to produce the results we claim for it in every particular. We guarantee it, because we know that it is right and can be depended upon for satisfactory results when fed according to directions.

Sold on 60-Days' Trial Under a Positive Satisfaction Guarantee

Carey-ized Stock Tonic 3-lb. Bricks or 50-lb. Blocks are sold by Grocers, General Stores, Druggists, Feed and Hardware Stores. If your dealer cannot supply you send us his name (no money) and we will send him for you 12 bricks (35-lbs.) at \$2.90 f. o. b. Hutchinson, or 50-lb. block \$3.25, or if you prefer send us the amount and we will send goods direct to you freight collect. If at the end of 60 days' trial according to directions you are not entirely satisfied we will refund all your money, including carrying charges. Your banker will tell you we are responsible. Fill out and mail us the coupon for free book "Making Live Stock Pay."

The Carey Salt Company

Dept. 287, Hutchinson, Kansas

Carey Salt Co., Dept. Hutchinson, Kan.

Please ship Carey-ized Stock Tonic as per check mark below under your 60-Day Trial Offer.

- ☐ Care of My Dealer.
☐ Direct to Me (money order enclosed).
☐ One 24-Brick Case.
☐ One 12-Brick Case.
☐ One 50-lb. Block.
☐ Send Free Book "Making Live Stock Pay."

I havehogs.....cows.....sheep
.....horses.

My Dealer's Name.....

P. O..... State.....

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Stumps, Willows, Etc.—By internal combustion. No more explosives, hand-grubbing or stump-pullers. Stumps cleared with

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Stay cleared. Willows never sprout again, and the entire operation costs only one-tenth of any other known process.

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PROPER CALF FOOD

First week, colostrum milk. Second week, part milk, some AN-FO Calf Meal in water. Third week, less milk, more AN-FO, and water. Fourth week, little milk, still more AN-FO and water. After that, no milk, just AN-FO and water. Use skim milk instead of water if you have it. Raises sturdy calves. Feed dealers or Animal Food Co., Oakland, supply

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Easily operated by hand. Bores wells 8 to 16 in. dia., up to 100 ft. deep. One man bought outfit 8 years ago and has bored over 25,000 feet of wells.

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Make \$20 to \$30 per day boring wells for neighbors easy to get 50 cts. to \$2 per ft. E. C. Cole, Porter, Okla., writes:—Have just bored 41 foot well for neighbor in one day and made \$41.00.

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Poultry and Rabbits for Profit

POULTRY SHOW AT INTERNATIONAL PASSES INTO HISTORY.

(Written for Pacific Rural Press.)

So far as the poultry and rabbit exhibits were concerned, the first annual exhibition of the California International Livestock Show, held at the California Building, San Francisco, was a great success. While there have been larger displays of poultry at previous exhibitions, the quality of the birds shown has rarely been ex-



Dr. Frederick D'Evelyn, His hobby is rabbits, but he likes poultry.

celled, and as for the rabbit section, it scored a record in point of number of entries, and from the fanciers' standpoint it suffered nothing in comparison with shows that have preceded it on this side of the continent. The attendance was good considering the handicap of situation. The California Building, while ideal from the standpoint of accommodation of the stock housed, is too remote from the city's center for the convenience of a patronizing public, and the attendance was

perhaps not more than one-third of what it would have been if located on some commodious lot on upper Market street. However, all things considered, there can be no justifiable complaint of lack of public appreciation. The old ballroom of the building, in which the poultry, pigeon and rabbit entries were installed, was kept alive with interested visitors throughout the week, and on the final Saturday and Sunday the alleys were fairly jammed with people, both those who knew stock and those who didn't but would like to—and the latter as usual were in the large majority. The classy birds and rabbits of all varieties were a delight and inspiration to admiring throngs of adults, and the crow and cackle of the fowl, the freaky-feathered pigeons, and the capering of the frolicsome bunnies were a source of unrestrained delight to the juvenile element.

From the standpoint of the exhibitors no disappointment was registered. On the contrary, quite a little real business was done. A large number of orders for stock and eggs were taken through the week, and in nearly all instances good and in some cases fancy prices were obtained. One satisfied buyer from abroad paid \$150 for a pen of 12 hens and one rooster—Barred Rocks.

Chas. H. Voddén of Los Gatos had a large entry of superb birds of the Barred Rock variety, and almost swept the deck in prize-taking. His success was beyond his anticipations—and he had reason to expect something from his 22 years of breeding in this line. We present in this issue a picture of Mr. Voddén's prize cockerel. The Poppy Hill Poultry Farm, Oakland, also made some nice winnings on showings of this popular American breed.

In the Rhode Island Red class, which scored the largest number of entries of any one variety, and in which much interest was shown, M. E. Jeter of San Francisco, and Oak Shadows Farm of Redwood walked away with the bulk of the prizes. Oak Shadows also won the special award for the best hen in the show with a Buff Orpington, also the sweepstakes prize for the pen of best egg-layers. These were Buff Orpingtons also. Samuel Abrams of Los Altos won second on pullet—a bird of fine type and beautiful plumage.

Among the Wyandotte entries, of which some splendid specimens were shown in all colorings, our old friend, Wm. A. French of Stockton, won first on hen and first on pullet in the Silver Laced class. Incidentally it may be mentioned that Mr. French also showed an outstanding winner in the Rouen Duck class with first old drake. He also won second on old ducks.

Los Angeles, which is reputed to have contracted the crowning habit in an exaggerated form, furnished the prize rooster of the exhibit in the shape of a Dark Cornish cock entered by Percival E. Edouart, who took second on hen in the same class.

The Rabbits.

The large rabbit display came in for much favorable comment. The Flemish Giants led the procession in point of numbers and interest, Erwin Wiesner, the superintendent of this department, falling in for full honors in this class in the distribution of cups and ribbons. An interesting feature of the

Livestock Show week was a banquet tendered to the directors last Sunday afternoon by Erwin Wiesner.

Some of the silver cups offered for outstanding exhibits in the rabbit display were distributed as follows: The Sperry Flour Company's cup, offered for the best and largest display of all varieties, went to Ernest Wiesner; as did also the handsome cup offered by the Oakland Tribune. The Dr. D'Evelyn silver cup, offered for the



First Prize Cockerel
International Live Stock Show 1919
San Francisco, Calif.
Bred and Owned by Chas. H. Voddén,
Los Gatos, Calif.

best and largest display of all varieties entered from San Francisco County, went to the Exposition Rabbitry, and the J. E. Stewart cup, offered for the second best and largest display of all varieties, passed to the possession of W. Hickling.

Messrs. D'Evelyn, Moore, and Wiesner have every reason for self-congratulation on the excellence of the showing made in their respective departments.

OAKLAND POULTRY SHOW NEXT.

During Thanksgiving week—namely, from November 25-30—the Oakland Show of poultry, pigeons, rabbits, and pet stock will be held at the Oakland Auditorium, under the auspices of the Alameda County Poultry Association. Besides ribbons and trophies, some attractive cash prizes for best exhibits have been provided. A general invitation to poultry and rabbit men is extended.

RABBIT CONGRESS AT INTERNATIONAL.

The meeting of the Rabbit Congress which convened at the Livestock Show was well attended, both by breeders and fanciers. Frederick W. D'Evelyn of the Pacific Rabbit Breeders' Association presided. He said the Congress at Washington, D. C., and the Rabbit Congress at San Francisco, were both making history and endeavoring to solve problems of significance to the rabbit industry. The program, while elucidating important facts more directly associated with the "Fancy," also emphasized very strongly the "back yard" rabbit as a valuable asset in the solution of the H. C. L.

Farm Adviser Lee of the U. S. Agricultural Department, presented in a graphic and attractive manner "Rabbits and All About Them." He said: "The breeding and raising of rabbits was no longer a mere hobby or fad; but a matter of sufficient importance to enlist the attention and co-operation of the Government, through its Specialized Agricultural Department." Mr. Lee recommended a more careful selection of stock, as the latter was the real basis for successful rabbit culture.

Judge Louis Regner stated that the present rabbit display had never been equalled either in quality or in numbers by any exhibition west of Chicago. Mr. John J. Oliver of Richmond, rather startled the audience by saying, "We are now prepared to produce rabbit meat—and there is none better—at ten cents per pound. Under such conditions there is no use passing sleepless nights and anxious days as to the purchase of eggs at 95 cents per dozen, or porterhouse steaks

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Backed by a guarantee which assures the poultryman, high and uniform quality.

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The Gold Nugget Strain continually prove their superiority by winning Gold Special Sweepstakes for best turkeys at the following great shows:

Live Stock Show, Los Angeles, Cal., October, 1919.
Liberty Fair, Los Angeles, Cal., 1918.
Southern California Fair, Riverside, Cal., 1918.

Pacific Coast Exposition Oakland, 1918.

Texas State Fair, 1917.
Los Angeles Show, 1917-18.
California State Fair, 1917-18.
Arizona State Fair, 1916.

Each judge pronounced them the best in show, all breeds competing. An unequalled record. This year's awards all first prizes at the Washington State Fair, September, 1919, and the Oregon State Fair, 1919.

Large turkeys can be raised at practically the same cost as small ones. Let me help you make more money. My stock will assure you of more meat when market time comes. Stock and eggs for sale. Circular. J. Will Blackman, Originator Gold Nugget Strain, 607 E. Third St., Los Angeles, Cal.

BABY CHICKS after January first. Book your orders, remembering "the early bird." Hatching E. I. Reds, Barred and White Rocks, Black Minorcas, White, Brown and Buff Leghorns. Large or small lots, from first-class breeding stock, hatched right and priced right. Circular free. MISSION HATCHERY, Box 17, Campbell, Cal.

MAHAJO FARM, P. O. Box 597, Sacramento, Calif., offers highest class, standard bred, breeding stock in White Leghorns, Light Brown Leghorns, Dark Brown Leghorns, White Plymouth Rocks. Prices: Leghorns—males, \$5.00; females, \$3.00. Rocks—males, \$7.50; females, \$3.00 and upwards.

BABY CHICKS—From my Single-comb White Leghorns, bred for heavy layers, which have been in the race for 12 years, and today is among the leaders. You don't go wrong by placing your order with me. Write for prices and terms. H. A. Schlotthauer, Exeter, California.

THOROUGHbred S. C. White Leghorn chicks in 100 and 1000 lots from Hoganized and trapnested stock. Order early for spring delivery. Inventors and Distributors of "Forbros" Separator and trapnest combined. Forster Brothers, 2918 Otis St., Berkeley, Cal.

BABY CHICKS—Order now for 1920 and get what you want when you want them. White and Brown Leghorns, E. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for free circular. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto.

ANDERSON'S PEEPLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels, \$5 and up. 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

"WATCH US GROW"—Baby chicks. Book orders now for January and February delivery. White and Brown Leghorns, R. I. Reds and Barred Rocks. Safe delivery guaranteed. Order early. E. W. Ohlen, Campbell, Cal.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Hatching eggs. Improve your color and egg capacity. Also Rose-comb Reds. Wm. Larm, 3915 39th Ave., Fruitvale, Cal.

BREEDING COCKERELS—Barred and White Rocks, Orpingtons, Anconas, Black Minorcas, R. I. Reds, Buff, White and Brown Leghorns. Day-old chicks in season. Enoch Crews Seabright, Cal.

BABY CHIX—Hatched from our own stock in our hatchery. Hens are of S. C. White Leghorn Utility stock, bred for commercial laying. H. A. George, Petaluma, Cal., R. D. 2, No. 29.

MAMMOTH BRONZE TURKEYS—Order now for immediate or future delivery. Choice young stock from prize winners. Prices reasonable. A. W. Ganger, Rt. 1, Dos Palos, Cal.

HART'S BRONZE TURKEYS—Large, vigorous young stock of both sexes for sale; also year-old hens. Eggs in season by the setting or hundred. Albert M. Hart, Clements, Cal.

WHITE HOLLAND TURKEYS—Young breeding stock. January and February hatch. Chance to get a thoroughbred young tom reasonable. A. P. Ward & Son, Calistoga.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Voden, Box 3, Los Gatos, Cal.

"EASTMAN'S BRED-TO-LAY" Hoganized and trapnested Barred Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Calif.

HANDSOME BLUE ANDALUSIAN Cockerels from prize-winning strain. February hatch. \$5.00 each. Box 459, Route B, San Jose, Cal.

FOR SALE—Pencilled and White Indian Runner and Pekin drakes; also Buff Orpington cockerels. Ralph Mossman, Antioch, Cal.

FOR SALE—Very fine young White Holland turkey toms. Wanted—a few Guinea fowls. Mrs. R. S. Mossman, Antioch, Cal.

CHICKENS, DUCKS, GEESSE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California, Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

MAMMOTH BRONZE TURKEYS, Embden Geese and Collie Dogs for herding purposes. John G. Mee, St. Helena, Cal.

BOURBON RED TURKEYS—Mrs. Geo. F. Smith, Hardwick, Cal.

Chickens never wash, as many other birds do, but cleanse themselves of insects by wallowing in soil. For this reason every poultry house should be provided with a dust box.

at front foot-prices. The desirability of establishing a 'rabbit department' under the guidance of the University of California, a scheme interrupted by the war, was again given consideration and suggestions for its promotion presented." The Congress closed with an injunction to boost for the Oakland Show. No empty rabbit hutches—"over there"!

LACK OF GREEN FEED.

To the Editor: I have about 30 old hens and 20 young Barred Rock Pullets. I feed about one and a half gallons of Sperry Surelay hot in mornings and about a gallon wheat and barley or oats mixed at night, or kaffir corn. The hens have range on alfalfa and the orchard and buildings. Some are molting now and some are through, while some are just starting. I get one egg every other day. Would you please advise me why I haven't been getting eggs since August.—Mrs. G. R. E., Gridley.

The amounts of mash and grain are ample to provide for the maintenance of the fowls and material for satisfactory egg production. Molting is in a great measure responsible for the lack of eggs, but if all other conditions were perfect that alone should not bring the egg yield down to one per cent during September and October. It may be the fowls have tired of alfalfa and eat very little of it. A variety of greens and vegetables is necessary, particularly when old hens are to be encouraged to lay and molt at the same time. A number of other conditions may be responsible but, in our opinion, the lack of tempting greens is the chief reason for the few eggs received from the flock.

RABBIT SLOBBERS.

To the Editor: What will I do for rabbits when they have the slobbers, and diarrhoea, also for chickens with scales on legs and flees on head?—S. H. S. Torrance, Los Angeles Co.

Slobbers in rabbits is a symptom of acute indigestion. Rub salt in the mouth and on the paws of the animal affected, withhold food for about a day, and thereafter boil the food until the indisposition passes off. Slobbers is not a serious complaint unless neglected.

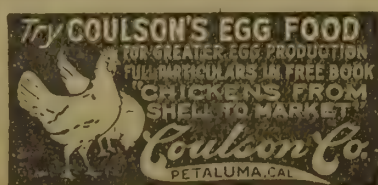
Diarrhoea in chickens is due to an inflammation of the mucous membrane of the digestion tract. Change the ration and keep plenty of charcoal accessible to the chickens. Keep the drinking vessels well washed and the premises sanitary. (2) For scaly legs wash the legs with strong soapsuds and then rub with carbolated vaseline. Continue the treatment until the legs are clean.

QUESTION OF DUCK MATING.

To the Editor: I have two brown ducks hatched from a fawn Indian Runner duck mated to a Mallard Drake. What breed of drake would you advise getting to mate to these ducks to be the most profitable?—Subscriber.

If the production of eggs is more profitable than meat we recommend using an Indian Runner Drake, but if table qualities in the young are more desired a Mallard drake would be preferable.

Growing chicks that are kept closely confined need much greater attention along all lines than those that have range. See that they have plenty of green feeds that have not wilted down to almost the decaying point, and that the yards are kept sweet. Culling also is more essential when chicks are closely confined.



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PROGRESSIVE FARMER WANTED who understands handling alfalfa and planting corn and field crops. Also team work in orchard. If married, wife to cook for 3 men; everything supplied. Party must be reliable and thorough. The place is a highly equipped and improved orchard farm of 170 acres. Address Box 12, Rutherford, Calif.

WANTED—Married man who understands handling apple and pear orchard for ranch in Santa Clara Mountains. Must be good teamster, capable and sober. Good opportunity for right man who can show results and stick. Address George Ellison, Campbell, Cal.

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All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weissbaum Pipe Works, 160 Eleventh street, San Francisco.

RAISE SILVER FOXES—Exceptional opportunity. Large profits. Easy to raise. New syndicate plan. Will not interfere with your regular occupation. Particulars free. Drya Silver Fox Syndicate, 5244-46 S. Maplewood Ave., Chicago, Ill.

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BERRY PLANTS—Strawberries, Raspberries, Blackberries, Currants, Gooseberries, Dewberries and Loganberries. Order now to assure delivery. Write M. J. Moniz, Berry Specialist, Sebastopol, California.

WANTED—Position caring for orchard near coast; salary or shares. Have had experience with different kinds of orchards. Can furnish references. B. F. Michael R. 2, Merced, Calif.

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WANTED TO RENT, with privilege of buying 40 or 60-acre ranch, suitable for dairying. Prefer ranch fully equipped. C. E. Holmes, 842 East 23rd St., Oakland.

HOLT 30-CATERPILLAR—new tracks, engine recently overhauled. 5 disc plow, 8-ft. double disc harrow. A bargain. \$2,000. Fair Oaks Ranch, Willets.

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CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

BOYS, YOU CAN MAKE MONEY saving Pumpkin seeds. Write for particulars. Bomberger Seed Co., Modesto, Cal.

A NEW ALFALFA—Investigate now. Our great "Hardy Hybrid" alfalfa. For facts, write J. L. Lawson, San Jose.

MAMMOTH JERSEY KALE SEED—2 oz., 15c, by the pound, \$1.00. A. P. Ward & Son, Calistoga.

SUDAN—We want to buy Sudan grass seed. Send us samples. Bomberger Seed Co., Modesto, Cal.

COUNTRY LANDS.

72 A. NEAR CITY, \$2300, With Pair Horses and 5 cows, 2 yearlings, long list tools, included for quick sale. On main road, 2½ miles depot, high school, milk station, 7 miles city. Easily worked, productive fields, 10-cow, wire-fenced pasture, estimated 1000 cords wood, apple orchard, pears, plums, cherries. 8-room house, barn, garage, poultry houses. \$2300, part cash, gets all. Details page 28, Strout's Fall Valalog, 100 pages Farm Bargains 23 States; copy free. **STROUT FARM AGENCY**, 831AF, N. Y. Life Bldg., Kansas City, Mo.

FOR SALE—\$5,000. Clear. 104 acres Mattole Valley. Land of the big red apples. 8 acres bearing orchards. 50 flat bottom. Million feet saw-pine. New bungalow and 8 other buildings. Spring water piped under pressure over premises. 14 acres under cultivation. 2 miles fine fencing. County road and Mattole River cross place. Fish and deer. 50 inches rainfall; no irrigation needed. Best apple proposition. No trades. E. T. Gray (Owner), Box 524, Arcata, Calif.

ABUNDANT CROPS without irrigation and low-priced lands in Terry county, Texas. The United States Weather Bureau says this plateau is "probably more favored as regards weather conditions than any other portion of the United States, except possibly the immediate coast of southern California and the Florida Peninsula." Free information. A. A. Larkey Farms Company, Brownfield, Texas.

PRUNES produce three times as much on Oakdale river bottom land as in Santa Clara Valley. The old orchards can't be bought, and raw land but rarely. I have 143 A. now at \$400. Act quick. H. W. Barton, Owner, Escalon.

樓字寫工接 FIRST-CLASS COOKS, PORTERS, FARM HANDS, GENERAL HOUSEWORK ONG FOON, 1 Brenham Place, San Francisco
TELEPHONES: KEARNY 3941. CHINA 190

Glenn County is preparing for next year's fair by arranging for special premiums in several of the different breeds of livestock. The aim of the management is to have the best county fair in the State and it would seem as though they were taking the proper methods.

THE MARKET REPORTS

SAN FRANCISCO.

San Francisco, Nov. 12, 1919.

BARLEY.

Barley is showing some strength on account of the decrease in this year's crop. There is little of the shipping variety on the market and that description is quiet, but feed barley is showing activity on the exchange and futures are selling at a higher price.

Feed \$3.20 @ 3.25
Shipping \$3.25 @ 3.30

OATS.

This grain is stronger in sympathy with barley. A better demand for all grains is now looked for by some dealers.

Red feed, per cbl. \$2.85 @ 3.00
Red for seed Nominal
Black for seed Nominal
Recleaned Red or Black for seed. Nominal

CORN.

Corn has not yet responded to the strength of the other grains, and is not strong at prices quoted.

California \$3.60 @ 3.70
Egyptian, choice \$3.30 @ 3.40

HAY.

Receipts of hay during the past week were 1349 tons, compared with 885 the previous week. It practically all arrived by water and was taken to the warehouses. The car situation is still deplorable. Stocks in the city are therefore depleted and the hay received is held at firm figures. Demand in San Francisco is somewhat lighter, even under the above conditions, but there has been a large movement in the country.

No. 1 Wheat, or Wheat & Oat \$18.00 @ 22.00
No. 2 Wheat, or Wheat & Oat \$17.00 @ 19.00
Choice Tame Oat Hay \$20.00 @ 23.00
Wild Oat Hay \$18.00 @ 19.00
Barley Hay \$16.00 @ 20.00
No. 1 Alfalfa Hay \$18.00 @ 23.00
Stock Hay \$13.00 @ 16.00
No. 1 Barley Straw, per bale. \$5 @ .80

FEEDSTUFFS.

Lack of rain is holding back the ranges, and feedstuffs are showing strength. Attention is called to the fact that quotations are f. o. b. warehouse San Francisco, and buyers must pay cartage as well as freight when shipped from the city.

Roller Oats \$83.00 @ 84.00
Rolled Barley \$65.00 @ 66.00
Cracked Corn \$80.00 @ 81.00
Alfalfa Products \$38.00 @ 45.00

POTATOES, ONIONS, ETC.

Potatoes are showing considerable strength, though there has been no advance in prices. Salinas potatoes are now arriving and find ready sale at from \$3 to \$3.25. Oregon Burbanks sell at \$2.85 to \$3, and Idaho Gems

\$2.85 to \$3.25. Yellow onions are not in demand and sold at lower figures this week. The browns are steady at unchanged quotations. The general vegetable market is somewhat quiet with higher prices for peas and beans and lower for tomatoes.

String Beans 12 @ 15c
Peas 15 @ 17c
Carrots, per sack \$1.00 @ 1.25
Cucumbers 75c @ 1.00
do, Hothouse \$2.00 @ 2.25
Eggplant, box \$1.25 @ 1.75
Lettuce, per crate 75c @ 1.25
Tomatoes, Stone \$1.00 @ 1.25
Hubbard Squash \$1.25 @ 1.50
Pumpkins 75c @ 1.00
Potatoes, local whites \$2.50 @ 2.75
do, Rivers \$2.50 @ 2.85
do, Sweet, Dew, lb. 3½ @ 4c
Onions, Brown \$4.00 @ 4.25
do, Yellow \$3.25 @ 3.75
do, Green, Alameda \$1.00 @ 1.25
Garlic 20 @ 22c

BEANS.

The bean market showed little activity this week. Bayos advanced 25 cents. There are none but Garbanzos on the market at present.

Variety Old crop New crop
Bayos \$6.50 @ 6.75 7.25 @ 7.50
Blackeyes \$5.75 @ 6.00 6.00 @ 6.15
Cranberry \$6.00 @ 6.25 7.25 @ 7.75
Pinks \$5.50 @ 5.75 5.75 @ 5.90
Red Mexican \$5.00 @ 5.75 5.50 @ 5.90
Tepary \$2.50 @ 2.75
Garbanzos 9.50 @ 10.00
Large Whites \$5.25 @ 5.50 5.50 @ 5.75
Small Whites \$6.00 @ 6.25 6.00 @ 6.25
Limas \$14.50
do, Baby 13.00

POULTRY.

There were some advances in the price of broilers and some slight recessions in fryers. Turkeys have shown some decline, due to heavy receipts. However, prices were well maintained on the large fancy stock. Some packers and speculators declare that the price of turkeys is too high. Whether or not turkeys will be lower at Thanksgiving time is an open question. With Christmas only four weeks after Thanksgiving and the opportunity to sell for storage a month or so after Christmas, it is rash to predict low prices for Thanksgiving. The price will probably be what the people are willing to pay.

Broilers, 1½ lbs. under 45 @ 47c
do, 2 to 3 lbs. 35 @ 37c
Fryers, 2 to 3 lbs. 82 @ 33c
Hens, extra, per lb. 34 @ 35c
do, Leghorns 30 @ 33c
Smooth young roosters, per lb. (3 lbs. and over) 30 @ 32c
Old Roosters, colored, per lb. 22c
Turkeys, dressed, young spring, lb. 46 @ 48c

Special Livestock Market Report

San Francisco, Nov. 12, 1919.

CATTLE—The cattle market is stiffening up, with indications of higher prices in the near future on well-finished stock. Buyers are finding it increasingly difficult to obtain really prime stuff. Quotations remain unchanged this week.

Steers, No. 1, 1000-1200 lbs. 10½ @ 11c
do, No. 1, 1200-1400 lbs. 10 @ 10½c
do, 2nd quality 8½ @ 9c
do, thin 6½ @ 7½c
Cows and Heifers, No. 1 8½ @ 9c
do, 2nd quality 7 @ 7½c
do, thin 4½ @ 6c
Bulls and Stags, good 5½ @ 6½c
do, Fair 4½ @ 5½c
do, Thin 3½ @ 4½c
Calves, lightweight 11c
do, medium 10c
do, heavy 8 @ 9c

SHEEP—While there has been for some time past a free supply of live sheep and lambs, the run is now backing up a little, and while the market is fairly steady there is a prospect of an early rise in prices. No change this week.

Lambs, yearling 10c
do, milk 12 @ 12½c
Sheep, wethers 9 @ 9½c
do, ewes 8½ @ 7c

HOGS—Hogs experienced a sudden jump this week of 1½ to 2c in price, resulting principally from limited offerings and a sharper demand. Receipts could be much heavier without congesting the market. A rise all along the line is noted:

Hogs, hard, grain-fed, 100 to 150 lbs. 15½c
do, 150 to 225 lbs. 16c
do, 225 to 300 lbs. 15½c
do, 300 to 400 14½c

Los Angeles, Nov. 11, 1919.

CATTLE—Steers ready and in good demand. Cows dull. All prices the same as last week. Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 @ 1100 lbs. \$9.50 @ 11.00
Prime cows and heifers \$8.00 @ 9.00
Good cows and heifers \$7.50 @ 8.00
Canners \$5.00 @ 5.50

HOGS—This market advances in sympathy

with Eastern markets. Receipts fair and good demand.

Per cwt. f. o. b. Los Angeles:
Heavy average 275 @ 350 lbs. \$10.00 @ 11.50
Light \$13.00 @ 15.00
Heavy average 225 @ 275 lbs. \$12.00 @ 13.00
Rough docked 20 lbs. piggy sows 40 lbs. and stage, 40 per cent.

SHEEP—Sheep and lambs selling fairly, and receipts fair. Prices unchanged.

Prime wethers \$8.50 @ 9.50
Yearlings \$8.50 @ 9.50
Prime ewes \$8.00 @ 8.50
Lambs \$12.50 @ 13.50

PORTLAND LIVESTOCK.

Portland, Ore., Nov. 11, 1919.

CATTLE—Cattle are steady; no receipts. Steers, best, \$9.50 @ 10.50; good to choice, \$9 @ 9.50; medium to good, \$8 @ 9; fair to good, \$7 @ 8; common to fair, \$5.50 @ 6.50; good to choice cows and heifers, \$7.50 @ 8.50; medium to good, \$6.50 @ 7.50; fair to medium, \$5.50 @ 6.50; canners, \$5.50 @ 6.50; bulls, \$4.75 @ 5.75; prime light calves, \$12.50 @ 14; heavy calves, \$7 @ 12.50; stockers and feeders, \$7.50 @ 9.25.

HOGS—Steady; no receipts. Prime mixed, \$15.50 @ 16; medium, \$14.50 @ 15.50; rough heavies, \$13.50 @ 14; pigs, \$14 @ 15.

SHEEP—Steady; no receipts. Eastern lambs, \$11 @ 12; valley, \$10.50 @ 11; feeders, \$8 @ 9; yearlings, \$7.50 @ 9; wethers, \$7.50 @ 8.50; ewes, \$5 @ 6.50.

EASTERN.

Chicago, Nov. 11, 1919.

HOGS—Receipts, 53,000; closing 25c to 40c lower; bulk, \$14.75 @ 15; top, early, \$15.35; heavy, \$14.75 @ 15; medium, \$14.75 @ 15.10; light, \$14.50 @ 15; pigs, \$14.25 @ 14.75.

CATTLE—Receipts, 15,000; strong, choice heavy steers, \$18 @ 20; medium, \$11 @ 18; common, \$8.75 @ 11; choice lights, \$14.50 @ 19.75; common, \$8 @ 14.50; butcher heifers, \$6.75 @ 14.75; cows, \$6.65 @ 13.25; canners, \$5.75 @ 6.65; calves, \$17.50 @ 18.50; feeders, \$7.25 @ 13; stockers, \$6.25 @ 10.25.

SHEEP—Receipts, 25,000; firm; lambs, \$12 @ 14.75; culls, \$8.50 @ 11.75; choice ewes, \$8.75 @ 8.25; culls, \$3 @ 6.50.

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

On account of a large proportion of the offerings during the last week showing the effects of frost and of being overripe, prices were somewhat easier than the week previous, though the demand was by no means lessened; and we are advised that the bulk of the offerings which were considered unfit for consumption were readily bought by the wine manufacturers. Shipments have practically discontinued, except from a few districts, and we look for the season to close in about ten days.

Averages for the week:

NEW YORK—Malaga Grapes, \$2.41; Cornichon, \$2.33; Tokays, \$2.00; Emperors, \$2.10; Alicante Bouschet, \$2.71; Mission, \$2.07; Zinfandel, \$2.09; Muscat, \$1.41; B. Clairvau Pears, \$3.55; Winter Nels, \$3.70; Glout Moreau, \$3.60; Winter Seckel, \$2.60; E. Beurre, \$3.28; Comice, \$3.64.
HOSTON—Tokays, \$1.73; Malagas, \$1.15; Cornichon, \$2.03; Emperors, \$2.23; Almeria, \$2.40; Zinfandel, \$1.97; B. Clairvau, \$5.00.
CHICAGO—Cornichon, \$2.31; Emperors, \$2.21; Malagas, \$2.41; Tokays, \$1.95; Mission, \$1.90.

do, live 38 @ 40c
Geese, young, per lb. 28 @ 30c
do, old, per lb. 22 @ 23c
Squabs, per lb. 60 @ 65c
Ducks, young 28 @ 30c
do, old, per lb. 25 @ 27c
Belgian hares 10 @ 18c
Jack rabbits \$2.50 @ 3.50

BUTTER.

Butter moves slowly upward. Last week a half-cent over the close and closed at a gain of one cent for the week. The market is very firm, both here and in the East. The local exchange closed on Armistice Day, Nov. 11.

Thurs. Fri. Sat. Mon. Tu. Wed.

Extra 64 64½ 64 65 65

EGGS.

Extras this week closed at a level 3 cents below the previous week. The first drop came on Saturday and further weakness developed both Monday and today. Decreased consumption of the high-priced extras had something to do with the slump. The rapid advance with practically no recession in price was another element of weakness when the first break occurred. It is not generally believed that they will maintain their present or a lower price in the face of the eastern demand and the natural shortage of supply at this season of the year. Pullets followed the lead of extras, although the decrease was less; while undersized resisted the lower price and showed an advance until pullets sold at only slightly more than undersized. It shows that people are turning to the cheaper-priced eggs.

Thurs. Fri. Sat. Mon. Tu. Wed.
Extras 83 83 80 78½ 78½
Dirties, No. 1 78½ 78½ 78½
Ex. pullets 63½ 65½ 65½ 64 61
Undersized 60½ 62 62½ 62½ 60

CHEESE.

The California fancy flats and Firsts of that description were a half a cent higher this week. Demand is light for all grades. California Flats, fancy 31½c
do, Firsts 27c
Y. A. Fancy 33½c
Oregon Triplet 30½c
do, Y. A. 33c

FRESH FRUITS.

Apples are the favorite fruit on the market with but slight changes in prices. The Oregon product was somewhat cheaper and Pippens were somewhat higher. Raspberries were unchanged for the best, and the lack of inferior berries made the range of prices less than last week.

Apples, Jonathan \$1.25 @ 2.25
do, Spitzenberg \$1.50 @ 2.00
do, Bellflower \$1.75 @ 2.00
do, Pippins \$2.25
do, Oregon \$2.50 @ 3.25
Quinces \$1.00 @ 1.50
Pears \$2.00 @ 4.00
Strawberries \$15.00 @ 18.00
Raspberries \$11.00 @ 13.00
Grapes \$1.50 @ 2.00
Figs \$1.50 @ 1.50

CITRUS FRUITS.

Prices of citrus fruits are lower. Lemons and grapefruit are 50 cents lower for the best, and a dollar for other varieties. Tangerines sell at \$3.
Oranges, Valencia \$4.50 @ 5.50
Grapefruit \$3.50 @ 4.50
Lemons, fancy \$6.50 @ 7.00
do, choice \$5.50 @ 6.00
do, standard \$4.50 @ 5.00
Tangerines \$3.90

DRIED FRUITS.

The dried fruit market is not active, although demand continues excellent. Quotations on apples were raised a cent a pound.
Apples 15 @ 18c
Pears 16 @ 18½c
Apricots 21 @ 28c
Prunes 11 @ 13c
Figs, Adriatic 12 @ 16c
do, Calmyrna 15 @ 21c

HONEY.

Some demand for the cheaper grades of honey is developing, but the higher priced grades are moving sluggishly.

Water White 18 @ 20c
Light Amber (Mountain) 16 @ 18c
do (Alfalfa) 14 @ 16c

RICE.

There were no changes in the rice situation this week.

WOOL.

At the recent auction sales of Australian wool in London, American interests were large buyers, the finer grades being in strongest demand. There is now on the Boston market a large quantity of California short wool in the grease, for which there is a limited demand only, while manufacturers are calling loudly for the long-fibred product of Australian sheep ranges. There is not enough trading done in local wool circles to form the basis of a price quotation.

HIDES.

The hide market is weakening, and prices are receding slightly.
No. 1 wet salt kip, 15 to 30 lbs. 40c; No. 2, do. 38c; No. 1 wet salt calf, trimmed, 70c; do, untrimmed, 64c; No. 2 calf, 2c per lb. less.
Wet Salted Horse skin \$1.00 @ 1.50
Wet Salted Horse Hides are quoted as follows: No. 1 large, skinned to hoof, \$7 @ 10; do, medium, \$4 @ 6; do, small, \$1 @ 3.50; do, colts, 50c @ \$1.

LOS ANGELES.

Los Angeles, Nov. 11, 1919.

BUTTER.

This market is up again, showing an advance of 2c since last week's report. The demand is also heavy and receipts higher than a week ago. For the week, 392,800 lbs.

Fresh, California, extra creamery 66c
do, prime first 64c
do, first 63c

EGGS.

Eggs show quite an advance over last week, but receipts are lighter. The demand, however, continues good. Shipments for the week, 519 cases.
Fresh ranch, extras 70c
do, case count 74c
do, pullets 65c

POULTRY.

Receipts are lighter. Broilers reported to be in good demand, and prices firmer. Fryers steady and slow of sale. Heavy hens in good

demand but light hens dull. Turkeys and ducks are selling fairly well, but geese dull. Broilers, 1 to 1½ lbs.43c
Broilers, 1½ to 1¾ lbs.43c
Pullets, 2 to 3 lbs.32c
Roosters (soft bone), 3 lbs. and up.30c
Stags and old roosters, per lb.19c
Turkeys35@37c
Hens32@33c
Ducks25@30c
Geese27c

FRESH VEGETABLES.

All good fresh vegetables are in demand and higher prices were obtained this week for most of the offerings. Receipts are good. Potatoes, Northern Burbanks\$2.85@3.00
do, Idaho Russets, cwt.\$2.80@2.90
Sweet Potatoes\$1.75@2.00
Onions, Stockton, yellows, cwt.\$4.00@4.25
do, White Globe, cwt.\$3.60@3.75
Cabbage, per 100 lbs.\$1.25@1.50
Lettuce, crate\$2.00@2.25
Rhubarb, per 30-lb. box75c@1.25
Summer squash, lug60@70c
Peas, per lb.12@14c
Kentucky Wonders14@15c
String Beans, wax14@15c
do, Green13@14c
Tomatoes, lug box85@90c
Lima Beans, local, lb.8@8½c
Cucumbers, local, lug box\$1.75@2.25
Watermelons75c@1.00
Peppers, Bell, lb.6@6½c
Casabas, lb.1@1½c
Celery, crate\$3.50@3.75
Cauliflower, crate\$2.00@2.25

FRUITS.

Offerings the past week have been lighter. Prices are slightly higher but demand is holding up well. Grapes, Malaga, lb.7@8c
do, Tokays7@8c
Pears, Bartlett, lb.6@9c
Japanese Persimmons, lb.4@10c
Apples—Bellfleurs, 4 tier\$1.80@1.85

Westroba
442-444 Sansome St.
San Francisco, Cal.

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These tires are all new, fresh goods and NOT retreaded or so-called rebuilt tires.

	Plain Tread Seconds Guaranteed	First Non-Skid Standard Guaranteed	Tubes Gray
28x3		\$10.75	\$2.05
30x3	\$9.20	10.95	2.05
30x3½	11.50	13.50	2.50
32x3½	12.85	15.85	2.70
31x4	16.30	20.65	3.15
32x4	16.60	21.15	3.25
33x4	17.30	22.00	3.35
34x4	17.80	22.50	3.45
36x4		26.60	
34x4½	24.00	30.35	4.20
35x4½	25.00	31.65	4.30
36x4½	25.45	32.20	4.45
37x4½		35.75	5.10
35x5	28.70	36.15	5.25
37x5	30.25	38.30	5.40

All other sizes in proportion.

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30x3\$ 9.25	34x4\$19.90
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31x418.15	36x4½27.00
32x418.55	35x531.25
33x419.45	37x533.20

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Largest in the World.

Open Sundays and Evenings

do, Jonathan, packed box\$2.75@3.00
do, Red Permain, packed box\$1.70
do, White Permain, packed box \$1.75@1.80
do, Yellow Newtown Pippins, pld box \$1.75
do, Spitzenburg, packed box. \$3.00@3.25

BEANS.

This market is dull for all varieties. All prices same as last week. The only demand felt is local.

Limas, per cwt.\$12.00
Large white, per cwt.\$8.25
Small white, per cwt.\$6.50
Blackeyes, per cwt.\$5.00@5.25
Tepary, per cwt.\$3.00@3.25
Pink, per cwt.\$6.25

HAY.

Alfalfa hay in fair demand but grain hay is dull. No change in price.

F. O. B. Los Angeles.
Barley hay, ton\$22.00@25.00
Oat hay, ton\$24.00@26.00
Alfalfa Northern, ton\$24.00@25.00
Alfalfa local, ton\$25.00@27.00
Straw\$10.00@12.00

Market Comment

Are Raisin Prices Too High?

The controversy begun last September between the California Associated Raisin Company and the National Wholesale Grocers' Association, when the latter body instigated the Federal Trade Commission to institute an inquiry into the increased prices fixed for the 1919 raisin crop, is about to come to a head. Representatives of these clashing interests are proceeding to Washington this week to attend the hearings set for November 20. The fact that the entire raisin crop is practically sold out so early in the selling season would seem to indicate that the price set is not too high, under the law of supply and demand, which in the last analysis must regulate the selling price of any commodity. The greatly increased cost of production and comparison with the rising price on other commodities, more especially in the dried fruit line, would seem to bear out the conclusion that this year's raisin prices are not excessive, do not savor of profiteering, and do not stimulate a tendency to overproduction, as charged. To an onlooker it would appear that the grocer combine is merely disgruntled at a threatened curtailment of its profiteering activities.

Taboo Our Condensed Milk.

There is a keenly felt shortage of natural milk in Great Britain at the present time, the retail price of which has been fixed at 24c a quart for the winter months. (And we here in San Francisco wonder what we have to complain about when we read this statement!) Nevertheless, our American evaporated milk is not in favor there, owing to its lack of keeping qualities after the container has been opened, and it finds but little sale.

Wheat to Sell at Cost Plus—

With a view to restraining speculative advances in wheat prices and to supply millers with wheat at reasonable figures, the United States Grain Corporation will sell its winter wheat to millers at cost price plus 7 cents over for wheat in elevators and 8 cents over free on board to millers in milling zone number two, and, it is understood, that other milling zones will have the same privilege. This information comes from Chicago.

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Woolly Podded Vetch

adds free nitrogen to the soil equivalent, on the average, to 1000 pounds of nitrate of soda to the acre.

Woolly Podded Vetch is a purple-flowered winter vetch. It grows luxuriantly and covers the ground thoroughly affording ample body for green manure. It should be planted after the first fall rains—60 to 70 pounds to the acre.

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Apricot Season Quite Satisfactory.

H. C. Dunlap, manager of the California Prune and Apricot Growers, says that this year the prices on apri-

cots on the average quality of deliveries will net growers up to 25c a pound. An early clean-up of the crop is expected.

Put it up to your hens!

SAY what you will, the final test of a feed is: *does it make your hens lay?* If it does that—if it makes your hens produce eggs and more eggs—and *keeps them in fine condition all the while*—then, it's a good feed.

Regularity in feeding is important, of course. But, even more important, is *uniformity* in feeding. With hand-mixed feeds you can never be sure that one batch is like another. No matter how careful you are, no matter how sure you *think* you are, you can't run away from the fact that it's *guess-work* at the best.

That's why thousands of successful poultrymen have turned to Sperry Surelay. They have found in Surelay a simple and *economical* solution of their feeding problem. They know that Surelay is not only right but *always* right—always the same. Our daily laboratory tests (something the hand-mixer does not, and can not have) assure absolute uniformity at all times.

Surelay is worked out in accordance with a *practical*, scientific formula that has stood the test of time. It is so blended

as to provide just the right amount of *protein* for the white of the egg—just the right amount of *fat* for the yolk. It contains *fourteen* distinct ingredients that every hen in your flock needs to make her a profit-producer.

Moreover, our large scale of production enables us to manufacture and *sell* the finished product lower than the average feeder can *buy* the ingredients—to say *nothing* of the cost and trouble of mixing.

After all, all we ask you to do is to put the egg-production question squarely up to your hens. Feed them Sperry Surelay—and judge its value by what the hens do for you. Let the substantial figures on your Egg Record prove to you the wisdom of using this *uniform*, dependable feed.

If you haven't a copy of our hand-book, "Makes Hens Happy" you ought to have it. For, it contains some mighty practical hints about poultry-raising and some mighty good profit-pointers. A copy is yours for the asking—simply fill in the coupon and mail today!

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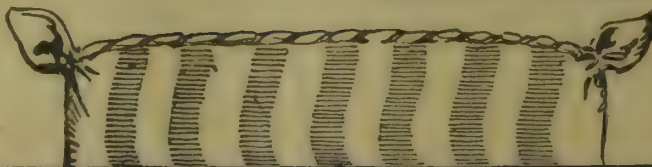
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THE PACIFIC RURAL PRESS

SAN FRANCISCO

NOVEMBER 22, 1919.

LOS ANGELES

Examples of Dairy Production Supreme

Written for Pacific Rural Press by Thos. F. McConnell.

IT IS NOT so very many years ago that when a dairyman started out to buy cows, he was really in the dark as to what he was buying. He had to depend largely on his own judgment as to the merit of the animals he secured, as the man from whom he bought might tell him what he thought the cows would produce, but he was really as much in the dark as the buyer. Ninety-nine per cent of the production of dairy cows was a matter of guess-work and in a majority of cases the guess was wrong. Then came the invention of the Babcock test. This really simple method has revolutionized dairying. By weighing the milk from the cows and testing it by the Babcock method, we have a certain criterion by which to judge the worth of the animals. This has made it possible to know exactly what the individual cows in each herd are doing and out of this has arisen much competition among dairymen.

What Is the Best Cow?

Each and every progressive dairyman wants to possess the best cow in the State, in the United States, and in the world. There was a difference of

world-record cow for the combined production of milk and butter, owned by A. W. Morris & Sons Corporation of Woodland. She early gave promise of being a great producer, for at 2 years and 6 months she had completed a yearly record of 14,837.2 pounds of milk and 556.2 pounds of butter. At 3 years and 5 months she had produced 21,421.3 pounds milk and 841.22 pounds butter for the second year. The third year, or when she was 5 years and 1 month old, she had 30,451.4 pounds of milk and 1,189.03 pounds of butter as her yearly record. The following year she did not produce quite so much milk, falling back to 29,826.6 pounds of milk, but 1,190.46 pounds of butter resulted, which was slightly more than the previous year. The succeeding year she went back to 26,814.6 pounds of milk and 1,042.20 pounds of butter. The next lactation period, however, was the banner one, for she produced 33,425.3 pounds of milk and 1,323.02 pounds of butter in one year. She was 9 years and 2 months old when she completed this record. She is still keeping up the good work, as she has given 18,370 pounds of milk in 204 days, which yielded 700 pounds of butter.



Three Thirty-Thousand Pound Cows at the California International Live Stock Exposition, 1919. At the left: Ormsby Segis Marie, owned by Toyon Farms Assn., Los Altos. In the center: Raphaella Johanna Aaggie 3rd, owned by Napa State Hospital, Napa. At the right: Tilly Alcartra owned by A. W. Morris & Sons Corp., Woodland.

opinion among dairymen, however, as to what really constituted the best cow, after all. Many thought that the highest producer for one day was all that was needed, or at least a 7-day record was really all that was necessary to tell the story. Others thought it best to continue the test for as long a time as 30 days, but some insisted that the real test of a good cow was what a cow would produce in milk and butter both for at least one year, and from the practical side of the question the cow should be carrying a calf for at least 6 months of the year.

The one-day advocate soon disappeared, but the 7-day and 30-day period men are still to be found in abundance. Certain developments in the 7- and 30-day tests lately have emphasized the practicability of the so-called "long distance" records, and emphasized their real value as to the worth of an animal or a breed.

Three Wonderful Milk Producers.

The picture on this page is of three of the greatest "long distance" record Holstein-Friesian cows in the world ever gotten together at one live-stock show. They are a product of modern methods of breeding, feeding and testing, combined with our wonderful climate that makes maximum production possible the whole year round. The advantage is not only in the climatic influence on the animals, but the possibility of having the most palatable, digestible feeds at all seasons of the year as well.

The best-known of the three great cows shown is Tilly Alcartra, the

The total production for 6 years, exclusive of the last amounts mentioned, is 156,776.4 pounds of milk and 6,142.13 pounds of butter—over 78 tons of milk and 3 tons of butter. Certainly a wonderful milk machine and a great demonstration of what feeding, weighing and testing will do.

Ormsby Segis Marie, owned by the Toyon Farms Association of Los Altos, is a great cow, both in conformation and performance. At five years of age she made a record that places her in the list of great "long distance" performers—30,249.9 pounds of milk and 1,179.83 pounds of butter in one year is practically the same record as Tilly Alcartra at this age, and we can safely say that this cow will be heard from in future years.

The third member of this great trio is Raphaella Johanna Aaggie 3rd, owned by the Napa State Hospital, that under a strictly official yearly test produced 30,641.2 pounds of milk in 365 days. The greatest production in one day was 137.6 pounds or 16 gallons; 930 pounds or 108 gallons in 7 days, and 3,792.4 pounds or 441 gallons in 30 days. It may be stated also that this great milk machine gave over 100 pounds of milk per day for 200 days.

Proper environment, as stated above, is an absolute necessity for such "long distance" production, and while it is possible to carry out the 7- and 30-day tests, attaining maximum results in almost any section, it is easy to carry out the yearly records in California under the most equable conditions regarding both feed and climate of any place in North America.

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EDITORIAL.

OUTLOOK OF FRUIT INDUSTRIES.

WE LIFT our eyes and pencils this week from the activities of the range and the pasture lot, the show-rings, barns and breedings pens, the creameries and packing establishments and the other environments of the animal industries, to the orchards, vineyards, packing houses, association headquarters and general outlook of the fruit industries. It is the glory of California that all these things are so great and inspiring of great thoughts to the industrial student, and it is the great joy of them to the industrial writer that he can turn his glance from side to side, as his publications succeed each other in unending series, and always descry visions which enwrap his attention and enable him to push a pencil with eagerness and enthusiasm. It is the surety of the coming greatness of California that the skies not only welcome to rest and recreation all those who have earned the right to dolce far niente, but the skies above and the earth beneath unite to open opportunities to those who seek recuperation and strength in action, investment, enterprise in all lines of industrial production and in world-trade in the outputs thereof. In natural endowments for production and in geographical situation for greatness in finance, manufacturing and commerce California stands without a rival in breadth, diversity and uniqueness and the recognition of these facts was never so widespread and has never prompted such eagerness on the part of those who are and those who would be Californians as at this moment.

THE WORLD NEEDS OUR FRUITS.

Various pages of this issue are given to current issues, methods and accomplishments in our fruit industries on the basis of transactions and suggestions of the great assemblies at Chico last week. In all our observation during almost half a century of its development from the period of experiment to the period of achievements which qualify our fruit industries to lead all the states and countries of the world, there has never been such confidence in the soundness of the foundations of these industries and in the opportunities for their expansion, as is now manifested. And though this is leading to all kinds of enterprises, some of which may prove illusory, as is the way with all popular rushes into particular enterprises, the general fact remains that the world needs fruits, and California has the early start, the maturity of research and of experimental knowledge and the inventive achievement in production and distribution, which now underlie leadership and guarantee continued possession of it. Such was the spirit which illumined all the assemblies at Chico and prompted most confident expectation and resolution for increasing effort. We need not now cite the facts and foresights by which Californians exhort each other. They are our current promotive materials, which are disclosed whenever a fact of new achievement in production, in co-operative attainment, in sale and distribution, or in scientific research which dictates better methods of operation, is announced. It

is our weekly privilege to proclaim such facts. Apart from these, and supportive of them, was the declaration of Dr. W. T. Swingle at one of the meetings. Dr. Swingle is the country's greatest globe-trotter in the realm of horticultural science. He has served the United States Department of Agriculture for more than twenty years as explorer in all parts of the world, and has given close scrutiny not only into what American states and foreign countries have, but what they lack, and it is his judgment that the world is meagerly supplied with fruits and fruit products and will absorb everything good which can be successfully carried, in fresh or preserved form, of the fruits which our soils and climate are capable of producing. It is his careful judgment that in a few years we shall be not only delivering our fruits, which are now great, not only in vastly larger production, but will be shipping trainloads of some fruits which are now rather small, like figs and dates, in as large volume as we are now sending peaches, prunes, oranges and grapes. Dr. Swingle can see no chance whatever of over-production of the unique fruits to which this state is adapted if we proceed progressively in the distribution of such products as we have during the last few years. One only has to see how little of such fruits the world really has and how eager the world is to have them at such prices as we are able to profitably produce them to invite general consumption.

HOW SHALL WE GET BETTER FRUITS?

On another page are given some details of an undertaking projected by the California nurserymen to insure the production of trees which shall not only be true to their names and types, but shall be the best of their types. Out of respect to the prejudices of many planters that nurserymen are men born and reared without ethical elements, we have announced their conversion to moral sense and repentance of past transgressions by the declaration that henceforward "they will try to be good." Perhaps they have not hitherto always been as careful as they should have been and perhaps there have been bad nurserymen just as there are other bad people—but all that does not matter now; they are now on the anxious seat and propose to bring forth fruits meet for repentance. And so we say: "Welcome, brothers, to the household of faith; get the buds of higher types of morals into your stiff necks and grow your roots clean of the knots of deceit and your rise to the heaven of industrial trust and honor will be sure!" But there is more in the proposition than trying to sell the planter what he expects to get; it aims to furnish him things which are better than he has ordinary reason to expect, because it will be better than he usually knows. It really looks as though the resolution of the nurserymen to get together and propagate only from trees authoritatively and disinterestedly declared by experts to be the best and most productive of their kinds, is the most fundamental movement toward realizing the production of better fruit that can be conceived of. Scientific determination of which are best and most productive is a fundamental fact, of course, but fundamental movement must come from those who are growing trees for planting. We are quite in sympathy with the declaration of the new president of the association, J. E. Bergtholdt of Newcastle: "I dare say that in five or ten years the most important event that took place in this convention of fruit growers and farmers will be found to be the organization created by the nurserymen for the purpose of selection of the best and elimination of the bad in our fruit production."

We count the declaration of such intention and the procedure at once to realize action, as our report shows in another column, may really be the greatest offspring of the Chico convention.

THE LABOR QUESTION.

The discussion which was expected to strike most sparks in the meetings was the labor question involving the attitude toward the Japanese problem. The latter was thrown into the convention in the address of welcome by the mayor of Chico, and he urged strenuous action to check Japanese aggression. James Mills of Hamilton, who responded to the address of welcome, is credited with saying: "In recent years many farmers could not have har-

vested their crops without Japanese aid. The Japanese are here in many cases because we have failed to measure up to the responsibilities of the situation, and some solution will be found for the problem."

This temperate statement seemed to satisfy the convention, for the discussion was not pursued and the resolutions committee presented nothing on the subject. The Nurserymen's convention received a telegram from Senator Phelan suggesting that they call for a special session of the legislature to handle the Japanese problem, and that they declare a boycott against Japanese products. The nurserymen called for the extra session, but did not approve a boycott. On the last day of the main convention at Durham, Col. Irish made a strong defense of the Japanese as good farmers and moral beings—having higher standards of conduct than some white people—and contributing notably to the development of California. The audience heard Col. Irish with silence because of his personal popularity and esteem for him as a man, but they were not at all in harmony with his views as to the desirability of their presence in this state. An Australian prominent in public affairs of his country remarked subsequently in private conversation: "I find in the attitude of this convention toward such a speech as that of Col. Irish a remarkable instance of American toleration of which I have heard. His views and claims would cause an Australian audience to drive him from the platform." We are not sure that the Australian is quite right; he probably credits Americans with much more toleration than all their assemblies would manifest. Farmers are very tolerant and will listen silently to many things they do not approve, because they desire to be unjust to no man or thing. It is true, as Mr. Mills suggested, that many of our producing industries have no visible means of proceeding without them. Some farmers are strongly opposed to them; many more regard them as a necessary undesirability under present labor conditions, and a few consider them intrinsically desirable, as Col. Irish does. But probably all farmers desire to have them treated fairly and to dispose of the serious problem which their presence involves in lawful American ways, and not to attempt to solve it by industrial persecution. So far as one can judge by the attitudes of the various assemblies during the Chico convention, California farmers are, with practical unanimity, resolved upon building up this nation on Caucasian elements of population, and prefer to give employment to people of that race whenever they can be found in sufficient numbers and with the will to meet the requirements necessary to get the crops upon which depends their success as food producers.

FARMERS REFUSE CONFERENCE.

Samuel Gompers, the accomplished head of the American Federation of Labor, has fallen out with the ruling family in America—the Wilsons. President Wilson gave him only one finger in a handshake after Mr. Gompers endorsed the coal strike; Secretary of Labor Wilson gave him only two fingers, and declared that the strike must stop before arbitration could begin. And now Oliver Wilson, Master of the National Grange, refuses to even hook thumbs with him on his proposition that this great farmers' national assembly go into cahoots with the Labor Unions for the good of the two of them. And Oliver Wilson makes his reply somewhat emphatic, thus:

"The demand for shorter hours on the part of certain classes of labor is indefensible. On the contrary, more and harder work is the cure for many of the Nation's ills."

"One of the imperative necessities of today is to put emphasis upon the sacred rights of property as opposed to the wild orgy of radicalism, nationalization and anarchy, which are sweeping the land and threatening to destroy every industry, every farm and every home."

"I cannot, for my part, see that such an alliance as is proposed would be of any benefit to the Grange. On the contrary, there seems to be many reasons why we should shun any merger. However, that is a question which will have to be passed on by the Grange as a whole."

And the Grange did pass upon the proposition as a whole and passed upon it wholly also, for the assembly adopted by an overwhelming vote the following resolution:

"The National Grange declines your invitation for a conference in Washington December 13."

To explain the curtness of the resolution, it was

stated that discussion of reasons for refusal would open endless controversy and to attend the Washington meeting would be a tacit admission that there were mutual interests. And so the National Grange "cut off the dog's tail just back of the ears"—and farther comment is unnecessary.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Sweet, Sour and Bitter Clover.

To the Editor: Just what plants are meant by the terms, "sweet clover, sour clover, and bitter clover"? It is my understanding that melilotus alba (with white blossom, grown for stock feed) and melilotus indica (with yellow blossom, rather inedible but fine for cover crop) are both called "sweet clover," and the latter is also called very often, "sour clover" and sometimes "bitter clover." A neighbor, reading an article about cover crops, thought that sour clover meant bur clover, which I never knew had any other name but its scientific name.—W., Exeter.

You are exactly right. The white and yellow-flowered melilotus are both called "sweet clover" at the East because of their fragrance. But the yellow-flowered species there found is melilotus officinalis, while the yellow-flowered one we have most to do with in California is melilotus indica, and that has been given the names "sour" and "bitter" because of its taste. Bur clover has no such name and does not deserve to have. In fact, bur clover is not a melilotus at all, but is a medicago, and is therefore more closely related to alfalfa than to any of the melilotus, of which there are fifteen or more species scattered over the world.

Spring or Fall Plowing.

To the Editor: Which is the most beneficial—spring or fall plowing?—F., Biggs.

Neither is clearly superior under all circumstances and conditions. If you have land which is pretty well on edge in a place where rainfall is heavy and erosion dangerous, or if you wish to get all the natural cover crop which will grow, it is better not to plow in the fall, but let the weeds hold the land until they get to be as high as you can plow under and this will be late in the winter or early in the spring. On the other hand, if you wish to start a cover crop by sowing, it should be put in as early as practicable in the fall. Also, if your rainfall is not excessive and you wish to save run-off and get as much moisture into the ground as you can and there is no great danger from erosion—then again fall plowing and leaving the land rough is also best. And there are many other conditions and purposes which may make either fall or spring plowing superior on particular places, so there can really be no rule. It is up to every man to look and think closely and decide for himself which is better for his land. In a general way it may be said that fall plowing gets most moisture into soils which are disposed to yield run-off if left hard. It is also true that spring plowing, as a rule, is capable of losing considerable moisture by evaporation, which in many cases cannot be spared.

Looks Like Barley Hay.

To the Editor: I have about 20 acres of land which is gravelly on top of hard pan. It grows good grass in the spring, but it gets very dry in the summer. I thought to sow it in barley, or wheat. What do you think would be best to sow on it?—G. M., Baird.

It ought to give you barley hay—possibly grain if the moisture holds late. You must judge whether to cut for hay or hold for grain by the way the plant looks in the spring. There are some new barleys, like Mariout, which are showing superior drouth resistance, but we understand there is no seed to be had this year. Common barley will do to see whether you can get more from the land than winter pasturage.

Pears and Blight.

To the Editor: Are all varieties of pears equally susceptible to blight? If not what are some varieties that do not blight and what is their commercial value as compared with the Bartlett?—W. E. L., Dinuba.

Pears are not all equally susceptible to blight, but there is no blight-immune pear which is worth growing except as a root for the Bartlett and a few others which suit commercial purposes.

Farmers with Strike Feeling.

To the Editor: I am on a strike; the world does not realize it, but I am, just the same. I am sending you my subscription, but do you know that three-quarters of the farmers are quietly quitting on the output of food? The labor problem has driven them to it and before another year rolls around more of us will know that the farmer went on strike with other labor organizations. The fever is catching and when the farmer gets it, believe me, it is going to hurt somebody.—J. B. K., Wrights.

Yes, we know it, and are sorry for it, and we are doing our best to arouse the people to the fact that farmers must be better treated if the world is to be well fed. But "quietly quitting" is not a "strike." A strike is to quit loudly and try to break the head of anyone who chooses to go on with the job. Every man has a right to quit if for any reason sufficient to himself he decides he cannot go on. Striking is interfering with the rights of others to go on if they choose. Farmers will not do that: they are too individualistic and independent and like to have their own way too well to refuse the same right to others who are also individualistic and independent. Farmers may have to quit quietly and regretfully because they cannot go on, but they will never strike.

Elephant Grass.

To the Editor: I was recently given a half dozen roots of Elephant grass. Will you kindly tell me the treatment it requires, and something of its characteristics and value?—J. H., Campbell.

Plant out the roots wherever you desire them to grow—remembering that it is a very coarse-growing plant and is about as far from making what we ordinarily look for as a "growth of grass" as a fish-pole is from a tooth-pick. For this reason set the roots not less than three feet apart each way and let it go to a height of twelve feet or more if it finds moisture enough in the soil. The top growth is cut by the frost, but the roots are hardy. It is rather a browsing than a mowing plant and new growth soon starts all through the frostless season if the stock is taken off to give it a chance. They eat it down to a stubble several feet high and new growth starts from this stubble and by new shoots from the roots. It does not make running roots and can be easily chopped out if you get tired of it. It is of course a summer- and not a winter-feeding plant in most places. It is readily eaten by stock and is nutritious. Full discussions of the plant were given in the Rural Press of March 20 by Prof. Kennedy and of October 25 by Mr. Hodges.

Grafting Olives.

To the Editor: I wish you would kindly advise me if you think it would pay to graft the large olives on the little olive trees. I have trees of the small olives which are not very good. What time of the year do they graft trees?—Mrs. B., Volta.

You do not say what variety of olive you have, nor how small it actually is. If it is the "Ralding Picholine," which is about the size of a "large white" bean, you should either graft over the trees or grub them out. If your olives are the Mission (which is a small olive as compared with Sevillano or Ascolano), we would have the trees pruned and fertilized and irrigated so they will bring fruit of the full size of their kind and not have them grafted. If you decide to graft be sure to get a grafter who can show by his previous work that he knows how to do it. Olive grafting is best done about the time new growth is starting in the spring—in April, perhaps. It is done later than grafting of deciduous fruit trees.

Cure for Wormy Apples.

To the Editor: I have 75 apple trees. Sprayed them last December with Bordeaux Mixture, but the apples were still wormy. What is the right mixture, and when should I spray, and how often so as to kill them.—N. O., Antelope.

Bordeaux mixture is to kill fungi, not insects. Of course, some eggs might possibly be caught in it or some tiny hatchlings from the eggs might find it hard biting, but it is not at all dependable to protect your fruit from codlin worms. You should spray with lead arsenate (two pounds to 50 gallons of water), as soon as the petals begin falling from the blossoms; spray again in four weeks and perhaps once more, four weeks later. If this is well done with a force sprayer, which drives a fine spray into the clusters of young fruits and covers the leaves thoroughly, you ought to get nearly all your fruit free from worms.

Which Barley?

To the Editor: Please tell me through your paper which of the three following kinds of barley is the best yielder—common, Mariout, or beardless barley?—Subscriber, Porterville.

The Mariout (as shown in our issue of August 9 in detail) has considerably exceeded common barley in yield in interior situations under rather dry conditions. But this will not help you this year, for we understand that all the available seed was disposed of soon after the desirability of it was brought to the attention of our readers. The common barley is probably the best you can do, and that has been shown by many years of experience to be much better than beardless under average conditions, though some advocate the latter because of their liking for beardless hay, probably.

An Uncomfortable Guava.

To the Editor: I have a guava bush six years old that, while it looks healthy, grows very slowly and puts out fruit buds every spring which hold on several weeks and finally drop off without unfolding. What is the cause? It is in protected location in the southeast angle of the house.—C. J., Campbell.

When a plant makes slow growth and refuses to unfold blossoms, when moisture and soil conditions are favorable, such behavior is usually attributable to insufficiency of heat in the local climate. Even if you get a corner on the sunshine and it gets nearly to burning for a time, that does not compensate for the continued warmth which the plant may need through the whole day and night. There is much difference in guavas: some are quite hardy and others nearly tropical. You apparently have a kind which is not suited to its environment and there is probably no help for it.

Cleaning Tree Bark.

To the Editor: Am enclosing some species of moss found on my apricot trees. Please give me a formula for the best spray to use, and when is the best time to apply.—W. C. B., Santa Paula.

You send two species of lichens: one flat, the other branching and pendulous. Both are common on trees in the coast region and go under the general name of "moss." If that is all you have to spray for the simplest formula is one pound of caustic soda to six gallons of water—shot against the bark with force to secure penetration of the covering. If you have scales, either lime-sulphur or distillate emulsion will kill scales and moss also. The time for treatment is when the leaves are absent.

Almond Mites and Gum.

To the Editor: Our almond orchard has the white mites, and also shows some gum. Would it be best to spray this fall? If so, what is the best spray to use?—H. P. S., Durham.

To proceed intelligently you ought to know what causes the gumming. It may be that you have scales as well as mites, or the gumming may not be caused by pests at all and will not be helped by any spray; or it may be caused by a fungus blight. The best you can do to get the eggs of the mites and perhaps to head off a blight, will be to spray with lime-sulphur as soon as the leaves are down. For these troubles you must also be on the watch next spring and use the same spray in more dilute form.

Chickens and Almonds.

To the Editor: Is a young almond orchard, that is just beginning to bear, a good place for chicken pens?—J. B. W., Winton.

It is a better place for chickens than it is for chicken pens. The danger is in souring the soil by lack of aeration and by excess of manure in spots. If you move the pens frequently and keep up the cultivation and do not continue the practice too long it ought to be good for the trees.

CALIFORNIA WEATHER RECORD

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending November 17, 1919.

Stations—	Past Week	Seasonal To Date	Rainfall To Date	Temperature	
				Highest	Lowest
Eureka .....	.04	3.38	6.45	62	40
Red Bluff .....	.00	1.06	3.87	76	38
Sacramento .....	.00	.72	2.36	70	40
San Francisco .....	.00	.66	2.61	73	46
San Jose .....	.00	.57	1.98	76	34
Fresno .....	.00	.58	1.47	72	40
San Luis Obispo .....	.00	.54	2.49	88	36
Los Angeles .....	.90	1.85	1.46	88	48
San Diego .....	.00	1.31	.91	78	48
Winnemucca .....	.01	1.21	1.56	64	18
Reno .....	.00	.85	1.37	64	24
Tonopah .....	.00	1.06	2.55	60	30

Fruitgrowers and Farmers' Convention

(Written for Pacific Rural Press.)

Three Butte counties were en fete last week to welcome and speed the transactions of three State associations serving the fruit-growing interests. The towns were Chico, Oroville and Durham, and the conventions were of fruit growers and farmers, of county horticultural commissioners and of nurserymen. In fact, about all our agricultural industries participated in the events of last week, except the live stock specialties, and they had previously had their innings in connection with the live stock shows at Los Angeles and San Francisco, and the proceedings at their exhibitions and assemblies have been amply set forth in the Pacific Rural Press. To one who has participated in all these important events, both of the animal and of the orchard, vineyard and field, the impression comes that California agriculture is very much alive—and such was the verdict of several visiting farmers with whom the writer conversed at the conventions of last week.

The conventions in Butte county also demonstrated that the non-farming population of California is sincere and active in its good will toward our

farming interests. The Chico and Oroville Chambers of Commerce undertook the local arrangements for the meetings and neglected nothing which would contribute to the success of the assemblies and the comfort of individuals. The sessions were held in the auditorium and class rooms of the State Normal School at Chico, and the interested participation of the pupils in the transactions of the elders demonstrated that our youth is being brought up in the way it should go—toward proper appreciation of the facts of our agricultural operations and the spirit which actuates them.

The attendance at the groups of meetings held by each of the three conventions was very good and representative. The joint assemblies included at least five hundred; the hotels were overflowing with guests from all parts of the State and the leaf-strewn streets of the residence districts were filled with groups of ribboned strangers enjoying the autumn aspects of one of California's most beautiful towns, which mingles the old trees and buildings of the pioneers with the up-to-date creations of the newer residents who have ministered to great recent developments.

Striking Features.

It is not the writer's intention to undertake a detailed record of the proceedings, but rather to emphasize features which seem to be of general interest through our widely-scattered constituency. Of such we count the general success of the Chico sessions—as already indicated by the character of the preparations and the eagerness of interest in the proceedings. Many transactions of the general assembly, of the commissioners and of the nurserymen will be reserved for subsequent discussion in these columns.

Aside from the Chico specialties, the success of the day at Oroville, where the popular welcome to the visitors was most marked and cordial, was very significant—perhaps especially the participation by Mrs. Frieda Ehmann, who was hailed as "the inventor of the ripe olive," whose historical address was very interesting. Of course, Mrs. Ehmann was not the inventor of the ripe olive, but she surely began early and kept on until it stayed invented, and she is surely entitled to say these things about it:

"The ripe olive was looked at askance by dealers because 'it is as black as your hat.' Today the ripe olive is not a stranger. If you will keep the ball rolling we will have a great olive trade from one end of the globe to the other, and we won't stop until we can say that wherever there is a white, civilized person we will not have to apologize for the blackness of the ripe olive."

At the Oroville meetings there were talks bringing out many pertinent cultural points of which C. C. Teague's advice to citrus growers at Oroville is of very wide application. "From what I saw in one orchard," he said, "you do not yet understand fertilization. One grove I should immediately treat with ten tons of barnyard manure to the acre and next spring put on some good soluble organic fertilizer. The owner would immediately see wonderful improvement." This comment, if acted upon, will produce most desirable results.

At the Durham meeting, which closed the week, there was a very gratifying demonstration of the State work in colonization, which has been pointedly set forth in our columns by Mr. Hodges as observed by him during a recent visit and our readers are well informed of the purposes and methods involved.

The Convention Attacks Great Questions.

The first session of the general convention at Chico struck the keynote of many stirring transactions at later sessions, both at Oroville and Durham. It was the old and yet ever-young subject of co-operation among producers to secure whatever their industries need. Many of the most successful co-operative marketing and supply associations submitted up to date reports of their transactions and their lessons of experience. Some of these are presented on other pages of this issue and others will follow.

The central proposition on co-operation was that of State Director Hecke, which was presented in detail with comments in our last issue for an affiliation of all our associations in an executive board or committee which should represent and act for them on all matters requiring legislation or to educate the public mind. Mr. Hecke's proposition was enthusiastically taken up by the convention, and a temporary organization committee was appointed, of which C. C. Teague of Santa Paula, president of the Walnut Growers Association, is chairman. F. B. McKevitt of Sacramento will act as secretary during the organization period. This committee will extend an invitation to all co-operative associations to send delegates to a general meeting for organization, which will be held in San Francisco on December 12. It is expected that the finally constituted board or committee will select a qual-

ified executive secretary, establish offices, etc., and that funds will be provided by the affiliating societies pro-rated on the basis of the business done by them. Thus it now seems feasible to secure a representative correlated body to promote the executive agriculture of the State and to determine main directions in which State effort for agriculture shall be undertaken.

Nurserymen Will Try to Be Good.

The most notable thing of public interest in the transactions of the nurserymen was their sincere desire to conduct their business for the best promotion of fruit growing and the prosperity of tree planters. This was manifested by many representative speakers and the resulting question was as to how this can best be done. President W. T. Kirkman presented a plan for a co-operative organization, to be supported by both planters and nurserymen, to select the best trees of all kinds of fruit by an expert and staff engaged for that purpose, and to use in nursery propagation only such buds and scions as such expert shall designate as true to type and from trees of established thrift and productivity. A committee was appointed to organize for such effort and to provide a capitalization of \$100,000, to promote the work of such an organization and to provide a constitution and by-laws and a plan of work for it. The committee consists of J. E. Bergtholdt, Newcastle; George C. Roeding, Fresno; H. A. Hyde, Watsonville; Max J. Crow, Gilroy; J. E. Elmer, San Jose; J. S. Armstrong, Ontario; W. T. Kirkman, Fresno (ex officio.) The committee will proceed at once with the work.

This great enterprise started by President Kirkman will be energetically pushed by J. E. Bergtholdt of Newcastle, who was elected president of the Nurserymen's Association for the coming year. Other officers elected were H. A. Hyde of Watsonville, first vice-president; W. H. Wood of San Dimas, second vice-president; L. H. Elmer of San Jose, third vice-president; James Mills, Jr., of Hamilton City, fourth vice-president; George C. Roeding of Fresno, fifth vice-president, and Henry W. Kruckeberg of Los Angeles, secretary-treasurer. The board of directors for the coming year are: J. E. Merriweather of Ontario, chairman; R. M. Teague, Leonard Coates, W. T. Kirkman, Jr., and H. J. Shearer.

The County Commissioners.

The county horticultural commissioners, as usual, preceded the assembly of the general convention and occupied two days with careful discussion of their duties, which under the newer horticultural laws, are constantly increasing and becoming more exacting, both of technical knowledge and of executive ability. As a matter of fact, the county commissioners have become a body of highly qualified and proper-spirited public officers, whose work is greatly promoted by their annual assemblies for comparison of policies and methods. After their work in this line the association elected officers for the coming year as follows: G. R. Gorton, Commissioner of San Diego, president; A. A. Brock, Commissioner, Ventura, vice-president; Fred C. Brostius, Commissioner, Sacramento, secretary.

The association designated the following as the chief lines along which its work should proceed during the coming year: support to the Director of Agriculture; favoring pure seed legislation to prevent dissemination of noxious weed seeds; and asking the State Highway Commission to wage war on weeds and rodents existing along the State highways.

Recognizing this disposition of the horticultural commissioners to do progressive work, the general convention adopted a resolution advising that the compensation of county horticultural officers be advanced to cover the higher cost of living and to manifest fuller recognition of the value of such officers.



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"Here Jim—you deposit these checks while I run in here for more Hercules Dynamite."

"I tell you, it was a lucky day when Dad first started using explosives for tree planting. Half the checks in this book are for the crop from our young orchard and that orchard wouldn't be bearing for two years if we hadn't planted it with the help of

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"Every orchardist and farmer in the community should use dynamite to help him in his heavy work, and he would if he had read 'Progressive Cultivation.'"

"This book tells all about the uses of explosives for farm and orchard work. It gives explicit directions, illustrated by photographs and diagrams, for the proper use and handling of dynamite. This book will be sent free to any farmer or orchardist who will sign and send in the attached coupon."



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"THE use of Goodyear Cord Pneumatic Truck Tires on my truck has saved me a great deal of time and money. They are an economy all around in general farm work and livestock hauling—especially over farm land and rough, slippery country roads."—Mr. W. H. Duley, Livestock Farmer, Starks, Maine

THE photograph above was taken January 3rd, 1919, on the livestock farm of W. H. Duley, ten miles from Starks, Maine.

At that time Mr. Duley told us that he had been hauling on Goodyear Cord Pneumatic Truck Tires during weather that had stopped local solid-tired trucks.

The tractive Goodyear Cords had enabled his truck to overcome fierce road conditions

and, in addition, to pull solid-tired trucks out of mire and up stiff grades.

The easy-rolling Goodyear Cords had enabled his truck to average three and four trips to town per day, an amount of hauling which would have required three teams.

The cushioning Goodyear Cords had enabled his truck to deliver decidedly good mileage on gasoline and oil and to re-

main in excellent mechanical order despite the bad going.

On top of all this, the tough Goodyear Cords had outlasted neighbor's solid tires which wore down rapidly due to spinning in the gravel on the steep hills.

This latter performance particularly reflects that long pioneering work with which Goodyear has developed Goodyear Cord Pneumatic Truck Tires for very severe hauling duty.

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Shall Growers or Buyers Fix Prices?

(By Dr. F. M. Coleman, California Prune and Apricot Growers, Inc.)

The California Prune and Apricot Growers, Inc., will not handle the 1920 or 1921 crop of prunes and apricots unless 20,000 acres of prunes and 6,000 acres of apricots additional to those now controlled by the 8,000 members of the association shall have been signed up before expiration of the present contract, March 1.

This statement is contained in a resolution of the Board of Directors November 12. It is not expected that the association will go out of business; but it behooves all who have benefited by its existence to get busy convincing non-members that they ought to sign up. Organization Manager H. C. Dunlap states that there are 80,000 acres of prunes bearing now in California. He estimates that 14,000 acres are coming into bearing annually and that apricots are coming even more rapidly in proportion to their bearing acreage.

Where the buyers are many to one seller, the seller makes the price; and where the sellers are many to one buyer the buyer makes the price. The price maker always shades it to his advantage as far as he can, and in both cases the food grower, until recently, was not the one to fix the price.

During the ages there has grown up a vast system, which deals in the interchange of finished products. These traders are not producers, but distributors doing an important work between producers and consumers. Like all other workers they do business for their own gain, and exercise all their ability to make their profits maximum.

When profits of merchandising grow large, the numbers of merchants multiply and their struggle to enlarge their gain can succeed only as they can subtract from producers' price and add to consumers' cost.

The function of this merchandising class as distributors is quite necessary, but every unnecessary distributor who can be changed to a producer enlarges the sum of products, and lessens unnecessary tax in price between producer and consumer.

The modern movement in which growers organize, is to unite the function of distributors, at least partially, with that of producers (to keep the financial advantage of both functions as far as can be with the producing class). Not simply to add the profits of legitimate distribution to that of production, but mainly to prevent the system of distribution from destroying the legitimate profits of production.

Our claim is rather that the non-productive middlemen or merchandising class can and do so manipulate the business of distributing products as to take from the grower-producer the profit which rightly belongs to him, and add unnecessary cost to the consumer with which to swell merchant gains.

We do not hold any philanthropic brief to defend the consumer against excessive cost, and may admit frankly that our real desire to lessen cost to the consumer is all because of its reflex benefit to our end of the enterprise. We do not pretend that we desire to contribute a part of our possible profits to the consumer, but we do want to hinder the middleman's unnecessary tax on the consumer, because it hurts us by reducing consumption.

Individual Grower Is One of Many Sellers.

The average grower of any kind of food product provides but an infinitesimal fraction of the commercial whole. And the first commercial step is to accumulate many of these little fractions in bulk quantities of commercial size. Ten thousand growers sell each his handful to one of fifty accumulating middleman distributors. And just here is the fatally weak point in the growers' commercial relation to the old system. He must sell his handful to one with the power and purpose to pay the minimum. It is not the buyer's fault. It is his opportunity. Given power to fix the price it will be fixed in the fixer's favor.

Now note the essential difference in the conditions of co-operation. Each one of these ten thousand growers brings his tiny fraction—not to sell to an unfriendly buyer at the buyer's price—but to put it with all the rest into the hands of a friendly seller, who with control of the whole product, goes to the world's markets with power and purpose and price favorable to the producer.

The grower's sense of defenseless helplessness is changed to the consciousness of power to enforce his just claim to reasonable profit. He is asking nothing more for himself than he has always conceded to the seller of whom he buys—that is, the right to name the price of what he sells.

Certain Facts Are Accepted as Self-Evident.

Combination multiplies power.

Power's first profit is to its possessor.

Power's chief danger is not to its possessor.

Power can and should be used to correct evils and promote the greatest good to the greatest number.

Notice other facts. The only real criticism of growers' combination for co-operative marketing is that they may become dangerous monopolies. But all will admit that this assumed danger is not to the grower. But is there danger to any in this new power of growers' combinations? An unprejudiced analysis of all the facts involved proves conclusively that the growers' control of the market price of his product carries no threat of oppressing the consumer. For it is easy to show that the consumer's favor is the grower's salvation.

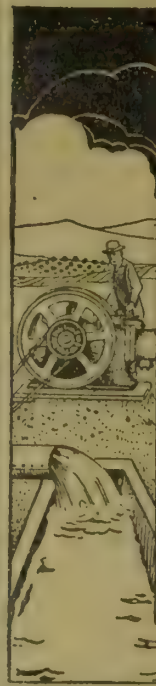
But if co-operative marketing adds to growers' profits without adding cost to consumer, who loses what the grower gains? Some way the middleman's gains must shrink as much as the growers' profits swell. We do not blame him for the deadly grip with which he holds to his ancient privilege; neither can he hope for much pity when the grower intelligently accepts his opportunity to take it away from him. Mankind in general will be the gainers when every superfluous non-producer is forced to join the ranks of useful production.

Organized co-operation is the only way to adequately protect and promote the growers' industry. To keep market demand equal to production is necessary in order to keep production profitable. And it requires as much intelligent effort to provide profitable market as to produce the product. The individual grower can develop production to its superlative degree without organized co-operation. But alone he is utterly helpless to improve marketing conditions.

Value of Expert Advertising.

Expert advertising is the best-known and most dependable means to increase consumption. And effective advertising is only possible when supported by the combined industry. Two hundred thousand tons of raisins are not heavily taxed to spend four hundred thousand dollars in advertising—about one per cent of present value. One per cent from the average grower would pay for about two lines in one of our journals of greatest circulation. New markets are usually won at very heavy selling expense, which no single individual can afford. But taxed to the whole industry the cost to each is light.

High grade quality helps to sell any commodity. And quality is determined in the articles' production. But one grower among ten thousand can not imagine any effect his little can have upon the whole. Its identity is entirely lost when mingled with all. Working alone, his best effort counts for nothing; and with no reputation to make or lose, in the general trade, he has no incentive to care. But when



Dependable Pumping Plants

When you install a pumping plant you want water—plenty of water—full-rated production and more, if possible. And that's what you get when you install

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These pumps produce the full guaranteed amount of water and they keep power bills down to a minimum! That's more than a claim—it's a guaranteed fact.

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PRUNE TREES THAT PRODUCE

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They excel all others. No other sprayer has features so far advanced in design as the Bean.

BEAN FEATURES MEAN:—

TIME SAVED
MORE EFFICIENT WORK
SPRAYING AT LESS COST
MINIMUM OF LABOR

Bean efficiency means better work and better fruit, as a result—more dollars.

Equip with a Bean—it's a thoroughly dependable outfit. A size for every need.

Ask for Catalog No. 33.

BEAN SPRAY PUMP CO.



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Send me your free Sprayer Book.
NAME.....
R. F. D.
TOWN.....
STATE.....
Fruit Grown.....
No. of acres.....

united with all others of his industry in a common purpose, with declaration from central authority that quality will pay and nothing else will pass, then he has sufficient inducement to produce quality goods.

The most outstanding trend of present industrialism is toward combination for increased class or collective power. Because of this must the lone individual lose his equality of opportunity. His best hope of industrial salvation is to join his class and

Meet Combination with Counter-Combination.

A method or attitude which met the need of past conditions will not satisfy the demand of present conditions. The successful marketing of our products can never be attained except by means derived through the power of great numbers of sellers combined into one seller who has power to name the prices which will move crops to consumption with the least waste en route.

A Man-Sized Job for Co-operators

(By President G. W. Pierce of California Almond Growers' Exchange.)

As a specific example of the accomplishments of co-operative action among producers we cite the case of the California Almond Growers' Exchange. In existence nine years, it has grown to a membership of thirty-two hundred. Annually, at date of price-setting, the books are closed to applicants for membership to participate in that season's sale. This year the desire to get in later has been so strong that more than two hundred late applications for membership have been received. While each year the several almond-growing sections are canvassed for members, there are always some who decline to become members. The fact that so many came in late this year would seem to indicate that late repentance is caused by unsatisfactory treatment at the hands of the speculator. This latter chap is just as unscrupulous today as twenty years ago. He is held in check today by the co-operative organizations. On each transaction he goes just as far as his tether will permit him. Along this line the organizations have done their part. They are still handicapped by the action of the outside grower; and the future complete success of co-operative selling, which really makes it possible to have anything to sell, must depend upon an educational campaign among independent sellers.

Bait for Outside Growers.

The great bulk of the almonds purchased outside of the Exchange are bought at prices that range from forty to eighty dollars per ton below the prices received by Exchange members for the same grade of almonds. A very few in each locality, late in the season, are paid extreme prices, as a bait to keep the rest in line for the next season's business. This season's experience is convincing many that they have long been imposed upon. They are turning to the Exchange to secure the justice that is denied them in the open market. Give the Exchange a one-hundred-per-cent organization and it will protect the California grower against even the cheapest imported product.

While the Exchange members are preparing in a substantial manner to take care of the almond business in all its branches, securing land, building warehouses, and installing modern machinery, while they are fostering national legislation looking to the benefit of our condition and fighting adverse measures, what is the outside grower doing for the business? While growing and harvesting a crop of almonds is the most important part of the business, it is far from all of it, and the annual expense incurred in trying to make this plain to all the growers is no small burden.

The independent seller, aside from his failure to co-operate, is a detriment to the business. He is a negative quantity that must be overcome by the efforts of some loyal producer before the latter can really begin to build up his organization.

Just what line of argument induces a grower to become so blind to his interests, it is difficult to surmise. In the early days of co-operative work, when the organization was not as strong financially as now, it could not pay growers as promptly as they are

paid at the present time. This fact was then worked threadbare as an inducement to remain outside. Now it has lost much of its effectiveness because of the practice of the Exchange in paying about fifty per cent of the value of the product on delivery. This is followed by other payments, at short intervals as the crop is moved.

New Move to Kill Co-operation.

We have retired the speculator. Let us now turn the light of day upon the petty grafter and make him a thing of the past in so far as the marketing of our produce is concerned. With a firm hand on the marketing end of our several lines we can free ourselves from the suspicion that now exists, that we are profiteers. That this suspicion exists, there is no doubt, and our apathy in the matter adds converts to the belief.

Within the last month a call was issued to the Mayors of 145 cities of the Pacific Coast, to convene in Sacramento with the avowed purpose of formulating a plan for boycotting certain farm products. These official representatives earnestly discussed and favored the enactment of such laws as would put every co-operative selling organization in the State out of business. They invited chaos. They even went so far as to petition Governor Stephens to convene the Legislature in special session for immediate action on the proposed measures. Had this scheme worked to a successful finish, what would it have meant to the producing classes?

At the Mayoralty gathering referred to, only two producers' organizations were represented, and that representation was accidental. It was proposed to close the market to three-quarters of a billion dollars' worth of annual farm products in California. Back of these enormous accumulations, representing the sole income and dependence of our entire farming population, came a mere chance defense. Luck, rather than foresight, saved the day. It so happened that our very able and active State Market Director, Col. Harris Weinstock, dropped in at the meeting. In his very forceful manner he did much to help defeat the pernicious measure.

This attempt to make us responsible for the sins of others has been temporarily tabled, but at the next session of the Legislature, if we mistake not, this measure will be revived with conditions more drastic, if possible, than those contained in the original. Are we, as representatives of the producers, going to be prepared at that time to make adequate defense? Can we afford to let so important a matter drift, to be taken care of by chance defence?

Beside this defence and possibly more, there will be much constructive work needed at each recurring session of the Legislature. To successfully meet this we should have a central representative body, composed of delegates from each organization connected in any way with the production, handling or marketing of California-grown food products. The findings of this body should be cared for, and our interests furthered by one or more persons skilled in Legislative procedure.

Learn from Union Labor.

It is a trite saying that the farmer does not realize his strength. Co-operative methods are fast revealing the secret. It is now on the tongue of every progressive farmer. The power and possibilities revealed to date are greater than the most enthusiastic had ever anticipated. We cannot

justly take unto ourselves, however, the credit for having solved the problem. Union Labor did that, and applied the newly gained information, for its own benefit, in so vigorous a manner, that in self-defence we have been compelled to adapt the formula.

Union labor, our instructor, is burdened by the possibilities revealed. It cannot judiciously use the vast fund at its disposal. But this is no cause for wonderment. Suddenly acquired riches are frequently mispent. The child does not overeat confectionery because it wants to be sick, but because it likes the candy.

The attempt to openly defy our government, now being tried, by Union labor, is ill-advised. Our instructor is showing us by example what we ought not to do. He is working out the proper status of this new govern-

mental factor. Experiments are frequently expensive and sometimes disastrous. Our position at this time is extremely fortunate. We have the same opportunities as those enjoyed by our instructor. We are in a position to get more out of them than is he. While he is placing warning signs at pitfalls and dangerous crossings, he has no more interested on-looker than the farmer. As certain as fate, we are going to use the power he is now developing.

While we are learning our capabilities, we must also learn our limitations. When the pioneering work is over, and all are compelled to recognize that ours is a government of right, not of might, we will file on as much of the newly developed power as may be necessary, not to oppress, but to protect.

[This is one of a series]

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After a big crop and long summer,
You would want a rest,
A rest from growth and insects.
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It will kill the various scale,--stop their damage,
Destroy the eggs of red spider and aphids,
Which would later mean millions of insects, and
Destruction to the crop--harm to the tree.

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Is an internationally used
Miscible oil spray, and these are reasons why
It has proved the best by years of test.

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Buy only Mellilotus seed that has a quality tag on each sack. It protects you against the low germination seed so general on the market this season. This seed is above 99 per cent pure and above 90 per cent germination.

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Perfect, new tires, all sizes, non-skid or plain, fabric or cord. Prepaid on approval. \$500 to 10,000 Miles Guaranteed.
30,000 Customers. Catalog Free. Agents Wanted.
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Why 90 Per Cent of Raisin Growers Joined

(By F. A. Seymour at Fruit and Farm Convention, Chicago.)

COULD there be a stronger argument in favor of co-operation? Compare these two pictures—here was a beautiful and fertile valley in the center of a wonderful State producing 70,000 tons of raisins per year at an actual loss to the producers—they were struggling to pay the interest on their mortgages—some were digging out their vines and others were willing to sell out at any price. Now we see the same valley seven years later producing 200,000 tons of raisins, smiling with prosperity, having forgotten the debts and the struggles that went with them and planting new vineyards at the rate of 10,000 acres per year.

The average crop for the five years previous to organization of the California Associated Raisin Co. in 1912 was 70,000 tons, and each year there was a carryover. It was always necessary to sell a portion of the crop to the distilleries, so that it was generally believed that there was an overproduction of raisins and some growers were digging up their vines. Subsequent events have proved that there was not an overproduction and that the fault lay in the method of selling and distribution.

Almost the first act of the Association after organization was the purchase of 25,000 tons of surplus from the 1912 crop, in order to prevent demoralization of the market. These were bought at a cent a pound higher than the packers were offering at that time.

Since that time the entire crop has been sold each year before the following one was harvested, in spite of the fact that the tonnage has increased enormously. The 1918 crop was 163,000 tons and the 1919 crop is estimated at about 175,000 tons. (The estimate of the latter crop earlier in the season was 200,000 tons, since reduced by the extreme heat during the ripening season, and also by the lack of irrigation water.) Our sales of the 1919 crop will amount to about \$40,000,000.

Association Increased Demand for Raisins.

There are two reasons for the increased demand which has taken the greatly increased tonnage—the first is national advertising, which was commenced in 1914, and the second is the fact that the opening price has always been guaranteed against decline until January following, and the trade has learned that the guarantee means something and that they are buying an article stabilized in price and quality—that there is no gamble when their order is placed at the beginning of the season. In 1914, at the beginning of the advertising campaign the sales of bulk seeded Muscats in 25-lb. boxes, which are used almost exclusively by bakers for bread and pies, amounted to 62,573 boxes; the following year they were 583,834; in 1916, 1,050,194; about the same in 1917, and 1,565,938 in 1918.

When advertising was commenced the 2-Crown raisin, which is the one

used in the bulk seeded, was the problem—what could be done with it?—only a limited amount seemed to be required for the carton trade, and the bakers took so little as to make no impression on the balance. The results of the advertising were so definite and immediate that now our problem is to get enough raisins to go around. Planting of new vineyards is going on at a rate which is almost unbelievable.

Nearly \$5,000,000 Operating Equipment.

When the Association commenced operations it was without packing houses and facilities for handling the crop. Contracts were made with independent packers under which they received, packed, stored, and shipped the raisins. They also sold raisins for the Association. A few packing houses were purchased outright and operated by the Association. At the expiration of the first growers' contract, the packing and selling contracts with independent packers also expired and these were not renewed. New and modern packing houses have been built and equipped at points in the valley where required at an expenditure of about \$3,000,000.00.

We have also built a reinforced concrete seeding and drying plant at Fresno, where most of the Muscats for seeding are concentrated. This plant is located on a 20-acre tract in the eastern part of the city. It is served by tracks from both the Southern Pacific and Santa Fe, and is modern in every particular. The up-to-date methods of handling the raisins will result in a saving of two to three dollars per ton on every ton packed. The plant has a capacity of 350 tons of seeded raisins and 150 tons of seedless, a total of 500 tons per day of eight hours. We have an investment in this plant of about \$1,677,000, and are operating throughout the valley 35 packing plants.

These plants have a packing and shipping capacity of 1500 tons per day. We have during the height of the present season been receiving from growers at the rate of 4,500 tons per day, which means the paying out of \$450,000.00 per day. We have paid the growers \$100.00 per ton on delivery this year, though the contract provides for the payment of only \$70.00.

Growers Enthusiastically Renewed Contracts.

A contract was made with growers representing over 75 per cent of the raisin acreage under which they were to cure and deliver their crops to the Association, receiving 3¼¢ per pound for Muscats and 3½¢ for Thompsons at the time of delivery. After the raisins were disposed of the Association was to pay the grower any further sums realized above the initial payment after deducting packing and handling costs, etc. Each year there has been an additional payment varying from \$6.20 per ton on Muscats, which was the lowest, to \$30.00 for the 1917 crop. The 1918 crop figures are not yet available.

The contracts with growers expired with the 1917 crop, so that it was necessary to secure signatures to a new contract. This was done during the winter and spring of 1917-18 in a whirlwind campaign which proved the loyalty and faith in co-operation of the entire valley. Approximately 90 per cent of the entire acreage was signed up on a contract much more binding than the previous one had been. After five years' trial of this method of marketing, a renewal of 90 per cent of a largely increased acreage for another six years seems the strongest possible argument in favor of co-operation from the whole community.



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SELECTION OF MEMORIAL TREES.

To the Editor: Please give information as to whether the Giant Redwood would grow or thrive in the foothills of Yuba county. I wish to plant a memorial tree and would like something hardy and at the same time different from our common trees. Would a silver maple thrive here, or could you suggest any thing better?—Mrs. J. E. C., Smartsville.

(Answered by Dr. Jepson, Univ. of California.)

There could be no better memorial tree used by and for Californians than the Big Tree, *Sequoia gigantea*. It is not only a native tree, but it is, on account of its longevity, especially suited for memorial purposes. It attains to a wonderful age—and not merely a wonderful age, but a lusty and green age with the lengthening of its centuries. It is not too much to say that it may and does outlast nations and races.

It will live in many parts of California outside its natural range, particularly in northern California. It would undoubtedly grow and do well in the Yuba foothills where your correspondent proposes to plant a memorial tree,—that is in a moist or semi-moist situation in the neighborhood of Smartsville or in Penn Valley above Smartsville. It is a clean tree, makes very little litter, and is to the slightest possible degree subject to disease. Each particular age or period of the tree has its own marked charm in a high degree. The Silver Maple is a beautiful friendly tree and could be depended upon to make excellent growth in the Yuba foothills if provided proper soil and given reasonable care for several years. If, however, a maple is desired the native Big-leaf Maple is a hardier tree and grows into individuals of commanding size in favorable situations. It is already adapted to our climate and soils and should be preferred wherever it can be used.

Our native oaks are, many of them, species of unusual beauty. Those of the white oak class are especially attractive, but in one respect are scarcely suited for memorial purposes. When drawing past maturity they tend to drop off or shed suddenly large-sized branches. Trees which are in this way a menace to the living are not desirable as a living monument to the dead.

CITRUS TREES USE DEEP MOISTURE.

(Written for Pacific Rural Press.)

Valencia orange trees ten or eleven years old are three times as big as they were three years ago, as pointed out to us by Geo. M. Cooley of San Bernardino in his orchard. The reason for their remarkable growth is that three years ago he plowed a foot deep. Big roots were broken and pruned smooth. This opened up the subsoil so that water penetrated it. There were no feeders over a foot under the surface. That was because by following ordinary methods of cultivation and irrigation the water did not go deeper than that all summer. A few weeks ago Mr. Cooley dug a hole four feet deep in the center of the square between four trees set 22 feet apart; and at the bottom of the hole he found feeders "thick" and supplying plant food and water to the thrifty trees.

The theory in previous years had been that too much irrigation would bring on gum disease. It did keep the roots in surface soil subject to heat and drying out and periodic disturbance by the cultivator. The object of the deep plowing was to remove these surface roots and enable new growth to penetrate the subsoil. It worked.

Mr. Cooley is one of many who have observed proof that citrus trees go deep into the ground if it is moist. A storm drain through the orchard washed out over twelve feet deep one winter and uncovered grapefruit roots at the bottom because in-drainage had kept the subsoil moist. Another tree was dug out and a root was found which had gone down over twelve feet and had turned back at the dry stratum. Give the citrus trees deep moisture.

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Olive Growing and Pruning in California

(By Prof. Frederic T. Bioletti, at Fruit Growers' Convention, Oroville.)

The large crops of fine fruit produced by some olive orchards in California demonstrate the suitability of the climate and soil of some locations for this fruit. Some failures indicate that other locations are less suited.

Olive growing tends to concentrate in the lower foot-hill regions of the Sierras and in similar situations in Southern California, though scattered profitable orchards are found in other localities. The least favorable localities are in the extreme north, in the coast belt subjected to summer fogs, and at elevations above 1500 feet.

With suitable climate, sufficient water, and skillful handling, almost any good soil will yield profitable crops.

The main factors under the control of the grower are (1) choice of variety; (2) application of water; (3) pruning; and (4) fertilization.

The Mission is still the safest variety for most locations; the Manzanillo, Ascolano, and Sevillano coming next in about this order for special localities.

Irrigation is necessary for the best results in practically every locality. Two irrigations, one in spring, and another a few weeks before the fruit commences to ripen, are almost always needed. In the hotter localities and in shallow or leachy soil, one, two, or more supplementary irrigations are necessary.

Young trees should be pruned no more than is absolutely necessary to give them the required shape. The

common method of severe pruning delays the growth and bearing of the tree several years.

Old trees should be pruned every year to preserve their form, to promote an annual growth of fruiting wood, and to allow the sun to penetrate to every part of the tree. This should be done almost entirely by "thinning out" and not by "cutting back." Where trees are too close they do not bear well. Thinning out of the trees is therefore often advisable. It has in some cases been found possible to double the crop by removing half the trees.

Fertilization is useful in some cases but is of little use unless accompanied by proper irrigation and pruning. So far, nitrogenous manures have given the best results. These are farmyard manure, including sheep and chicken manure, tankage, and nitrate of soda. Green manuring, by winter and summer cover crops plowed in, should be practiced whenever possible.

The following general rules for the improvement of olive orchards may be given:

1. Promote vigorous growth by good cultivation, sufficient irrigation, and where needed by green manuring and nitrogenous fertilizers.

2. Prune bearing trees regularly every year to promote a moderate growth of new fruit wood, to open up all parts of the trees to the sun and to preserve its form.

3. Prune young trees as little as possible while developing the desired form.

Seed Potato Association Formed

(Written for Pacific Rural Press.)

The California Certified Seed Potato Growers' Association was recently organized as the outgrowth of a potato growers' observation trip under auspices of the Los Angeles County Farm Bureau. A Potato Growers' Section in the local Farm Bureau was also organized. We quote from a report of the trip written for Pacific Rural Press by Manager R. G. Risser of the Crop Production Department of the California Vegetable Union:

"Many interesting observations were made on this trip, one of the most striking facts brought out being the superior yielding quality of the British Queen and its exceptional adaptability to the more fertile soils. The fact that this potato has such a large number of tubers on each hill, however, renders the size of the tubers undesirable unless the soil is sufficiently productive to properly develop them. The susceptibility of the White Rose variety to such diseases as Mosaic and Curly Dwarf was also very apparent and growers determined to rogue out the affected hills in order

to secure healthy seed. The question of holding potatoes over in cold storage was discussed and bad results from low temperatures were very evident.

Perhaps the most sensational point brought out was the demonstration of a method of telling how many potatoes each hill contained by an examination of the vine. Mr. Young of Huntington Beach showed that he could correctly state how many tubers each hill contained without digging the potatoes. This was done by counting the lower branches on each plant. The number of potatoes was found to correspond very closely to the number of branches.

HORTICULTURAL JOTTINGS.

J. E. Carlson is planning to set out a pear orchard on the flat land near Novato, Marin county.

Raisin yields seem to have been a little less than a ton per acre, total production being close to 180,000 tons from an acreage 5 per cent greater than last year.

Over 30 carloads of winegrapes were shipped to Reno and Sparks, Nevada, this season. They were made into wine and the wine makers are now in trouble.

Pear tonnage shipped is less than last year, but a greater tonnage was dried and canned. The total crop is about 110,000 tons, about 10 per cent greater than in 1918.

About 4,000,000 boxes of apples will have been packed this year in California. This is slightly less than 60 per cent of the total crop, according to the U. S. Bureau of Crop Estimates.

The last crop of prunes sold to an independent packer by Dr. F. M. Coleman of Santa Clara Valley were carefully tested by himself. He counted 55 per pound, but the packer counted 59 per pound. This made \$60 clear money for the packer if Mr. Coleman's count was correct.

The first commercial planting of figs in the rolling hill land along the Tuolumne river is being made by Geo. K. Beard near La Grange. Fourteen acres of Calimyrnas with sufficient capris have been set out; and he is preparing to increase the planting to 100 acres, using almonds on the steeper slopes. This orchard lies in the extreme upper end of the Waterford Irrigation district.

Stump Land Worth Money To Day

This one-armed man Pulls big trees by hand

FRANK M. HANCE, a one-armed farmer of Bowie, Md., sent me this photo of himself and a "K" pulling a double silver maple, 3 ft. 8 in. in diameter at the ground. What he has done you can do. Clear your stump land cheaply—no digging, no expense for teams or powder. Your own right arm on the lever of the "K" Stump Puller can rip out any stump that can be pulled with the best inch steel cable. I guarantee it. I refer you to U. S. Government officials. I give highest banking references.



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California Honey Producers' Exchange

(Written for Pacific Rural Press by J. D. Bixby.)

The California Honey Producers' Co-operative Exchange is glad to have this opportunity to become better acquainted with the Pacific Rural Press family of readers. She is the little sister to the other large and prosperous co-operative marketing associations of the State.

While our Exchange is only a little over a year old, it has grown to such an extent that it now represents nearly 1000 beekeepers, controlling 100,000 colonies of bees and the marketing of 80 per cent of the honey produced in California.

The beekeepers of Arizona have heard the call and are forming two of their own locals, one at Phoenix and one at Yuma, with their surrounding territory, to affiliate with us.

To Sell 125 Carloads of Honey.

While it has been a poor season for the beekeepers owing to the short crop, the success of their Exchange in disposing of honey at good prices will help them carry their part of the high cost of living. It now appears that the Exchange will sell 125 carloads of 36,000 pounds each this season at the value of \$820,000.

Botany for Beekeepers.

A working knowledge of botany is an important factor in the successful honey producer's equipment. He should be able to recognize the leading nectar producing plants of any given locality and know enough of their blossoming habits to be able to adjust his plans to them. I have known a beekeeper to spend days of time and many dollars sowing high-priced sweet clover seed over dry sage hills and sand-washes, ignorant of the fact that sweet clover will thrive best only where there is abundant and permanent moisture. Some have located apiaries in a wilderness of so-called sage brush which was nothing but artemisia or "old man," a species of wormwood which secretes no nectar whatever. Several beekeepers finding the "large Lima" bean fields unprofitable this year on account of the severe drouth and lack of ocean fogs, moved their bees to the "baby lima" irrigated fields of the San Fernando Valley, but few of them profited as they arrived too late. Beans yield mainly during the first two weeks of the bloom. Of course, the variation in the time of planting prolongs the nectar season somewhat. One enthusiastic beekeeper with the P. H. D. and B. S. after his name, asked me seriously if the proximity of an orange grove was an injury to bees. Surely the school-master was abroad in his case. The more knowledge the beekeeper has along these lines the more he will enjoy his work and the more successful his work will be.

Lying in Wait.

One of the independent brokers who is an extensive handler of honey as well as other products, sends out a circular to its eastern customers calling attention to the fact that without exception their opening prices this year have been materially lower than those later named by the different co-operative associations. This means that a lot of producers—maybe not you, but many other fellows—have been caught by contracts and forced to sell their honey way below the price the Exchange could have gotten them for it. The brokers call attention to this with considerable pride to these low figures but carefully avoid mentioning how they "skinned" the producers.

Transient Bees Threaten Local Industry.

The local beekeepers in the orange district are very much alarmed at the increased importation of bees into these districts from outside States, that are shipped here merely to take advantage of the orange flow, then shipped back to gather the later honey flow in their own States. Beekeepers are finding that where the ranges are so overcrowded it is practically impossible to keep down bee diseases, as infection spreads rapidly from one apiary to another, and unless some-

thing is done to remedy this a great many beekeepers are going to become disheartened and go out of business. Not only do the bees that are shipped in from other states add to the spreading of bee diseases, but there is also considerable danger of other infectious diseases being brought into the State by these shipments. A great many of the bees are brought in from Utah where the alfalfa weevil is so strongly entrenched. It is claimed that these weevils hibernate in the bottom of bee-hives and can be very readily packed from one district to the other. If this weevil ever gets a good hold in our alfalfa fields here it will be a terrible calamity for our alfalfa growers. It is time they woke up to this danger and investigated before it is too late. Our dairymen also ought to be vitally interested, inasmuch as they depend upon alfalfa for their principal forage crop. It is highly desirable that the beekeepers should act in a generous spirit towards their fellow beekeepers in other States, still the time has come when the most generous and unselfish of the beekeepers of this State realize that unless something is done to remedy the situation, a great many beekeepers are going to be driven into other lines of work. They believe the time has come when the State will have to take up this problem and solve it.

Honey Crop Mostly Sold.

All the comb honey in the State of California has left the producers' hands and is now in the hands of the retailers and wholesalers for distribution. The California Honey Producers' Co-operative Exchange has only one car left, which is now in Philadelphia being offered for sale. Owing to the shortage of sugar there has been strong demand for all the lower-grade honeys, so that the Exchange has been able to move this grade of honey very rapidly at good prices, so that now there are only two or three cars remaining unsold. Even the honey with 80 per cent honeydew was sold for 12 to 13½c per pound. The Exchange has only one car of amber honey left which we believe will be sold before this article goes to press.

Sugar for Bees Much Needed.

As everyone knows who is connected with the honey industry, the crop in the State of California was not even one-half of normal. In a great many districts there was practically no crop at all. In such places

the shortage of sugar is threatening the loss of thousands of colonies of bees inasmuch as sugar cannot be obtained for feeding purposes. Application has been made to the Sugar Equalization Board through Dr. Phillips, who have referred the beekeepers to the refineries. Up to date the refineries have not been willing to give the beekeepers any satisfaction, merely referring them to their brokers. It is possible that before another week some sugar can be obtained, but not in any quantity sufficient for their needs. Sugar brokers state that after the first of the year sugar will be more plentiful. All beekeepers who can get along until then may feel rea-

sonably safe unless they are in a locality where it is impossible to feed at that time owing to the low temperature. Beekeepers should strive in every way to meet this situation and pull their bees through, inasmuch as the outlook for good prices for their honey in future years looks very bright.

Cans for Next Honey Crop.

The Exchange is now receiving sample cans to pack their honey in next year, and suggestions for improvements are being carried out. Those who are interested in the honey industry will be very much elated over the packages next season.

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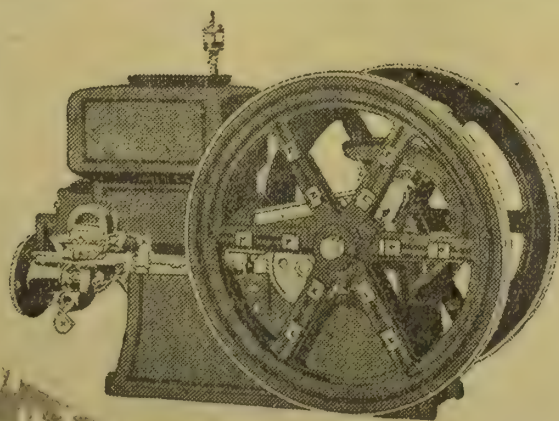
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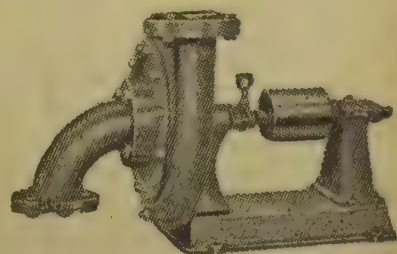
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Significant Agricultural Pointers

How Weeds Are Spread.

Of the many ways new weeds are introduced and spread into new territories, water is perhaps one of the largest disseminators in California. Johnson grass, Bermuda grass and Crab grass were unknown in some of our most fertile sections till irrigation was introduced from large waterways, where now they are a constant menace and source of expense. Imperial Valley has reduced the fight to a science. Canada thistles were unknown in Humboldt County till they were introduced in hay imported by the lumber camps. The mighty rivers have carried the seed down and spread it out over the bottoms and it has to be fought. On the J. Hoffman place at Holmes, there was a patch about half the size of a town lot 15 years ago. It has now spread over his whole 40 acres and beyond, according to Frank Essig. Weeds are like fire, unless they are controlled at the start, the battle against them is a costly undertaking. The Canada thistle, morning glory, Bermuda grass and Johnson grass are bad actors.

Clear Lake Will Not Be Spoilt.

The large pumping plant of the Yolo Water and Power Company, installed at Clear Lake (Lake County) last year at the instance of the United States Food Administration, is to be dismantled forthwith and sold. Clear Lake is the chief feature of Lake County and one of her largest assets. She has strenuously objected to its destruction to add values to a neighboring county, and litigation was pending to preclude further encroachment by the Water Company. Clear Lake has all the charm of the Swiss lakes, and the county considers it has a future for tourists that will grow rapidly with the completion of the State highway. The rim land is exceedingly productive, the Lady Washington beans from Upper Lake being sent all over the country. Some of the best pear orchards in the county—famous for its special dried pears—are on the borders of this lake.

Bunyip Wheat Proved Desirable.

Nearly 3,000 acres of Bunyip wheat in San Joaquin county averaged 13 or 14 sacks per acre this year. This is one of the Australian wheats of which the Sperry Flour Co. secured 100 pounds from the Australian exhibit at the Panama-Pacific. This was planted and increased until in

the fall of 1918 about 100 tons were distributed for seed. Bunyip looks a bit like Bluestem. It has a stiff straw that did not break badly while standing 50 days after it ripened, and did not shell out badly. It is less hardy than Baart and does not stool so much.

Early Planted Grain Best.

One of the oldest of the grain growers in Salinas Valley is H. G. Hansen. One of the Salinas dealers had told us that his grain hay was about the best that had been brought to town. But we found that Mr. Hansen makes hay only when he is pretty sure he can't make grain. It was a question last spring, after two dry years, but his barley made eleven sacks per acre average for the entire 400 acres. "I have always had the best crop when I planted in December or earlier," says Mr. Hansen. "We plant as soon as possible after the first rain and the earliest planted is the best, other things being equal." His soil is of granite origin, still containing fine granite particles in the loamy upland.

Airplanes to Shoo the Ducks Away.

You can generally get an airplane ride at ten to twenty dollars an hour, but it is supposed that the airplanes reported to be saving some rice fields from wild ducks do not cost so much. Otherwise it might be cheaper to lose the rice, especially since the fliers of both kinds seem to be getting accustomed to each other. Probably a more effective way is that indicated by the thousands of ducks which are given automobile rides these days. If they could be given such a ride earlier in the season there would be fewer brainstorms in the minds of sensation-seeking newspaper writers.

Forcing a Fair Price for Cotton.

In order to force a rise in the price of cotton sufficient to offset the sharp advance in the costs of production, the cotton growers of the country, through their organization, the American Cotton Association, propose to retire temporarily 2,000,000 bales from the market. The plan adopted is to call on the membership of each state to transfer voluntarily to designated banks, warehouse receipts for specified amounts of cotton, to be held in trust until such time as the association decides that prices justify the cotton being placed on the market.

Oriental Bean Imports and Exports.

Imports of dry beans for 18 months—January, 1918, to June, 1919, inclusive—were 6,830,982 bushels, according to the U. S. Bureau of Markets. Of these, 2,050,186 were re-exported. Since last December, re-export movement has been more active, amounting to nearly one-half of the imports. In addition to the re-exports, American beans were exported during the 18 months amounting to 5,528,061 bushels, of which fully four-fifths were exported during the twelve months ending July.

Vegetable Association President.

Members of the California Tomato Growers' Association will note that L. B. Taylor of Burbank is president of the Vegetable Growers of California, Inc., which is seeking to supersede the former Association. Mr. Taylor is one of the largest vegetable growers of the San Fernando Valley in Los Angeles county, being reputed to have over 600 acres of his own besides what he manages for other people. C. A. Proudfit of Ripon is the vice-president.

New \$5,000,000 Vegetable Marketer.

Big interests seem to be coveting the vegetable marketing business of Southern California. The International Marketing Company of Los Angeles has recently been authorized to sell \$5,000,000 capital stock for this purpose.

A \$3,000,000 advertising campaign to develop American markets for California rice is reported to be contemplated by the millers and the California Rice Growers' Association.

We Manufacture Levelers for Any Power from 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Fresnoes to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners' time, labor and money.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

A GREAT ROAD MACHINE

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Alfalfa and Corn are two great California crops worth many millions every year. Great losses have been made by producers and corresponding profits made by speculators from the California crops.

WHY DON'T THE PRODUCERS ORGANIZE? THEY HAVE.

More than 1500 producers are members of
ALFALFA GROWERS OF CALIFORNIA, INC.

a non-profit, co-operative and State-wide association. If you grow alfalfa or corn, join that Association.

Write for information to

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This is the day and age when you should make every foot of land produce profits for you. If you have any size tract ranging from 80 to 5,000 acres in the Western States that need development you should send for this book at once. It tells you the way to develop your property through the use of Hydro-Electric plants, gravity irrigation systems, pumping plants, grading, and buildings; in fact, it points out the various essentials that are necessary to make your ranch a producing property.

Now 's the time to act, so that you can get a crop from your land next year. It is a certainty that crops will bring good prices next year, so take advantage of this condition and get your land under cultivation now.

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SUGAR-BEET SEED SCARCE.

There will not be enough sugar-beet seed in the world to plant a normal crop for the 1921 harvest unless a great many people shall be induced to save beet roots this fall to plant for a seed crop in 1920. This information comes from the U. S. Department of Agriculture after a survey of this country and Europe, through representatives of sugar companies, seed dealers, and Department sources of information.

It seems that there will be enough sugar beet seed for 1920 planting; but the situation for 1921 is serious: (1) because of limited seed production in Europe as compared with former years; (2) because of increased seed planting in Europe for sugar; (3) because of increased acreage planted to beets in this country in recent years. Beet-sugar production in the U. S. has gained rapidly on cane-sugar during the past 20 years, and permanently exceeded it in 1906-7, so that it has been about 2 3/4 times the cane-sugar crop during the past six years.

It is probable that several years will elapse before normal quantities of sugar-beet seed will be produced in European countries. American growers will have to depend still more on home-grown seed than heretofore.

American Seed Production Increasing.

Home-grown sugar-beet seed production has jumped from practically nothing before the war to 6,384,000 pounds in 1918. The 1918 crop was grown on 6,000 acres. Ten thousand acres were planted for seed in 1919, but drought prevented a proportionate increase in crop. Cultural details are contained in a bulletin issued by the Bureau of Plant Industry, Washington, D. C.

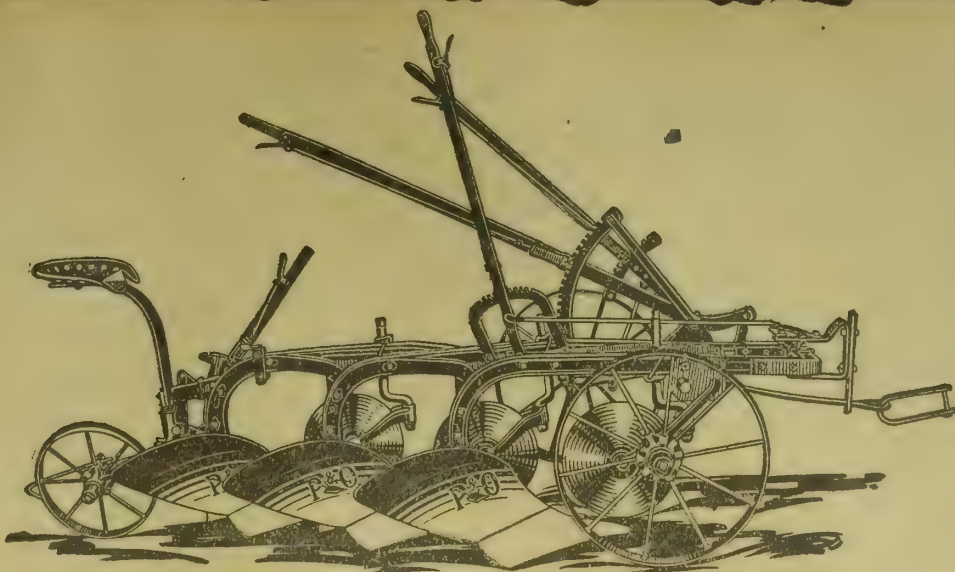
Practically all of the sugar-beet seed produced in California is that from 450 to 500 acres planted by the Spreckels Sugar Co. This yields about 900 pounds per acre of seed. Small beets produced in the fall are transplanted during the winter to bear seed the following summer.

SOUTHERN CALIFORNIA TRUCK CROP NOTES.

From reports of E. W. Stillwell to the U. S. Bureau of Crop Estimates (November 4), we glean the following notes: Cabbage acreage will be largely increased, especially in Los Angeles, Orange, and Imperial counties. The former two will have probably 2,000 acres each, though planting was not complete. Most of the acreage is Winningstadt. Some Cannon Ball will be planted. Cauliflower acreage is estimated at 4,200 as against 3,450 in 1918 and 4,800 in 1917. Growing conditions have been favorable. Snowball comprises the bulk of shipments, but Early Pearl is about matured. Shipments are expected to increase until the last of January. The first car of celery from Southern California was expected to leave El Monte within a few days. Lettuce from Los Angeles County is improving in quality, but still contains considerable loose and leafy stock. Growing conditions favorable. Previous estimate of 9,000 acres in Imperial Valley rather high. Spinach shipments from about 1,500 acres in Imperial Valley are expected to begin about Christmas, though some plantings are later on account of Texas competition. A few hundred acres are planted in Coachella Valley. Tomato shipments from Southern California are likely to decrease rapidly from now on. Low spots in San Fernando Valley, El Monte, and Orange County districts have been frosted slightly.

Green Lake county has completed its fourth cow testing association and begun work on a fifth, reports the county agent. The cow testing work in the county agent exhibit at the local fair was planned to boost interest in testing.

"Every cow in Rusk a tested cow" is the county agent's slogan in that community. Sixteen farmers brought 150 samples of milk to his office in the month of July, and 17 farm visits were made for testing milk. Two meetings were held to boost the project.



P&O Walking Gang Plow, with Riding Attachment

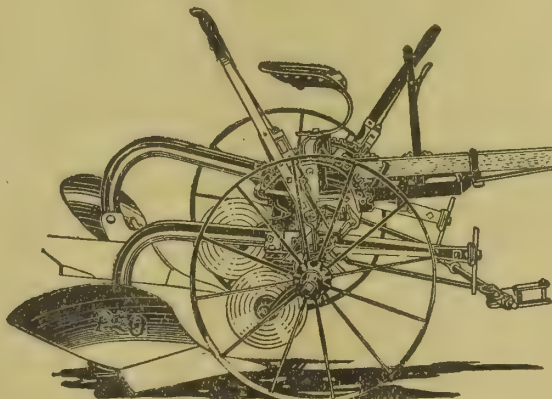
The Hillside Farmer and his Plowing Problems

HERE are two plows, entirely different from each other in construction, both of which have made good on hillsides and slopes in various sections of the country.

The P&O Walking Gang is a big, heavy plow, made in two-, three- and four-furrow sizes, with a wide wheel-tread preventing it from tipping over or losing the line of draft on hillsides. It is strong enough to withstand the strain and pull of all the horses that may be hitched to it. The plow will hold—the farmer's worry is, "will the harness stand the strain?" The two- and three-furrow sizes can be increased one furrow in capacity by the addition of an extra bottom, and the four-furrow can be reduced to a three-furrow by the removal of one bottom. This enables a farmer to regulate the size of his plow to meet his own local plowing conditions.

The P&O Two-Way Success Sulky has two bottoms, one right- and one left-hand, one being raised while the other is in the ground. The hitch is adjustable for two or three horses. In using this plow the furrows are all turned one way—down the hill—as the team travels back and forth, one furrow being turned right-hand and the other left-hand. This plow turns around like a racing sulky, and it can be backed up into corners. To say that it is a "P&O" is as good as saying that it is simple and strong; built right.

Call on the International dealer and let him tell more about these plows—the kind that minimize the labor of turning furrows on slopes and hillsides.



P&O Two-Way Success Sulky Plow

INTERNATIONAL HARVESTER COMPANY

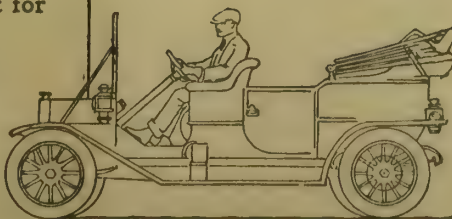
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STEPHENS charges you no commission—saves you \$10 on express or parcel post and you get your money 2 to 10 days quicker—because Denver is closer to your town than any other important fur center.

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Trappers Guide Free.

The Pacific Rice Growers' Association

(Read at Chico Fruit and Farm Convention by J. H. Stephens, President.)

The Pacific Rice Growers' Association is one of several of our co-operative, non-profit ranchers' organizations, and the entire State of California is its field.

Organized in 1915 as a distinctly marketing organization, it has rapidly broadened its sphere, so that today its activities are not confined to the annual marketing of the crop, but extend to matters of education and legislation having in view the advancement and protection of the industry as a whole.

Annual Memberships Include Majority.

How satisfactorily it fills its field may be judged from the fact that every succeeding year, despite the tremendous increase in acreage, it controls by far the greater portion of the product of the rice fields of the State. This is particularly significant when it is understood that at the close of every season we are left without membership and must begin anew the canvass for members. The orchardist or the vineyardist has a fixed planting which produces, through the years. Not so with the rice grower. Be he owner or tenant, he cannot plant his field to rice for more than three consecutive years. He may grow rice next year, and he may not. It is due to this circumstance that we have no long-term agreements of membership, nearly all of them being for only one year. It will thus be seen that among the rice growers, the benefits to be derived from organization are very generally recognized.

Our Association is now in its fifth year. It was originally conceived in a small way as a marketing organization, but reorganization on broader lines was effected in 1916 under the direction of those who are now actively in charge of its affairs. At this juncture I desire, in behalf of the directorate of our organization, to make public acknowledgment of the invaluable service rendered by Hon. Harris Weinstock, State Market Director, at that time. His sound judgment and wise counsel during the days of reconstruction and readjustment are largely responsible for the creation and continued existence of a State-wide organization of admitted force and influence.

We have nearly 500 members this year. In point of numbers, this is not impressive, but when it is considered that many of our members grow rice in tracts of 1000 and 2000 acres, and that a planting of a quarter-section of land to rice is regarded as small, it will be seen we are a pretty healthful organization.

Representation on our directorate is based upon acreage by counties, and under this plan all rice-growing districts, through their directors, have a voice in the management of the Association's affairs. Coupled with this, we encourage the county unit plan, experience having shown that home organizations are capable of dealing with distinctly local problems, leaving the central organization to take care of the greater things.

Farmers Need Market Information.

One of the principal reasons for the necessity of such an organization is the fact that the farmer has no means of knowing actual market conditions. His time is taken up with the harvesting of his crop and getting it to cover. Market prices are constantly fluctuating, and by the very nature of things he cannot follow them, much less anticipate them. A strong marketing organization is his only protection.

It is true there are some growers who do not belong. Some are opposed to co-operative marketing. Others belong to the class which is always willing to ride, but is averse to paying the fare. Every industry has these two classes to contend against, but happily they are in the minority.

Rapid Growth of Rice Industry.

Digressing for a moment to point out the present-day importance of the rice industry in California, and to show the rapid advance it has made, it may be stated that in 1914 the commercial development of rice was first reached, when 16,000 acres, yielding

480,000 bags of 100 pounds each, were planted. Since then the plantings and their yields run thus:

1915	32,000 acres	960,000 bags
1916	64,000 acres	1,920,000 bags
1917	84,000 acres	2,520,000 bags
1918	110,000 acres	3,300,000 bags
1919	140,000 acres	3,500,000 bags

(Estimated)

The value of the 1914 crop was a little more than \$800,000, while the estimated value of the 1919 crop is between \$21,000,000 and \$23,000,000.

A falling off in the estimated yield for 1919 will be noted. I regret to say that the shortage this year will range from 700,000 to 1,000,000 bags. The former figure is used here in an endeavor to be conservative. The shortage is due to the fact that this year we planted a great deal of third-year land and considerable areas of fourth-year land. Added to this was an extended period of extremely cool weather early in the growing season, just at a time when the rice needed warm weather for its advancement, and it failed to develop as it should have developed. In many instances newly-planted lands failed to produce as expected, and all things combined, we are short of our estimated production.

Members' Crops Separately Sold.

Contrary to the general impression, we do not pool the Association's holding, the individual member holding the right to confirm or reject any offers made through the Association. However, he is not permitted to sell direct to the buyer or through any other agency. If he does he is subject to a heavy penalty. Thus, we are enabled to protect the market at all times.

Foreign Rice Crop Information.

We have four branch offices in the principal rice centers, and have a far-reaching service system by which we are kept informed of crop conditions in the great rice belt of the Southern States and in many of the rice-producing countries of the Orient. During the marketing season we are in receipt daily of reports of market conditions at home and abroad.

How Growers' Rice Is Sold.

For the protection of our members we have a large force of experienced and highly trained rice men—experts, they may well be termed. These men sample all rices and forward them to the main office in Sacramento, where they are placed on our tables for the inspection of the buyers, duplicate samples being retained in the branch offices of the respective districts.

When buyers make a bid it is referred to the owner of the rice for acceptance or rejection. At the time of such reference we are in a position, by reason of our close touch with market conditions, to advise the owner whether the bid meets the market price of that particular grade and quality. If the owner accepts, the rice is ordered out for shipment under the direction of our traffic bureau.

The next stage is the grading out by the buyer or his representative. All rices which in the judgment of the buyer do not come up to sample are temporarily treated as rejections, to be passed upon later by our representative. It often happens that rices set aside as noted are not rejections and our representative sees to it that the buyer takes them with the main lot. All rices are loaded into the cars for shipment as they are graded out at the warehouse and draft in favor of the Association to the account of the owner, is issued before the shipment is permitted to move.

We charge a commission fee of 5 cents per hundred pounds for our services, and what money is left at the end of the season, after paying all operating expenses, is returned to our members in the form of a rebate.

This briefly outlines our methods of operation. Much in the way of detail could be given in this connection, but is deemed needless for the purpose of this paper.

It will be seen from the foregoing that we do not make the market. Our province is to protect our members and see they get the full market value

for their product, whatever it may be.

That I am a firm believer in co-operative marketing goes without saying. It is the only agency through which the producer is enabled to produce at a profit. Its power to effect this end has been most thoroughly demonstrated. However, in this, as in all other things, the unwise exercise of power can only result in harm and injury to the cause of co-operative marketing.

It is America's job to contribute largely to the world's food supply for the next two years. This implies big prices, based upon demand. However, we must bear two important facts constantly in mind: First, there comes

a time in the commercial history of any product when its price can be brought to such a high level that the consumer will turn from it and take to something else as a substitute. Second, the consumer cannot consume tomorrow that which he should have consumed today.

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But grind your own feed! Grind it the cheap, quick, and easy way with a Letz Dixie—the mill famous for its patented self-sharpening Steel Grinding Plates.

These plates have thousands of Keen-cutting, scissor-like edges—in one operation cut, grind, and pulverize to powder any-

thing fed into them. Won't clog on stuff damp, wet or oily. Are self-sharpening—silent, trouble-proof. Converts your alfalfa, roughage, and all other grindable materials into the finest of balanced rations and combination feeds. Enables you to use your poor grades and sell your A-1's! More profit!

Unbreakable in fine-cutting, light-running, capacity, durability. One set plates guaranteed to outlast 3 ordinary sets.

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Letz Feed Mills now used by hundreds of thousands of satisfied farmers and feeders. Write quick for catalog and another Book valuable to feeders. FREE! (Dealers: Cash in on huge demand for Letz Mills. Write for proposition.) Address

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Wholesale Distributors in all sections insure prompt service through Letz Dealers Everywhere.

Upkeep Expense on the OilPull Is Extremely Low

The high grade material and workmanship that goes into every OilPull keeps upkeep expense at a minimum. For example—during the 10 years we have built OilPulls we have never heard of a crankshaft breaking through usage, and there are over 15,000 OilPulls now in use.

A 16-30 OilPull near Salida, Calif., has been in use constantly since April, 1918, with only \$5.00 expended for repairs.

We have a size to fit your needs—12-20, 16-30, 20-40 and 30-60 H.P. Ask for catalog.

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Feed the Soil and the Soil Will Feed You

We manufacture Complete Fertilizers of all kinds. The oldest established and largest producers of Bone and Blood Fertilizers on the Pacific Coast.

Complete and up-to-date Laboratory for Analysis of Soils.

Analysis and advice free to our patrons.

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Factories in San Francisco and Oakland.

Alfalfa Seed Scarce in U. S.

(Written for Pacific Rural Press.)

The United States Crop report on alfalfa seed indicates that the 1919 crop is far below normal.

Causes of Short Crop.

The comparatively low price of alfalfa seed during the last few years discouraged many alfalfa seed growers.

Many old alfalfa seed fields were plowed up to increase wheat acreage in the middle west and cotton acreage in Arizona.

Because of the high price of hay, many of the fields that are usually left for seed were this year cut for hay.

In Kansas and Nebraska, the wet weather during early summer made it impracticable to let the second crop of alfalfa go to seed as usual; and the few who tried growing seed from the third crop, suffered heavy losses from grasshoppers and army worms.

Just before alfalfa seed harvest, the crop was estimated by the U. S. seed reporting bureau at 66 per cent or normal; but as hulling progressed, the yield was found to be considerably less than the estimates before harvest.

California's Production.

During the season of 1918 California produced about 800 tons of alfalfa seed. Of this amount about 175 tons were shipped from California to Eastern states, and about 500 tons were shipped into California from Arizona and Utah, indicating that about 1125 tons of alfalfa seed were sown in California during winter of 1918 and spring of 1919.

A careful survey of this season's alfalfa seed crop shows the total

amount of alfalfa seed harvested in California to be not over 600 tons, of which 200 tons has already been contracted for by eastern dealers, who are also very short of alfalfa seed.

The estimated amount of Arizona alfalfa seed available for California use is not over 200 tons, which added to the California seed available amounts to 600 tons or about 40 per cent as much as was sown last season.

The eastern states seem to be even shorter of alfalfa seed than California is and the eastern dealers are trying hard to purchase California and Arizona seed for their use.

Importations.

There has been some alfalfa seed imported from Italy and Spain, of which at least one carload has reached California, but this imported stock is not as desirable as our domestic seed, first because it is old seed, and the strains are not adapted to our soils and climates, and because most of it contains considerable buck-horn and other weed seeds.

Alfalfa seed is still the lowest in price of all the clovers, being about ten cents per pound lower than red clover and Alsike, and there is every indication that if the seed were available a normal acreage would be seeded to alfalfa this season; but as the quantity of seed available is very limited, it will be not as much a question of price as a question of getting any seed at all. Those who expect to use alfalfa seed this season will do well to make sure of their supply of seed before preparing their land for seeding.

United States Potato Crop Short

Commercial late-potato production in every commercial potato State but one is less than that of last year, according to the November report of the U. S. Bureau of Crop Estimates. The total estimated shipments in carload lots are 131,804 for 1919, which is 20,434 carloads less than last year in the seventeen States for which figures are important. Total U. S. production is 348,000,000 bushels as compared with 400,000,000 bushels last year.

About 60 per cent of the California commercial production is made up of late potatoes moving after September 1. This year our shipments after September 1 promise to be 5,260 cars as compared with 6,200 last year, 4,590 in 1917, and 4,500 in 1916. The Delta region produced this year about 95 per cent of our late commercial potatoes. The figures given below show that eight States excel us in potato production this year.

Estimated Carloads Potato Shipments.

State	1919	1918
Maine	25,750	26,922
New York	9,900	10,650
Pennsylvania	6,980	5,950
Michigan	9,828	12,000
Wisconsin	21,300	25,510
Minnesota	24,500	26,000
Iowa	513	950
North Dakota	2,035	2,950
Nebraska	2,574	5,000
Montana	516	946
Colorado	10,000	14,800
Utah	340	465
Nevada	585	700
Idaho	6,830	7,725
Washington	2,800	3,130
Oregon	2,093	2,350
California	5,260	6,200
Total	131,804	152,248

The total production this year in California is estimated at 11,350,000 bushels. The yield per acre fell from an average of 135 bushels last year to 129 this season as estimated. About 80 per cent of the 1919 California potato acreage was grown for market.

AGRICULTURAL NOTES.

The Chevalier barley crop in Salinas Valley was way below normal.

Corn yields in California seem to average about 33 bushels as against 35 last year.

National Master Wilson says: "I see no benefit to be obtained for the Grange by affiliating with the A. F. L."

Sugar beet yields averaged about 7.3 tons per acre this year. The average for nine years past has been about 9.55 tons.

Oakdale rice growers are benefited by rains holding off during harvest, no rice being lost this year because of too much moisture.

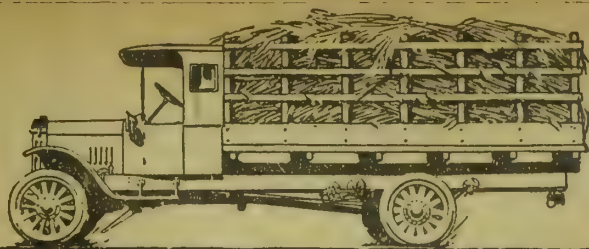
The railroad administration told Senator Phelan that more refrigerators were being sent to California to handle the citrus crop.

Of the 290,000 acres of beans other than limas planted in the State, about 95 per cent were harvested, yielding 2,262,000 centals. Limas add 540,000 centals to this figure.

Sweet potato yields are estimated at 133 bushels per acre this year as against 170 last year in reports of the U. S. Bureau of Crop Estimates. Total production will be about 1,000,000 bushels.

The American Farm Bureau Federation, whose convention in Chicago closed November 14, adopted resolutions opposing Government control of public utilities, urging immediate return of the railroads to their owners, and opposing free distribution of seeds.

The future of hops is really up against it. This is the conclusion of E. Clemens-Horst Co., which is probably the greatest hop-producing outfit in America. The Horst Co. has announced that they intend to uproot all their hop vines near Wheatland and plant other crops. Other hop growers in the Wheatland district are doing the same thing.



Chassis Prices
1 1/2 ton \$1965
2 1/2 ton \$2365
3 1/2 ton \$3465
F.O.B. Allentown



The Motor Truck bought to-day without Electric Starting and Lighting will be out of date to-morrow

What About Next Year?

Now is the time to plan your investments for the coming year. Your capital is available. You have time to sit down and decide on your equipment necessities for the coming production months. Make a mental estimate now. And include in that estimate Bethlehem Dependable Delivery.

Farm Loads are Bethlehem Loads. On thousands of farms the country over, Bethlehem Motor Trucks have proven themselves the vital parts of modern farm machinery.

A Bethlehem Investment will pay big dividends in increased profits. The nearest Bethlehem Dealer can demonstrate Bethlehem Superiority. See him or write us for complete information on the Bethlehem equipment best suited to your needs.

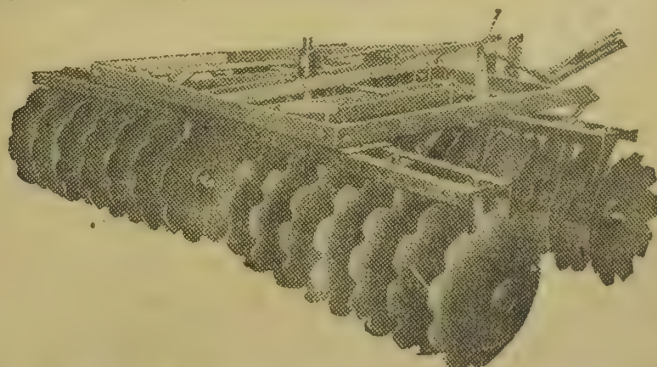
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Reducing Tractor Upkeep Cost 50 per Cent

(Written for Pacific Rural Press by D. J. Whitney.)

One of the worst things about a tractor is the upkeep—repairing or replacing worn parts. The greatest cause for wear, according to a San Joaquin Valley fruit grower, who has used eight tractors and is still using the first one he bought in 1915, is the overloading of the motor.

Now overloading in this case does not mean running an engine beyond its rated working horsepower, but running it steadily close to the limit of its capacity—to the capacity that manufacturers expect the motor to run. If the machines were run that way only for short periods it would be different. That would be like automobile operation, where natural running conditions are far below engine capacity and the engine is worked close to the limit of its power only occasionally, and then only for short periods as a rule. For this reason an automobile engine ought to be good for many years with very little doctoring. If it were run up to the limit of its power whenever it was used, it would go to pieces in short order, but that is the way most tractors are run and are supposed to be run. Their stronger construction helps some, but does not do everything.

What is needed therefore is to leave every other part of the tractor just as it is, but to install an engine with surplus horse power, which will not be used. If, for example, the bore is now four inches, make it five inches. The consequence? No more power could be used than is used at present, for every attempt to speed up the engine and to apply more power would simply result in having the wheels spin.

Use Lugs Judiciously.

The lugs should not be too large or the wheels would not spin. They should be made of such a size that the effect of every attempt to work the engine to capacity of the transmission or other parts would be to have the wheels lose their grip on the ground.

The grousers are supposed to be designed as a rule to fit the power of the engine. Without being too large, they are, in normal soils and with normal loads, supposed to give what traction is needed. In common practice, however, salesmen talk engine all they can and there are few makes of tractors for which many agents will not boast that the motor can spin the wheels. In light soils, or where the footing is not quite up to standard, most of them can do so.

Prevent Use of Surplus Power.

It will, of course, be clear that with an overly powerful engine for the rest of the tractor some method would have to be adopted to prevent the surplus power from being applied, so as not to pull the rest of the tractor to pieces. A positive limit to the opening of the throttle, or some other device could be used, no matter how much traction the wheels would take.

The result of such a method would be that the motor under normal working conditions would, and could, never run much beyond say 60 per cent of its actual capacity, which would be the amount that the rest of the tractor was designed for, whereas now, the motor is more likely to run steadily at about 90 per cent of its capacity when used with many tools and on most grounds. Self-evidently the wear on the engine working at 60 per cent would be only a small fraction of the wear on an engine running most of the time close to the limit. This rancher figures that his plan would cut down the upkeep cost of the average round wheel orchard tractor fully fifty per cent. The manufacturing cost and buyer's price would naturally be slightly larger with a large engine than with a small one; but this difference would so quickly be overcome in the saving in wear and tear, that a tractor like that would be cheaper by

the end of a year than a similar tractor with a smaller engine.

Provided the engine was designed so that full power could NOT be applied, not a single other part of the tractor need be a particle larger than before, except to enable it to hold up a few pounds weight more, so the making of a larger engine would be the only extra expense. A great addition to the horsepower need add only a couple of hundred pounds to the weight.

The fuel consumption of the larger engine would be practically no more than that of the smaller engine. You say, "Well, does not an engine with a five-inch bore use more fuel than one with a four-inch bore?"

Yes, provided both are run to the same per cent of capacity, but if the smaller engine is run at full capacity and the other at much less than capacity—to the same horse power as the smaller engine—the fuel consumption should be so nearly alike that any difference would never be noticed. The fuel used is measured by the power applied, not by the size of the engine. Consequently the only effect of a larger engine, adjusted so that no more power could be used than present engines commonly use, would be to add a few extra pounds to the total weight of the tractor. There would be no noticeably greater operating cost, but you would have a motor working well within its limit instead of close to its limit, and the upkeep would be so much less that the tractors would be even better bargains than they are now.

Statements Based on Experience.

The first tractor secured by the rancher who makes this point is still working and giving excellent satisfaction. But the engine was taken out and a stronger engine put in. This is a direct application of the theory suggested, and the application has proved a great success.

We asked him if his troubles were not mostly due to speeding up the engine and jerking in hard spots. He replied that such troubles would show up mostly in the transmission system—but such troubles are practically absent. It is the engine parts that wear out on his tractors. The crankshaft and connecting-rod bearings have to be refitted frequently. New wrist-pins and new bushings have to be put in. The piston grooves have to be turned out and new rings fitted.

"After four seasons' experience with tractors, I am satisfied that we will not get a tractor that will perform satisfactorily until the manufacturers put in an engine with as much reserve power as the best automobiles have. Our tractor troubles have been engine troubles almost entirely. We have three sizes of engines on the same-sized tractors. They have 4¾-inch, 5-inch, and 5¼-inch bore. The largest engine is far less trouble than the medium size, and the smallest size is so much trouble that it is useless. My neighbors have had the same experience—the larger engines standing up better than the smaller. The larger engine, pulling the same sized load as our medium size, consumes practically the same amount of distillate and oil. The main difference is in the size of bore and stroke. What we farmers need is a tractor that will perform—and I believe by increasing the size of the engine and not using it up to its full power, the largest part of our troubles will be eliminated."

Idea Illustrated by Pumping.

There is little actual demonstration of the result of having a strong motor run at half capacity or so on a light tractor, but the theory of the thing is displayed in numerous cases in pumping. Everybody with much engine experience in pumping knows that if you connect up a five horsepower engine with a pump that it can just run, or that will make it run at nearly the top of its power all the time, trouble



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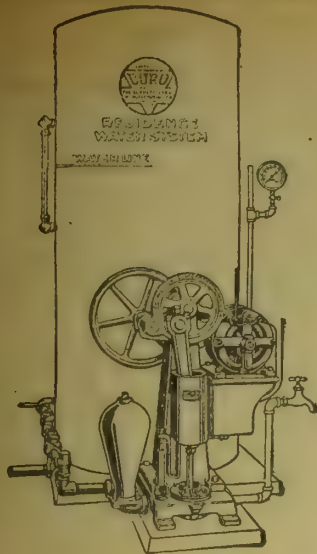
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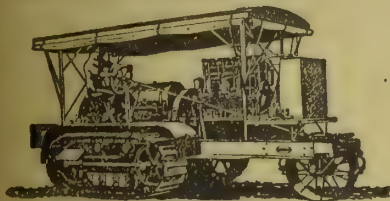
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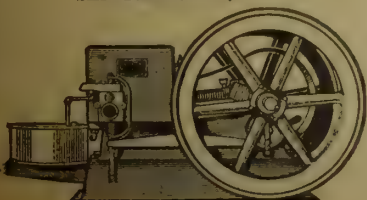
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will come soon and often. Yet, theoretically such an engine should work beautifully, since an engine works better when it runs almost to its capacity!

Now take away that five horsepower engine and put on a ten horsepower and the big engine will work along easily from spring to fall, night and day, if you will only keep it well oiled, the grease cups screwed down and everything in shape. Are you extravagant in the fuel and lubricating oil required, by using the big engine? None of the pump men seem to feel the strain of the extra expense if there is any. The lack of trouble and lack of repair bills attend to all that.

Now the pumping plant and the tractor are very similar in the point discussed. The engine in both cases works for long, steady intervals, and it works close to the limit of its power unless it is deliberately made oversize. That is NOT done with tractors, but it frequently is done, and very successfully so, with pumping plants. What is sauce for the goose should be sauce for the gander.

Other Suggestions.

Several other suggestions on the construction of tractors so as to reduce upkeep expenses are made by our rancher. First, have dust strainers on the carburetor intake (which has been almost universally done on tractors sold in California). Second, and this is considered more important than the first, have a dust strainer on the breather, which few if any tractors have. Third, have all the bearings as large and strong as possible. Wherever there is rubbing of parts there is wear, particularly with California dust, so make the bearings large and heavy enough to stand all the wear possible, and they will last longer than small bearings.

NO MORE STATE TRACTOR DEMONSTRATIONS.

No more State-wide tractor and implement demonstrations will be staged by the California Tractor and Implement Association. This was decided at their meeting nearly in November. But they also went on record in favor of local demonstrations and instructed their Demonstration Committee to perfect details of a plan to encourage organization of local tractor and implement dealers in each of eight or more districts into which the State would be divided for the purpose. This plan was presented and accepted at the Association meeting November 15. Provisional headquarters for the various districts, to be changed if the dealers in those districts prefer, are Fresno, San Jose, Salinas, Stockton, Sacramento, Marysville or Chico, Willows, and Santa Rosa.

Southern California is not included because a strong association already operates there. The State Association offers to furnish a manager to help organize local dealers and to help handle local demonstrations. Many dealers have expressed their desire for such organizations and demonstrations. Several such demonstrations have been held, notably at Fresno, Chico, and San Jose, rivaling or excelling in attendance the State demonstration at Sacramento last spring. Farmers will no more travel hundreds of miles to see the best tractor demonstration that could be conceived. But they will travel probably up to 100 miles to see a good demonstration in their own district. Such local events should continue to be great factors in proving the superiority of power farming.

A new tractor in Monterey county was put in charge of a young fellow because he worked cheap. The oil circulation stopped, but he didn't know it until the engine stopped. New cylinders had to be bought and new bearings poured and fitted. Moral: figure the economy for yourself.

A tractor user says certain tractor manufacturers have a reputation for robbery on repair parts that scares prospective purchasers.

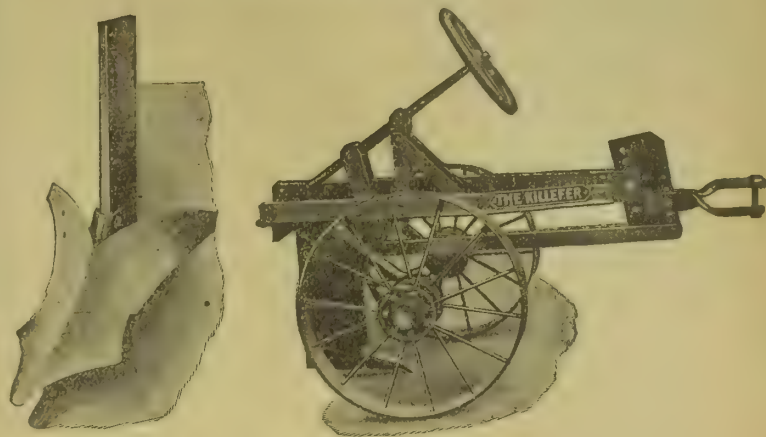
Cheap drivers on good tractors give the tractors an evil reputation.



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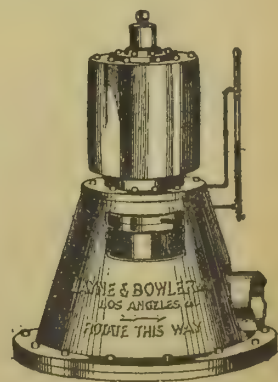
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A junior 3-year-old with a 19.58-lb. record. She should materially increase this record with next calf. She freshened in pasture and was not put on test until 5 weeks after freshening. Also bred to our Senior Herd Sire, Sir Pietertje Korndyke Ormsby.

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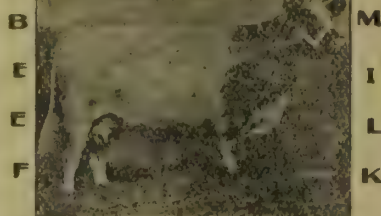
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Fall Lambing of Ewes

(Written for Pacific Rural Press by Thos. F. McConnell)

It seems rather queer to a sheep man from outside of California to talk about "fall lambing," as in the East and the Rocky Mountain region it is of so rare a practice as not to justify much, if any, attention. In the colder climates very few kinds of sheep will breed but once a year and that in the fall. The Horned Dorset; an English breed of mutton sheep, will breed in the spring, but 99 per cent of the sheep do not in the eastern climates. In fact, the late John A. Craig, while Professor of Animal Husbandry at the Wisconsin College of Agriculture, attempted to breed some Shropshire-Merino ewes in late spring and early summer months, but without any success. Therefore, as said before, "fall lambing" to an eastern sheep man seems rather out of place.

Implements Required.

Every man that cares for and handles sheep needs a few implements not found on the ordinary ranch. A pair of sheep shears, a pair of "toe nippers," or hand fruit tree pruners, and if possible, a shepherd's crook. The shears will be useful in many ways mentioned hereafter. The toe nippers are used for shortening or trimming the horny toes of the sheep which grow quite rapidly and become entirely too long if sheep are not running on rocky or very gravelly soil, where they would wear off as rapidly as they grow out. A crook is not a necessity, but is a great convenience in catching sheep in the open.

A word here relative to handling sheep will not be out of place. Never catch a sheep by the wool. It hurts the sheep and they are not as easily held as when caught in the flank just forward of the hind leg. When caught in this manner they are entirely helpless and the largest sheep can be held and moved backwards with ease by any one. If the effort to catch in the flank fails the hind leg may be caught, but the sheep will struggle considerably but with no injury to itself. Sometimes when a sheep is running rapidly towards a person, placing the hand over the nose firmly will stop it easily and quickly and the flank hold can then be obtained. These suggestions are for use when sheep are in the yard or corral, but the same "holds" should be used in the open if no crook is at hand. The crook is chiefly for use in the open where the sheep cannot be approached easily.

Conditions and Dates.

Conditions as they exist in this State in most localities are much more favorable for the young lamb than anywhere else in the United States, therefore shelter, except in unusual cases, is not very necessary. It is always best, of course, to keep the youngsters in out of cold rains until at least a month old.

The date on which breeding was started should be noted, for if conditions are normal the first lambs may be expected about 148 days from that time. Some shepherds say they can tell by the way the ewes look when they are going to lamb, but if conditions are as they should be the lambs will arrive in about 148 days.

The young lamb is rather of a helpless little fellow when first born and many times needs assistance to get his first meal. If the lamb appears very weak it is better to place the ewe in a small pen, four or five feet square, for a day or two. The sheep shears may be necessary at this time if the udder of the ewe is at all difficult for the lamb to get at. The wool in both flanks and around the teats should be clipped off smoothly, care being taken not to clip off the end of the teats. The amateur should be careful at all times not to cut the skin when using the shears and if a large cut is made it should receive an application of pine tar to keep flies away. If the lamb appears strong and the ewe attentive, leave them alone for an hour or two if they are in a warm place. If the lamb is weak and unable to stand alone, it should be fed right away. There are several ways of doing this, but the main thing is to get

some new, warm, rich ewe's milk inside the young thing as soon as possible. Some shepherds set the ewe on her haunches in the same position as that for shearing, kneeling on one knee behind her and then laying the lamb on its side close to the udder. Open the lamb's mouth with one hand and milk a little into it with the other. Generally the lamb will commence to suck immediately. Let it have a good meal—all there is in one side of the udder at least. This depends somewhat, however, on how much milk there is and how many lambs there are.

Ewe Disowning Lamb.

The ewe once in a while disowns the lamb and will object strenuously to it. In this case place the ewe and lamb together in a small pen and visit them every hour or two and let the lamb suck. If it is vigorous it will soon learn to commence to try to suck upon the appearance of any one near the pen and the ewe will usually soon submit, and suddenly the mother love will assert itself. What had previously been an object of loathing will be the dearest thing on earth. If no pen is available tie the ewe with a short rope about the neck and confine the lamb near her so that she will have her seeming trouble near at hand.

Lambs That Are Chilled.

It sometimes happens that lambs born at night or on cold foggy days become chilled and almost die from exposure. Immerse them in water that is just bearable to the elbow. Water as hot as the hand can endure is sometimes too hot for the youngsters. Keep up the heat in the water by adding more until the body of the little fellow is thoroughly warmed through. Then rub dry, wrap all but its head in a warm blanket, and feed a little warm milk if it can be induced to swallow. If chilling was the only trouble this treatment will revive them very quickly.

Ewes That Lose Their Lambs.

A ewe whose lamb has died sometimes has a large quantity of milk. If there are other ewes in the flock that have twins it is often advisable to place one of these twins with the "lambless" ewe, and as we used to say, "make her own it." Confined together it generally takes only a short time for them to become attached to one another if the ewe has plenty of milk and the shepherd visits them regularly to allow the lamb to suck.

Excess Milk.

Sometimes ewes that are excellent milkers need especial attention immediately after lambing, as the lamb may not be able to take all the milk and only feeds from one side. If this condition is not attended to by milking out or feeding some needy lamb from her until her own lamb is able to take all the milk, one-half the udder or sometimes the whole of it will be permanently injured.

Condition of Lamb.

The condition of the lamb's nose is a very good indication of the health of the little fellow. If the lamb is lying down and it is difficult to know whether it is just sleeping or in a semi-comatose state due to ill health, the nose will tell the story. Place the finger on the end of the nose, and if it is cold then something is wrong, but if it is warm then all is well.

Creeps for Lambs.

If confined in small lots or corrals it is a good thing to have some ground grain or wheat bran placed where the lambs can reach it without interference from the old ewes. It will surprise those not familiar with young lambs how soon they will commence to eat solids and how much faster they will grow for this extra feed.

Ewes at lambing time should receive extra good feed from that time until lambs are weaned. Unless pasture is exceptionally good they should receive a little extra feed so that the milk supply will be generous.

The water supply should always be good, but at lambing time it is doubly important.

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Best Blue Ribbon Berkshires

(Written for Pacific Rural Press.)

Business and Berkshires. That is the combination at Castleview Ranch at Santa Rosa. Mr. O'Connor, the proprietor of the herd, takes a great deal of pride in his beautiful black swine. They are not exactly "the apple of his eye," but they come very close to it. He not only takes pride in them from the aesthetic point of view, but believes in them as an economical producer of pork, although outside of barrows for exhibition purposes Mr. O'Connor does not raise market hogs. He sells his pigs that are not as true to Berkshire

Angeles Show six weeks later she had developed into a grand champion sow. Mr. O'Connor put her in the Berkshire sale at Los Angeles and she topped the sale, going to F. L. Hall of Perris for \$510. She was kept in the Castleview herd, however, and shown at the California International, where she was again made grand champion sow of the breed.

Mr. O'Connor did not show a full herd this year, but says that another year will see him in the ring with enough to fill all classes, and if his



Castleview Premier Belle, grand champion Berkshire sow at the California International Livestock Show. Bred and raised by J. Francis O'Connor, Santa Rosa.

type as they should be for feeders to farmers in the surrounding country.

Mr. O'Connor believes in believing in the hogs he is raising, and therefore in promoting his favorites by all fair means possible. While Sonoma county is not noted as yet as a swine-breeding center the majority of hogs raised are Berkshires, and while the Brush herd no doubt had great influence in this respect in the past it is now due largely to the efforts of Mr. O'Connor that the breed is going forward in the estimation of the hog-buying public wherever his influence is felt.

Castleview Premier Belle, exhibited as a senior sow pig at the fairs and stock shows this fall, was bred by Mr. O'Connor. Her sire was Iowana Rival Champion and her dam Premier's Hopland Belle. This young sow was first in class and junior champion at the State Fair this fall. This was early in September and by the time she was shown at the Los

winnings are in proportion he will sure be "in the money." Through good business methods and good hogs he has become a power in the ranks of the Berkshire breeders on the Pacific Coast.

Saving food is the same problem whether it's war time or high-cost time. "What Shall We Eat on Wheatless and Meatless Days?" is still a practical question for the housewife who saves. Send for Circular 108, Wisconsin Experiment station, Madison.

Clyde Horr of Susanville, Lassen county, came to the State Fair with a very creditable showing of Poland-China hogs, and has the honor of being the first man to bring an exhibit of registered live stock from Lassen county to the State Fair.

Tepary beans ground fine and mixed with cane molasses makes excellent hog feed, it is said.

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Our last carload shipment dressed 72.30 per cent and brought 1½¢ above the market price.

Largest Herd on the Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

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San Francisco Office, 601 Balboa Bldg.

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER **GARDINER'S KING'S COL.** Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

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A CALCO feeder is a self-feeder

The Calco Hog Self Feeder allows hogs to feed at will—

Grain need not be carried for every meal. Container delivers it automatically into the feeding trough as used, and it never overflows. Hogs cannot root grain out on the ground.

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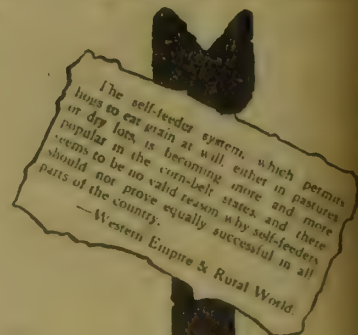
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The self-feeder system, which permits hogs to eat grain at will either in pastures or dry lots, is becoming more and more popular in the corn-belt states and more seems to be no valid reason why self-feeders should not prove equally successful in all parts of the country.
—Western Empire & Rural World.

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WINSOR'S GIANT ORION

We won at Los Angeles Live Stock Show

GRAND CHAMPION SOW

"Model Defender Lady"

And be sure you look up our other winnings

Bonita, San Diego, Co.

Address **R. K. WALKER,**



Promote Pork Profits

With Better Poland-Chinas breeding

I have a few young boars by Joe's King just ready for service. They will make your spring crop of pigs profitable in spite of high price of feed and labor. They are the big type, with easy feeding and quick-maturing qualities. I have priced them very reasonably for a quick sale. Write at once for prices and particulars or call and see them.

WAUKEEN FARM

LES McCracken, Prop.

RIPON, CAL.

Big Model Fellow 305547

1st prize senior pig, 1918 State Fair.

1st prize senior yearling and Reserve Grand Champion 1919 State Fair. Sire of the Grand Champion pen of barrows at 1919 State Fair heads my herd.

J. F. McSWAIN

Breeder of Poland-China Hogs.

Merced, Cal.

JOHNSON'S DEFENDER JR.

Owned by GREENWOOD FARM, Live Oak, Cal.

Is California's greatest representative of Defenders, the greatest Duroc family. At the State Fair he was the smoothest boar shown, weighing 700 pounds at 17 months and carrying it on a perfect set of feet and legs. He won second in the strongest class of boars ever shown on the Coast and was a popular favorite. Three of his brothers won ribbons in the same class, showing the strength of this line of breeding.

Five Ribbons Won on Five Entries.

H. C. WITHEROW, Mgr.

LIVE OAK, Sutter Co., Cal.

Durham Colony Boosting Livestock

(Written for Pacific Rural Press by R. E. Hodges.)

There is no tuberculosis in the cattle or hogs on the Durham State Land Settlement! What will that mean to the settlers of this community and to their children even to the third and fourth generation! There are about 350 cows and about 170 sows on the project, according to Superintendent George C. Kreutzer. All of the cows have been tested at least three times for tuberculosis and every tubercular cow has gone out. This has led people from far parts of the State to come here for breeding hogs, knowing that they have not been fed tubercular milk.

Dairy Cattle Auctioned.

Under the policy of the State Land Settlement Board of encouraging settlers to keep livestock, the practice has heretofore been to buy a bunch of cattle and assign them to various settlers by lot. Just recently a couple of settlers were delegated to attend a sale of high-grade Holsteins and buy a bunch for distribution to the rest. But instead of drawing numbers from a hat this time, a price was put on each cow and settlers took their pick. Where more than one wanted a cow, it was auctioned to the highest bidder. All of the producing cows moved readily. Only half a dozen young females failed to bring the prices posted. These were set aside and auctioned later. The whole auction lasted two hours and netted \$500 above cost. The second cow put up had a record of production and was valued at \$180, but she brought \$330. The \$500 wiped out a \$300 loss on a bunch of tubercular cattle which had previously been bought as healthy cattle and sacrificed when tested. The extra \$200 is laid aside to apply on an additional community bull, which is now needed.

Community Livestock Sires.

The colony already has two registered Holstein bulls, one a grandson of Tilly Alcartra and one which was said on good authority to be the best in the fine herd it came from. These animals are kept by one of the settlers, and cows are taken to them. The caretaker's pay comes in the form of small fees. A registered Duroc boar was donated by the breeder of one of the best herds in the State to be used as a community boar. Though still a youngster his pigs are showing up fine and he is considered worth over \$500 now.

Central Separating Plant.

Most of the herds in the settlement are small, many of them not over seven cows. The settlers are hardly able to afford cooling and separating machines, so the State Land Settlement Board, according to its chairman, Prof. Elwood Mead, last spring established a central separating and chilling plant for all who might want to haul their whole milk to it. The output of this plant is being sold as sweet cream and milk at a 9-cent premium. Some of the settlers are planning to sell raw milk.

Loaned \$100,000 for Cows.

The Land Settlement Board is lending about \$100,000 this year to help settlers put in new cows. A good example of the reason for this is the case of a family who were milking seven cows and getting about \$100 a month income. They could live on this, but could hardly make payments on the land. They had a crop of "gyp" corn and the stalks were no good except for pasture. Prof. Mead told them they could double their income by doubling the number of cows. The Board loaned them the money, taking a mortgage on the cows the settler already had, and they will come through the winter with their \$400 annual payment made and cash ahead.

Local Banker Wakes Up.

Though the law gives the Board power to lend money on stock and improvements, the Board has no desire to engage in banking. The local banker has recently shown himself educated up to present-day farm financing. He proposed to the Board


that any settler who needed money and could get a recommendation from the Board for a loan could get it in the bank on six per cent interest on whatever repayment terms are recommended.

New Projects Chosen.

Many tracts of land to be subdivided under the new projects authorized by the 1919 Legislation have been offered to the Board. Investigation has narrowed the probable choice to one of four or five. The decision will have been made at an executive session of the Board on October 25.

The Annual Meeting of the National Swine Growers' Association will be held Monday, December 1, at Chicago. The Louis 14th Room in the Hotel Sherman will be the meeting place.

TAMWORTHS
(The Bacon Hog)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes.
Sure to please.
SWINELAND FARM
W. O. Pearson, Prop., Woodland, Cal.

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DOG DISEASES
And How to Feed
Mailed free to any address by the Author
America's Pioneer Dog Medicines
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SALE EXTRAORDINARY!!

Circumstances over which I have no control force me to sell now instead of next Spring, as I intended, fifty head of

Registered Poland-China Hogs

consisting of a few bred sows and boars, all the rest are open gilts, just ready to breed for March litters. This is by far the choicest bunch of pigs I have ever owned. The cream of the East and West in breeding.

I surely hate to part with them, but my loss is your gain.

SALE ON

SATURDAY, NOVEMBER 29, 1919,

At King's County Fair Grounds,

HANFORD, CALIF.

Free lunch at 11:30.

SALE BEGINS AT 12:30.

EVERYBODY COME

W. BERNSTEIN, Owner,

COL. G. W. BELL, Auctioneer.

Write for catalog to W. T. DICE, Sec., P. O. Box 374, Hanford, Cal.

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Southern California Premier Breeders and Exhibitors of

DUROC-JERSEY and HAMPSHIRE SWINE

Recent Winners:

October 1919	October 1919	November 1919
Ventura County Fair	Los Angeles Livestock Show	San Francisco Nat'l Livestock Show
27 Firsts	3 Championships	10 Championships
24 Seconds	Balance Firsts, Seconds, Thirds, etc.	20 Firsts, Balance Seconds, Thirds, etc.
7 Thirds	Thirds, etc.	Total 49 Ribbons.
Total 58 Ribbons.	Total 35 Ribbons.	Above included Reserve Grand Champion Boar, Duroc and Hampshire; Junior Champion Boar, Duroc and Hampshire; Grand Champion Sow, Duroc; Reserve Grand Champion Sow, Duroc and Hampshire; Senior and Junior Champion Sow, Duroc; Champion Hampshire Barrow; also 1st prize Get of Sire, Duroc and Hampshire; 1st prize Produce of Dam, Duroc and Hampshire.
Note: No Championship Awards are made at this Fair.	Above included Grand Champion Hampshire Sow; Senior Champion; First Prize Produce of Dam and Get of Sire.	

Our Herds have been consistent Championship and Prize Winners at all Fairs wherever shown since our showing at Fairs from 1917 to date



DUROC-JERSEY

WE ARE BREEDERS OF REGISTERED HEREFORD CATTLE

We Offer for Sale some Excellent Herd Boars of Both Breeds with Show Possibilities.

We are breeders of the highest class animals for sales purposes and offer any of this purebred stock at reasonable prices.

We offer for sale a few gilts of both breeds.

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Los Angeles Address: JANSS INVESTMENT COMPANY, 404 Metropolitan Building

NEWBURY PARK, VENTURA COUNTY, CALIFORNIA
40 Miles Northwest of Los Angeles on Ventura "State Highway"

Geo. F. Waltemeyer, Manager Swine Department

Livestock and Dairy Notes

Dairy Notes.

Seldom have a finer lot of Registered Holstein bulls gone into a grade herd than those recently purchased from The Lewis Company by Mr. Davis for the Sleepy Hollow Dairy, Marin County.

Official testing has been commenced by The Lewis Company on their Holstein herd, and the animals will be put on yearly test. In the seven-day division, several good records not yet reported include a 23.77 lb. two-year-old daughter of Sir Leda Korndyke.

E. B. McFarland of San Mateo, proprietor of Steybrae Ayrshire Farm, during the California International, sold six Ayrshire cows to Harold Rice of Paia, Maui, T. H., for \$4500. Mr. Rice knows a good breed of dairy cattle evidently.

Some of the Holstein-Friesian herds of California recently beginning or renewing testing are J. H. Posty, Jr., Atwater; H. G. Ball, Tulare; E. M. Morrow, Modesto; Geo. Maze, Modesto; L. B. Van Blaricom, El Monte; W. D. Millard, Arcadia; H. Hill, Riverside.

During October twenty-eight Holstein-Friesian herds in California carried on official seven-day tests with twelve working on 30-day tests. A total of almost fifty Holstein-Friesian herds have carried on official seven or thirty-day tests during the past year.

The Lewis Company reports sales from its Baywood Herd of Registered Holsteins, located at Hollister, as follows: to the Abel Ranch, Milpitas, a son of the good foundation cow Countess Creamelle Vena; heifers to E. Grebe, San Jose, and Joseph W. Seitz of Cupertino, and several sons of good A. R. O. cows to the H. K. Herzog Company of San Anselmo.

The American Jersey Cattle Club has started a campaign to have 10,000 Jersey cows on semi-official test by January 1st, 1920. The California quota is 200 head, and Oregon 600 head. Previous to July 1st, California had 91 head on test and by November 1st 153 head. Breeders of pure-bred Jerseys should be sure and have 47 head more in the testing line by the first of the year.

Dr. R. E. Duckworth has completed a State test on The Lewis Company's Baywood Herd at Hollister, reporting a clean record on every animal in the herd. This herd has an enviable record, being able to show either a living calf or record of a sale of calf from every mature animal on the farm. Great credit is due Martin Ziegen, herdsman, for the condition of the animals, especially a remarkably fine calf herd.

Laura Maki, the seven-year-old Holstein-Friesian cow owned by the Palo Alto Stock Farm and bred by the Vina Ranch, recently completed a 365-day test that places her in the list of great cows of the breed. She produced 25.38 lbs. fat in seven days, 112 lbs. fat in 30 days, and 2989.9 lbs. of milk and 1061.27 lbs. fat in 365 days. She has a butter fat test of a fraction over 3.55 per cent, which places her among the high fat percentage Holsteins.

California is developing into a great dairy state but has as yet but forty-seven herds of pure-bred dairy cattle that have been on semi-official test. Of these 3 herds were Ayrshires with eleven head tested; 8 herds were Guernseys with 46 head tested; 18 herds were Holsteins with 188 head tested, and 20 herds were Jerseys with 153 head tested. This is pretty good, but it seems as though there ought to be a greater total than 402 head for such a great State.

The J. S. Gibson Company of Williams, have some excellent first calf heifers that have just finished seven-day tests as follows: California State Fair Queen, 378.38 lbs. milk, 11.966 lbs. fat; King Korndyke Pontiac Princess, 592.1 lbs. milk, 17.684 lbs. fat; Queen Pontiac Charlotte Korndyke 481.7 lbs. milk, 14.554 lbs. fat; Miss Korndyke Acme Alcatraz 413.9 lbs. milk, 12.467 lbs. fat; Princess Rima Modura, 400

months after calving, 364.1 lbs. milk, 11.674 lbs. fat. In addition to these there are some very promising ones to freshen soon with a large percentage of them daughters of Prince Alcatraz Korndyke.

Swine.

The auction sale of Duroc-Jersey swine scheduled by W. T. Hollingshead & Sons of Orland, for November 11th, was postponed on account of Armistice Day. These well-known breeders will hold a sale early in the new year when they will have one of the finest lot of Durocs ever offered at public sale in California.

The Glenn County Poland China Breeders' Association have a sale scheduled for January 14th next. This will be the initial sale of this association, and the breeders of that county are fitting up a great lot of the "black beauties" for this occasion. R. J. Yates, the veteran breeder, will have a fine consignment which alone is a great inducement for those interested to attend.

V. F. Dolcini of Davis, breeder of Holstein cattle and Duroc-Jersey swine, has purchased a herd sire from the Waltemeyer herd of Durocs that is a dandy. He is an animal of great size, superb quality, and an excellent individual among the best. His litter mate was junior champion boar at the Iowa State Fair this year, which was sold for the world's record price, at his age, of \$3300. Another litter mate was first prize junior gilt at Iowa also, and sold for \$1,500.

William Bernstein, the prominent Poland-China breeder of Hanford, will have an auction sale of topnotch Poland-Chinas on November 29th. There will be some bred sows and some boars, and besides there will be a great lot of open gilts—probably the best lot of gilts ever offered in California. Mr. Bernstein has been in the Poland-China business for years, and has always been right up in the fore ranks of progressive breeders, and the hogs offered in this sale will be a demonstration of this.

A. Buckland & Son of Fresno, breeders of pure-bred Poland-Chinas, report a large number of recent sales. They are as follows: Three December gilts to the Kern County Pig Club, Bakersfield; one service boar to R. C. Whitworth, Hanford; one service boar to Frank Schofield, Fresno; five March gilts to the Madera High School Pig Club; five September sow pigs and one boar pig to Madera County Pig Club boys; one service boar to Fred Wheaton, Hanford. The above sales by mistake were credited to J. F. McSwain of Merced.

W. H. P. Shand, breeder of Willows, Glenn County, proprietor of the Ureeda, Glenn County Herd of Duroc-Jerseys, have changed the name of their herd from the above cognomen to that of the "Key Herd of the Pacific Coast." These prominent breeders are moving their herd to their new location on the State Highway, north of Willows and near Artois (German town). Messrs. Shand's business has increased to such a degree as to make it necessary to employ a herdsman to relieve the junior member of the firm from some of the routine of the care of the herd. Mr. Elmer Reed of Lyons, Nebraska, who formerly worked for Manley Zros, Duroc-Jersey breeders of that place, will have personal charge of this great herd. Mr. Reed is an excellent judge, one of the best feeders and breeders found anywhere. A "live wire" in the Duroc-Jersey business, and a great believer in his favorite breed. He is a welcome addition to the Duroc forces of the Pacific Coast.

Wool stocks of sufficient size to supply the United States for a year at the present rate of consumption were on hand at the close of the quarter ending September 30th, according to recent announcement by the U. S. Department of Agriculture. Total sales for the quarter 1919, 373,000 pounds, 80 per

cent more than was on hand the same date a year ago.

TULARE HOLSTEIN-FRIESIAN SALE.

The Tulare Guaranty Sale of Holstein-Friesians scheduled for November 25th will have cattle from most of the leading herds of that locality. Prominent among the consignors are W. J. Higdon of Tulare, and J. P. Phillips, proprietor of the Allana Farm at Fresno. A mere mention of

these herds is enough guaranty for individuals from them.

Mr. Higdon is consigning, among others, a daughter of Mutual Fobes De Kol with a seven-day record of

—ON—

TUESDAY DECEMBER 2

FRANK B. ANDERSON

Of Sacramento, will offer at Public Sale

40 HEAD PUREBRED BERKSHIRES

Cholera Immune Bred Sows and Gilts. A fine lot of Spring Gilts and Boars and a few Young Service Boars.

STATE FAIR GROUNDS, SACRAMENTO

COL. ORD. L. LEACHMAN,
Auctioneer

For Catalog Write

FRANK B. ANDERSON
BOX 724, SACRAMENTO, CAL.

THE BEST LINIMENT

ON PAIN KILLER FOR THE HUMAN BODY

Gombault's Caustic Balsam

IT HAS NO EQUAL

For the Human Body

It is penetrating, soothing, and for all kinds of Sores, Bruises, or Wounds, Felons, Blisters, Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$100.00 paid in doctor's bills."

OTTO A. BEYER.

Price \$1.75 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet & The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

Perfectly Safe and Reliable Remedy for

Sore Throat
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Diphtheria
Sore Lungs
Rheumatism
and all Stiff Joints

Do you know why you should BANK BY MAIL?

Announcing

PUBLIC SALE OF

52 REGISTERED SHORTHORNS 52

STATE FAIR GROUNDS, SACRAMENTO, CAL.

Tuesday, December 11, 1919

By

W. C. SHORT, RENO, NEVADA

An attractive offering of young sows, heifers and bulls from one of the oldest established herds in the West. The herd was established in the seventies by Mr. A. Banta, Mr. Short becoming a partner in 1898 and sole owner in 1914.

For this first public sale, only the best young bulls and females are offered. All are of deep red color, and in good range condition. They are inbred and tested and guaranteed to be breeders.

For catalog and further information, write

COL. ORD. L. LEACHMAN, Auctioneer

1111 Seventh Street, Sacramento, Cal.

25.43 lbs. of butter and a daughter of the grand champion bull at the State Fair, King Segis Alcartra Prilly.

Mr. Phillips is consigning three altogether—two of them with excellent records backed up by the very best of breeding. This herd is strong in the far-famed Ormsby blood, of which the world's record butter cow, Dutchess Skylark Ormsby, is one.

Any one wanting foundation stock or additions to their herds should attend this sale and get some of the good ones.

DRESSED CARCASS CONTEST.

The California International did not have as great a contest in this line as was desired, due to the fact that many of the prize-winning animals were to be taken to other shows.

The University of California won on steer, wether and lamb. M. & A. L. Bassett won first with a Poland-China on hog carcass over 200 pounds, and C. B. Cunningham first with a Chester White on light hog carcass. M. & A. L. Bassett won grand champion carcass with a Poland-China over all competitors. The dressing percentages and placings are given below.

Carcass of steer or heifer, 1 year old and under 2, entered in regular classes—University of California, Davis, Cal., on Angus steer.

Champion carcass, competition limited to first-prize winners in above class—First and Grand Champion, University of California on Angus steer; dressing percentage, 64.

Carcass of wethers, 1 year and under 2—University of California on Southdowns.

Carcass of Lambs—University of California on Southdowns.

Dressed carcass over 200 lbs: 1st, M. & A. L. Bassett, Hanford, on Poland-Chinas, 84.3 dressing percentage. 2, M. & A. L. Bassett, Hanford, on Poland-Chinas; percentage, 84.5 3, M. & A. L. Bassett, Hanford, on Poland-Chinas; percentage, 84.6.

Dressed Carcass, light—1st, C. B. Cunningham, Mills, on Chester Whites; percentage, 79.9. 2, B. Grant Hollis, Sebastopol, on Berkshires; percentage, 80.0. 3, B. Grant Hollis, Sebastopol, on Berkshires; percentage 84.5.

ANDERSON'S BERKSHIRE SALE.

Frank B. Anderson of Sacramento, secretary of the Western Berkshire Congress, announces that he will hold a public sale of forty head of registered Berkshires at the State Fair Grounds at Sacramento on Tuesday, December 2nd. Anderson will offer a number of bred sows and gilts, a few boars of service age and a lot of Spring boars and gilts. Among the offering will be several head that Anderson won with at the Fall shows. Col. Ord L. Leachman will officiate as auctioneer.

Devon cattle, one of the oldest of the British breeds, is supposed to be descended in a direct line from the bos longifrons, the smaller of the aboriginal type of British cattle.

LIVESTOCK DIRECTORY.

Rate 3½ cents per word each issue.

SWINE.

Berkshires

CASTLEVIEW BERKSHIRES

We Offer

Young Berkshire Boars—Big-boned and smooth—By Mayfield Rookwood 2nd, sire of ALL Champion Berkshire Barrows shown this year. Our money-back guarantee makes mail ordering easy—and perfectly safe. Reasonable prices.

CASTLEVIEW RANCH

home of

World, National and State Grand Champions SANTA ROSA, CALIF.

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs. Anchorage Farm, Orland, Calif.

WRITE FOR MY BERKSHIRE CATALOG, giving names, ages, breeding of service boars, bred gilts, specially selected trios. Frank B. Anderson, Sacramento, Cal.

GRAPEWILD FARM BERKSHIRE GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Eacelon, Calif.

A SOW THAT FARROWS 10-11-15-17-11-10-9-10

Is worth her weight in gold, particularly so if she is royally bred. This is the record of Symboler Belle. I have a boar pig from her last litter that is a dandy. If you act quickly you can have him for \$75.00. Sandercock Land Co., 23 Montgomery Street, San Francisco, in charge of Natomas Land Sales.

REMEMBER—Berkshire barrows win over all breeds at Frisco Stock Show. We can ship you a boar that will produce that kind. Satisfaction assured, or money returned. Write today as they will move quick for the price. R. J. Merrill & Son, Morgan Hill, Cal.

BERKSHIRES—Closing out entire herd, sows, gilts and boars. Best stock obtainable, priced very low. Wm. C. Laux, Morgan Hill, Cal.

LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Koumias Registered Stock Farm, Modesto, Calif.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

BERKSHIRES—Fair Oaks Ranch, Willits, California

Poland-Chinas.

ELDERSLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our ½-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA.

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Benwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

BIG-TYPE POLAND CHINAS—Have sold my rich and must reduce my herd before Xmas. Am offering one of my herd boars a 1,000-lb. boar, and a number of bred sows and gilts; also a number of June pigs of both sexes. Address W. S. Adams, Gridley, Calif.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D. Box 180.

POLAND-CHINAS—Young boars ready for service; also a few gilts, sired by California Big Bone Bob and Ursus Jr., real 1,000-lb. boars. Prices and descriptions on application. Eugene Miner, Rt. 2, Box 105, Lodi, Calif.

TOHOQUA POLAND-CHINAS—Strictly big type. Junior and Grand Champion sow at Glenn County Fair. Young breeding stock to sell; bred right, grown right and priced right. Ferguson & McKaig, Orland, Cal.

J. F. McSWAIN, Breeder of Poland-China hogs. Herd headed by Big Model Fellow. Reserve grand champion 1919 State Fair. Boar for sale. R. 3, Merced, Calif.

THE PACIFIC HERD of big-type Polands. Herd sire, Hadly Wonder and an outstanding boar by Golden State King. Nettie E. Andrews, Modesto, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

A FEW BOARS of May farrow. Grandsons of Big Bone Bob. R. B. & L. J. Montgomery, R. F. D. No. 1, Walnut Creek, Calif.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

10 SPRING BOARS—Tops from herd, will be sold at very low prices to close up partnership. Young and Clark, Lodi, Cal.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

POLAND-CHINAS—Bargains—Two March boars, large type. Will ship on approval. J. E. Thomas, Gilroy, Cal.

POLAND-CHINA PIGS—Bernstein Trewhitt and Ross blood. B. M. Hargis, Tulare.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

POLAND-CHINAS—Young stock for sale. R. E. McMahon, Lemoore, California

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

TWO SPECIALLY GOOD Poland-China boars: May 25th farrow. \$45.00 each. A few choice gilts, June 29th farrow—\$20.00 each. Edward A. Hall, Rt. 1 Box 39 Watsonville Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Lee McCracken, Prop., Ripon, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

Duroc-Jerseys.

HORINE'S REGISTERED DUROC-JERSEYS Now booking orders for spring pigs of either sex sired by my great junior herd boar, Crimson Sensation. Put Grand Champion blood in your herd at a very moderate price. To all bona fide farmers I am making a special proposition to place such stock as can be handled on easy payments. Nothing to sign! Write today for full information, including pedigrees, prices, photos, and money-back guarantee. No obligation whatever. Geo. L. Horine, Winton, Cal.

FOR SALE—About 40 hogs, all sizes, both sexes, Durocs. Durocs are offspring from Rucker and Queen is Right 1st. One boar 18 months from Rucker and Queen is Right 1st. Reference El Dorado Co. Duroc Association. Egbert Veerkamp, R. A. Box 113, Placerville, El Dorado Co., Cal.

FOR SALE—Two Spring boars by 1918 Grand Champion of Missouri, High Orion (221329), dam by Pathfinder, a good one. One fall boar by Grand Model's Type (244719), dam Col. bred. Midvale Farms Corp., Ethnace, Cal.

RANCHO RUBIO DUROCS—Two boar pigs, four months old and weaned pigs, both sexes. Stock of Orion Cherry King Pathfinder and Golden Model breeding. Sold on "Money Back" guarantee. Elmer Lamb, Ceres, Calif.

BIG-TYPE DUROCS—Herd headed by California Orion King. Am offering excellent young boars at right prices. Inquiries invited Harvey M. Berglund, Dixon, Calif.

WE HAVE 100 YOUNG GILTS and boars, bred on the purple, which we are selling for about half their value. Money back if not satisfied. Derryfield Farm, Capital National Bank Bldg., Sacramento.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

DUROC-JERSEYS at Ireland, home of Cherry Volunteer II, and Ireland's Joe Orion. Ranch at Owensmouth, Cal. City Office, 1219 Brockman Building, Los Angeles, Cal.

DUROCS—MATURE BOAR—Bred by University Farm, Davis. Solely on account of needing change of blood. Weanlings, either sex. H. E. Boudier, Napa.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

BIG-TYPE DUROCS—Gilts and boars of Orion Giant breeding. Palfadale Farms, Peris, Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Chester Whites.

CHESTER WHITES—BILLIKEN TYPE—The big winners at the State Fair. 15 extra choice spring boars, sired by the Grand Champion boar and out of Billiken-sired sows. A few spring sow pigs; three bred Billiken sows and two gilts; all to farrow in October. Priced to sell; a chance to get the best type in the West at farmers' prices. Write for special catalogue and price list. C. B. Cunningham, Mills, Cal.

Hampshires.

REGISTERED HAMPSHIRE—"Belted Beauties." Weaned pigs a specialty. Uneda Hampshire Swine Farms, Gardena, Cal.

DAIRY CATTLE.

Jerseys.

SERVICE JERSEY BULL, bull calves, Financial King blood, Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Holsteins.

REGISTERED HOLSTEINS for sale. Seven bred cows, one Pontiac bull, 5 years old; also two heifer calves. Subject to registry. Wm. M. Little, Box 76, Snelling, Cal.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spies, Hilerest Farms, Caruthers, California.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

CREAMCUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A. Box 487, San Jose, California.

REGISTERED HOLSTEINS—A W Morris & Sons Corp. Importers and Breeders, Woodland, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto Cal.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

REGISTERED HOLSTEIN BULLS with world's record backing. Koumias Registered Stock Farm, Modesto, California.

A FEW YEARLING registered bulls by King Morco Alcartra 2nd, from good producing cows. H. M. Cross, Merced, Cal.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. RENOIT, Modesto, Calif.—Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians, Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

REGISTERED HOLSTEIN CATTLE—E. B. Freeman, R. B., Modesto, Cal.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

Guernseys.

GUERNSEY BULL for sale—Rival's Prince 26162, dropped May 1913; large individual, weighing over 1600 lbs. Sure breeder, good disposition. Richard L. Gibbs, Fairmead, Cal.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal. R. 2.

Milking Shorthorns.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

DUAL-PURPOSE SHORTHORNS—registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara, or Lompoc, Calif. John Troup, Supt.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, California.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm. J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

ANGORA GOATS for sale. 150 fine bred does at low price; also fine thorough Angora bucks and Persian rams. C. P. Bailey & Sons Co., San Jose, Cal.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

FOR SALE—1500 Merino ewe lambs; 1500 yearling Merino ewes. C. G. Owens, Livermore, Cal.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUTKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet, Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH

SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale at the Ranch—all breeds—April 17, 1920. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn County, California.

FOR SALE—Registered Percheron Mare and eligible mare colt. Unusual opportunity for someone. Forest W. Wood, San Luis Obispo, Cal.

Livestock Queries and Replies

Starving Pigs.

To the Editor: I have a bunch of pigs that I bought in September last. They all looked fine and healthy with the exception of one, which was poor and weak, with no appetite. Fearing it might be diseased, I killed it. These pigs were supposed to be about 8 weeks old when I bought them. I fed them beans and potatoes cooked together with some green corn, ripe pears and apples. The last 3 weeks they have been fed mostly Hubbard squash. They seem to have good appetites and I think they are free from lice, but they do not grow. They have big bellies and are poor. Can you tell me the trouble with them and the remedy?—W. S., Monterey.

(Answered by Livestock Editor.)

The pigs have not and are not receiving feed of the proper kind. Shots 4 or 5 months old might live on Hubbard squash, but even they would have to eat such large quantities in order to grow that it would cause more or less abdominal distension. Potatoes and beans cooked together ought to help some now if the cooking is thoroughly done. Some of the cane molasses advertised so much lately would help this mixture. Green corn is not a very good hog feed unless there are plenty of ears pretty well along toward maturity. We would advise feeding some heavy wheat middlings, 9 parts, and tankage 1 part, made into a thick slop with water, or omit the tankage if skim or buttermilk can be obtained. Feed about 2 pounds by weight of the middlings and tankage per hundred weight of pig along with the squash. This is not enough to promote the most rapid growth, but will help. Ground barley or Egyptian corn can be used in place of the middlings, but they seem to be the most acceptable to the young pigs.

Tubercular Bull.

To the Editor: A year ago I purchased a herd of high-grade Jersey cows in Oregon. They had been tuberculin tested and pronounced free from tuberculosis. Last spring I secured a Durham bull, and after breeding all my cows I discovered this bull had tuberculosis. Is it liable to infect my cows? Would it be prudent to raise the calves or "veal" them?—Old Time Subscriber, Montague.

(Answered by Livestock Editor.)

There is always danger of the rest of the herd becoming infected if there is even one diseased animal among them. If you want to keep a clean herd get rid of those known to be infected. Then have the rest tuberculin tested again, getting rid of all those that react. Clean up around the prem-

ises, whitewash all stables and corral fences. Have all stables well lighted and ventilated. Keep the calves separate from the rest of the herd, and if possible pasteurize the milk fed the calves. Have cattle tuberculin tested every 6 months or at least annually. Bring in no cattle without first having them tested for tuberculosis. Do not feed milk from reactors to calves without pasteurizing it. The better way is to have no reactors.

Milk and Bacteria.

To the Editor: Which of the following are generally most responsible for the (high) bacterial count in non-pasteurized milk, manure and dirt particles or the bacteria in unclean milk utensils? To what temperature is milk heated in manufacturing cheese and is it usually heated to the pasteurizing point in or before making butter and condensing milk?

(Answered by Livestock Editor.)

There is no way of answering the first question positively, but we would suppose in the careless, filthy dairyman's operations, one would about equal the other. It is possible, however, to have the utensils so clean that the bacteria getting into the milk in this way are a negligible quantity. In open clean buckets used in hand milking the bacteria would practically come from outside, say from udder of cow, dust particles in the air, the milker's hands and clothing, etc. Again, in machine milking the bacteria would almost necessarily gain access by the milking utensils, except those in the fore milk and on the teats.

Milk in the manufacture of cheese is heated but little. The proper temperature for it when the rennet is added is about 85 degrees Fahrenheit and the temperature at which the curd is "cooked" or heated varies from 96 degrees to as high as 102 degrees Fahrenheit. From this it appears that the process of cheese-making is not one of cooking as it is generally understood.

Much of the cream at the present time is pasteurized before being made into butter for the purpose of destroying bacteria inimical to the delicate flavor of good butter. All condensed or evaporated milk is sterilized.

It is officially announced in Bradford, England, says the London Daily Telegraph of recent date, that the British War Department intends to issue licenses for the export of wool to Germany following a decision of the wool section of the British Ministry of Munitions to allow all foreign countries to participate in the purchase of colonial wool in Great Britain owned by the Government.



Her Health Was Not Left to Chance

The cows that make the big milk records are well fed and well bred, to be sure. But, above all, they are in the pink of condition. The constant strain of heavy milk production will wear down the vitality of the digestive and genital organs in the best of cows, and the result is such ailments as Abortion, Retained Afterbirth, Barrenness, Scouring, Bunches and Milk Fever. Any of these diseases can be successfully treated and eliminated with KOW-KURE, the great cow medicine. The medicinal properties of this famous remedy act directly on the organs of production and reproduction, putting the cow's system back to normal, healthy action. Feed dealers and druggists sell KOW-KURE; 60c and \$1.20 packages. Consider cow-health first, and your dairy will be a leader, and a money-maker. Our free treatise,

"THE HOME COW DOCTOR," will give you valuable pointers on how to treat and prevent cow diseases. Ask for your copy. Dairy Association Company, Lyndonville, Vt.



Health Pays!

This perfect three-year-old Jersey has a yearly milk record of 17,793 lbs. Nothing short of 100% health would make such a record possible.

Try raising the health standard of your cows; it will increase your milk profits.

PURE HAWAIIAN CANE MOLASSES

PORK PRODUCTION

By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

MILK PRODUCTION

One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars for shipment anywhere.

Attend the California International Livestock Show, San Francisco, November 1 to 8.

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The pioneer grand champion herd of Hampshires is directly responsible for the growing interest in the Hampshire breed today.

It has brought to light the winning blood lines in our big shows. It has furnished foundation stock for numerous new herds throughout the state and is still doing so: 200 pigs bred, bred sows, and sows with litters for sale.

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Owner

FERRIS (Riverside Co.), Calif.



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Sire: Calif. Lad, 45021. Dam: Mabel, 113078
F. A. LANGDON
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Auction Sale of Fat Stock

The results of the auction sale of the fat stock shown in competition at the California International Live Stock Show is given below and is worth the careful study of those interested in such matters. In a previous issue will be found comment on the sale of the first and third prize Shorthorn steers sold to the Palace Hotel.

The fat hogs sold high, but even the highest-priced carlot consigned by M. Bassett of Hanford did not bring so much as the top carlot sold last week

at Fresno by the Farm Bureau Marketing Association at auction. Even the second carlot at the Farm Bureau sale sold for 25 cents more than the top in this sale. This certainly speaks well for the Farm Bureau sales. The detail of the sale is given below.

First prize Shorthorn steer, consigned by Ormondale Co., Redwood City, Cal. Sold to D. M. Linnard, Palace Hotel, San Francisco. 20c per lb.

Third prize Shorthorn steer, consigned by T. T. Miller, Hollister, Cal. Sold to D. M. Linnard, Palace Hotel, San Francisco. 20c per lb.

Second prize Angus steer, consigned by University Farm, Davis, Cal. Sold to Napa State Farm, Napa, Cal. 17c per lb.

Three Duroc Barrows, consigned by V. F. Dolcini, Davis, Cal. Sold to South San Francisco Packing Co., San Francisco. 15 1/4 c per lb.

Four Yorkshire Barrows, consigned by Lloyd and Tointon, Santa Rosa, Cal. Sold to South San Francisco Packing Co. 15 1/4 c per lb.

Fourth prize Chester White barrow, consigned by C. B. Cunningham, Mills, Cal. Sold to South San Francisco Packing Company, San Francisco. 15 1/4 c per lb.

First prize senior Berkshire barrow and Third prize Poland-China barrow, consigned by University Farm, Davis, Cal. Sold to South San Francisco Packing Co. 14c per lb.

First prize yearling wethers, consigned by University Farm, Davis. Sold to Gehl Packing Co., Santa Barbara, Cal. 13c per lb.

Third prize, 15 head steers, consigned by Newhall Land and Farming Co., San Francisco. Sold to Western Meat Co., San Francisco, Cal. 13 1/4 c per lb.

Reserve champion lot 15 steers, consigned by C. Swanston and Son, Sacramento, Cal. Sold to California Meat Co., San Francisco, Cal. 14 1/4 c per lb.

First and fourth prize lots two cars steers, consigned by Western Meat Co., San Francisco. Sold to C. B. Harris, Los Angeles, Cal. 15c per lb.

First prize and Champion carload Berkshire heavy packer hogs, consigned by Napa State Hospital, Napa, Cal. Sold to Western Meat Company, San Francisco, Cal. 15 1/4 c per lb.

Third prize carload Berkshire light packer hogs, consigned by Napa State Hospital, Napa, Cal. Sold to Western Meat Company, San Francisco, Cal. 15 1/4 c per lb.

Second prize carload Poland-China heavy packer hogs, consigned by M. Bassett, Hanford. Sold to Western Meat Company, San Francisco. 17c per lb.

Second prize carload Poland-China, light packer hogs, consigned by M. Bassett, Hanford. Sold to Western Meat Company, San Francisco. 16c per lb.

"CARRUTHERS FARM STILL IN THE LEAD."

This is the way Mr. Carruthers put it when he announced the sale of a heifer calf to Dean Curtiss of the Iowa College of Agriculture. The calf will be a year old on February 1st next, was sired by Hallwood Villager out of a Butterfly cow, and is named Live Oak Butterfly 2nd. The calf will go East by express in the University car going to the International at Chicago, and is to go into the superb private herd of Shorthorns owned by Dean Curtiss, who says "she is good enough to be a credit to any herd." This is said to be the first Shorthorn bred in California to be taken East to be placed in a private herd.

In speaking of the sire of this heifer, Hallwood Villager, Dean Curtiss said: "He is the greatest Villager bull living today." This from such an authority is a very strong endorsement, to say the least.

MILKING SHORTHORN BREEDERS ORGANIZE.

During the week of the California International Live Stock Show the Milking Shorthorn breeders met on Tuesday and elected officers and adopted a constitution and by-laws for the purpose of placing the merits of the cattle they breed and raise before the public in a better manner than heretofore. The territory included in the organization comprises the States of Arizona, California, Nevada, Idaho, Oregon and Washington. W. B. Ayre of Carlton, Oregon, assisted in making up the constitution and by-laws and other matters coming before the meeting.

Officers elected were Miss Alexander of Alexander & Kellogg, president; Chas. Weaver of Tulare, vice-president; Thos. Harrison of Santa Rosa, secretary-treasurer. The next meeting will be held at Portland, Oregon, during the week of the Pacific International.

The farmer who talks of profiteers ought to look also to his own dairy herd and poultry flock.

Over a million squirrels in the Livermore Valley and Altamont hills will no longer suffer hunger for California

grain, as estimated by A. E. Gray, who has had charge of the distribution of about ten tons of poisoned barley.

ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, winner of 1st premium in two-year-old heifer class, and also awarded grand championship in both the State Fair and the Los Angeles Livestock Show in 1919; sire also of Ormondale Maid 2nd, winner of 2nd premium in the strongest junior yearling class ever shown at the California State Fair.

Every animal positively guaranteed.

Prices on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

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32x3 1/2	7.00	2.00	36x4 1/2	11.50	3.40
31x4	8.00	2.25	36x5	12.50	3.50
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For 30 years I have been devoting my entire time to purebred beef cattle. I know the kind of cattle California needs and where and how to buy. I make regular trips to the great producing centers and will buy on order. Best of references. Satisfaction assured. Correspondence invited.
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HARDENED leather cracks and is soon on the road to decay. Eureka Harness Oil softens leather, protects it from dust, sweat and moisture, and keeps your harness flexible. Rodents dislike it and avoid Eureka oiled leather. Eureka saves harness for longer service.

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Poultry and Rabbits for Profit

SHOULD THE "STANDARD" BE REVISED?

As this is the season of numerous poultry shows, and as interest at these shows is largely centered in the "judging" feature, it is interesting to sift out sentiment as to which of the two methods of judging is best—judging for "feathers" or judging for "utility." The partisans of feather, color, and shape have had it pretty much all their own way in the past, and it is only recently that the sticklers for "utility" have begun to talk loud enough to be heard. The old time-honored method known as "Standard," says the Poultry Item, is where the judge is governed by rules laid down in the "Standard of Perfection," which rules are formulated by the American Poultry Association, and apply to outside appearance rather than to what may be on the inside of the bird, or what it will produce.

The other style of judging or "selecting," as it is called, is really judging a bird for what it has done in the past and what it should do in the future, considering its past performance. This class is sometimes called the "utility class." Quite a number of shows have put on these classes and have been judged accordingly. Recently in Missouri the breeders protested against the utility class at the State Show. This is the first open hitch we have heard between the two methods of judging. Practically all the State Extension Departments have a force of men at work demonstrating how to "select" birds that show high egg production.

The methods of judging for these high producers are on outside characteristics that indicate the inside condition of the fowl or what she has done or can do. One of the strongest points is the fading in color of legs, beak and skin in the yellow legged and skinned breeds. The theory—and this is a good one—is that a hen that has laid heavily during the year will show white legs and skin in the fall. It has been proven that a hen that lays heavily in her first year is nearly always a heavy layer in her second year. Also in selecting for egg production—or judging for it, as you may please—the hen that molts early is usually a poor layer for that particular year, but the one that molts late is nearly always a good layer. So that when the Standard calls for nice yellow legs in hens and nice smooth plumage, the hen that has laid few eggs will win in the Standard judging, where her sister that has laid 200 or more eggs will not often get even a pleasant look.

Can Standard breeders and judges go on defying, as it were, the recent discovery that certain physical characteristics indicate heavy egg production? Or shall the egg production breeders and judges go on selecting any mongrel-looking, despicable hen regardless of shape, just because she produces a few more eggs—than her nice, uniform standard-bred sister? If these two classes of "extremists," so called, are allowed to have their way, Standard-bred and egg production will drift apart.

The great majority of poultry raisers want a beautiful fowl as well as a useful one—an egg producer. There will always be people who will breed for fancy points alone and ignore egg production. Just as true will there be a big school who will breed for egg production, regardless of other considerations.

What is to be the best interest of the poultry industry today—best to serve for the greatest good to the greatest number of people, over the longest period of time? Does the American Poultry Association want to keep abreast with modern discoveries and developments? Or does it want to stand still and "see what it shall see" in the next few years? It is true the next revision of standard is three years off, yet it is none too soon to look the matter squarely in the face. Shall the Standard be modernized to allow for egg production or not?

ATTEND THE OAKLAND POULTRY SHOW.

Our poultry, pigeon and rabbit readers who can do so should make an effort to attend the Annual Joint Thanksgiving Show to be held at the Oakland Municipal Auditorium, November 24 to 30, inclusive, under the auspices of the Alameda County Poultry Association. An invitation is extended to all breeders on the Pacific Coast to co-operate with this Association in making it a great success, as it no doubt will be. Entries must be made not later than November 25 at 10 a. m. The poultry judging will be done by R. N. Moore, C. G. Hinds and W. S. Russell.

WATER GRASS SEED FOR CHICKENS.

To the Editor: What is the feeding value of water grass for chickens? I can buy some for \$2 per 100 lbs., with some broken rice mixed in. I use it for the morning mash—2 parts (by measure) of bran, 1 part of water-grass seed mixed with sour milk, or if I have no sour milk I use one-third part commercial meat scraps and mix with hot water. At night I feed whole grain, wheat, and white Egyptian corn alternately. My chickens have free range and access to alfalfa. They seem to like the mash and eat it greedily, and I am getting about as many eggs as can be expected at this time of the year.—F. W., Chico.

In the proportions mentioned above water grass seed is a valuable poultry feed. Its commercial value depends somewhat on whether it is well matured and is full seed, or there is more or less husk. At present market prices of grain we believe the sample sent indicates a value of from \$1.50 to \$2 per hundred pounds, depending on the quality of the sack used in packing and the cost of getting it to the poultry plant.

The free use of an effective lice powder is always advisable. A dust bath, consisting of road dust and wood ashes, is essential in ridding fowls of lice. Sodium fluorid, a white powder which can be obtained from druggists, is also effective. Apply a pinch of the powder at the base of the feathers on the head, neck, back, breast, below the vent, base of tail, both thighs, and on the underside of each wing.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

GIANT BRONZE TURKEYS—The Gold Nugget Strain continually prove their superiority by winning Gold Special Sweepstakes for best turkeys at the following great shows, Livestock Show, Los Angeles, Cal., October, 1919; Liberty Fair, Los Angeles, Cal., 1918; Southern California Fair, Riverside, Cal., 1918; Pacific Coast Exposition, Oakland, 1918; Texas State Fair, 1917; Los Angeles Show, 1917-18; California State Fair, 1917-18; Arizona State Fair, 1916. Each judge pronounced them the best in show, all breeds competing. An unequalled record. This year's awards all first prizes at the Washington State Fair, September, 1919, and the Oregon State Fair, 1919. Large turkeys can be raised at practically the same cost as small ones. Let me help you make more money. My stock will assure you of more meat when market time comes. Stock and eggs for sale. Circular. J. Will Blackman, Originator Gold Nugget Strain, 607 E. Third St., Los Angeles, Cal.

JANUARY, FEBRUARY chicks are money-makers, if you are equipped to handle them right and can put good stock into your brooders. That's our part—supplying them. Well bred and hatched right. Why not buy where quality, service and economy are to your advantage? Our breeds—White, Brown and Buff Leghorns, B. I. Reds, Barred and White Rocks, Black Minorcas. Write us your needs. Circular free. Mission Hatchery, Box 17, Campbell, Cal.

MAHAJO FARM, P. O. Box 507, Sacramento, Calif., offers highest class, standard bred, breeding stock in White Leghorns, Light Brown Leghorns, Dark Brown Leghorns, White Plymouth Rocks. Prices: Leghorns—males, \$5.00; females, \$3.00. Rocks—males, \$7.50; females, \$3.00 and upwards.

BABY CHICKS—From my Single-comb White Leghorns, bred for heavy layers, which have been in the race for 12 years, and today is among the leaders. You don't go wrong by placing your order with me. Write for prices and terms. H. A. Schlotthauer, Exeter, California.

THOROUGHbred S. C. White Leghorn chicks in 100 and 1000 lots from Hogenized and trapnested stock. Order early for spring delivery. Inventors and Distributors of "Forbros" Separator and trapnested combined. Forster Brothers, 2914 Otis St., Berkeley, Cal.

PEERLESS WHITE WYANDOTTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

BABY CHICKS—Order now for 1920 and get what you want when you want them. White and Brown Leghorns, B. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for free circular. Stubbe Poultry Ranch and Hatchery, Box 67, Palo Alto.

"WATCH US GROW"—Baby chicks. Booking orders now for January and February delivery. White and Brown Leghorns, B. I. Reds and Barred Rocks. Safe delivery guaranteed. Order early. E. W. Ohlen, Campbell, Cal.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Hatching eggs. Improve your color and egg capacity. Also Rose-comb Reds. Wm. Larm, 3915 39th Ave., Fruitvale, Cal.

BREEDING COCKERELS—Barred and White Rocks, Orpingtons, Anconas, Black Minorcas, B. I. Reds, Buff, White and Brown Leghorns. Day-old chicks in season. Enoch Crews Seabright, Cal.

BABY CHIX—Hatched from our own stock in our hatchery. Hens are of S. C. White Leghorn Utility stock, bred for commercial laying. H. A. George, Petaluma, Cal., R. D. 2, No. 29.

MAMMOTH BRONZE TURKEYS—Order now for immediate or future delivery. Choice young stock from prize winners. Prices reasonable. A. W. Ganger, Rt. 1, Dos Palos, Cal.

HART'S BRONZE TURKEYS—Large, vigorous young stock of both sexes for sale; also year-old hens. Eggs in season by the setting or hundred. Albert M. Hart, Clements, Cal.

FOR SALE—Thoroughbred Buff Orpington cockerels. February hatch, from good laying strain. \$5.00 and \$7.50. Also Buff drake. \$5.00. Mrs. M. J. Lopez, Manteca, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

"EASTMAN'S BRED-TO-LAY"—Hoganized and trapnested Barred Rocks. Fall chicks, eggs, cockerels. Fairmead Poultry Farm, Fairmead, Calif.

BRONZE TURKEYS AND EGGS—Limited number of breeders. Eggs by settings, hundred or thousands. M. M. Reiman, Planada, Cal.

CHICKENS, DUCKS, GEENSE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W Park St., Stockton, California. Stamps.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferns Ranch, Rt. 2, Box 144D, Pomona, California.

GOLDCROFT BUFF ORPINGTONS—Winners San Jose show. Choice stock for sale. Samuel Abrams, Los Altos, Calif.

MAMMOTH BRONZE TURKEYS, Embden Geese and Collie Dogs for herding purposes. John G. Mee, St. Helena, Cal.

BUFF LEGHORN COCKERELS from a good laying strain. C. W. Leding, R. 3, Porterville, Cal.

BOURBON RED TURKEYS—Mrs. Geo. F. Smith, Hardwick, Cal.

Time's up— Make her lay



If she isn't laying now when eggs are high, you're losing money. Start her—build her up so that proper feeding will bring the eggs and keep them coming.

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Mixed with the feed daily aids digestion, assures health, turns feed into eggs—and dollars. The standard for nearly half a century. Used by the world's leading poultrymen because it gives results.

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You must

INCREASE PRODUCTION

Every acre of your farm should be made to produce its utmost. This can be done by feeding and strengthening the soil. It must be supplied with sufficient of the elements necessary to produce big crops.

GOLD BEAR FERTILIZERS

Are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products containing the necessary elements to feed your crops.

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SAN FRANCISCO, CAL.

PURE ANIMAL MATTER
AMMONIATES



FOR CALIFORNIA SOILS

VARIOUS AILMENTS.

To the Editor: I noticed lately that one of my white Leghorn pullets appeared to be lame, then she drooped her wings, then frequently carried her neck extended and distorted, then she appeared to be unable to move and squatted or perhaps fell over. Another seemed to have something the matter with her throat, for she was gasping until she died. I have been giving asafoetida on the theory that it may be worms, but have noticed no improvement. Can you diagnose the trouble for me?—G. E. S., Mountain View.

The first-mentioned pullet may have been egg-bound. The description of her actions also indicates that she may have been poisoned by eating deadly nightshade, reference to which has been made in recent issues. Fowls that are poisoned by this plant hold the head at unnatural angles; the eyes are set; and they frequently attempt to run backward, which results in falling. The second pullet may have been much out of condition due to excess of starchy feed or a serious lack of building material and greens. With growing pullets this is frequently the cause of a distemper that affects the crop and throat, resulting in continuous gasping as described.

HENS ARE CONTRARY.

To the Editor: Will you kindly tell me the best method of making nests for laying hens? I have fifty pullets just beginning to lay and they persist in laying all around the poultry yard rather than in the box nests, although I have put in clean, new straw. Is it best to put in nest eggs?—E. C. H., Stockton.

There are many ways of making a practical and convenient nest for hens. It depends on local conditions which is the most convenient nest for the attendant; a hen that is educated to lay in a constructed nest will lay in any sort of a nest, provided it is free from vermin. As the easiest way to properly educate the pullets, we recommend putting one or more mature laying hens with them just as the pullets become ready to lay. The hens and pullets know that the artificial nest eggs are not real, but the nest eggs provide more or less of an incentive for the fowls to lay where they are placed.

WHAT IS A "CHICKEN FARM"?

The U. S. Census Bureau, for purposes of its own, has recently issued an official definition of a "farm." Back lot chicken yards are barred out, unless it covers a certain area of ground, calls for certain services, and yields a certain minimum income. Regardless of the pardonable pride of the proprietor, these are the minimum requirements: "If a garden or chicken yard expands until it covers not less than three acres of ground, or it requires for its care the continuous services of at least one person, or yields products annually to the value of \$250 or more, it comes within the census definition of a farm and will be recognized as such and counted."

BLACK TURKEYS.

A subscriber wishes the address of some one keeping black turkeys. Our classified columns are an excellent medium through which raisers of poultry of all kinds can reach prospective buyers.

Fowls for breeding purposes should be strong, healthy and vigorous. The comb, face and wattles should be of a bright color; eyes bright and fairly



Winter Layers Need Help—get more eggs

Offset winter conditions—get eggs when prices are highest—supply the natural elements that stimulate egg-making.

Dr. LeGear's Poultry Prescription is especially prepared to insure the vigor and vitality so necessary to thrifty, profitable winter laying. Thousands of poultry raisers bank on feeding this remedy for bigger winter egg yields.

Better Laying Guaranteed

Dr. LeGear's Poultry Prescription is the best conditioner and tonic that you can provide for your flock. It positively makes your hens lay more eggs and gain most in flesh from the feed consumed. For twenty-seven years a practicing graduate veterinarian, Dr. L. D. LeGear propounds his own prescriptions and guarantees results. Sold on a money back guarantee by over 40,000 dealers—never by peddlers. See your dealer today.

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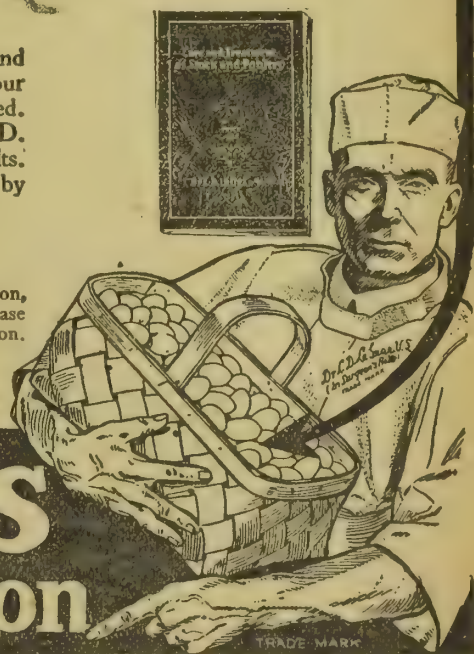
Dr. LeGear's Stock Powders produce perfect digestion, drive out worms, increase growth and production.

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Dr. LeGear's Poultry Prescription



prominent; head comparatively broad and short and not long or crow-shaped; legs set well apart and straight; plumage clean and smooth.

CHICKEN LICE.

To the Editor: Can you give me a remedy for chicken lice?—H. P., Bangor, Cal.

See Rural Press, September 20, 1919, page 402.

MARKET MAN SAYS MOVE MARKETABLE STOCK.

From indications, says a reputable provision man of San Francisco, there will be an immense crop of turkeys throughout California and the Middle West that will not mature until quite late this season, with the result, we believe, that the Christmas season will see the market glutted; therefore, it behooves everybody to move all stock that is in marketable condition to catch the Thanksgiving trade. No matter how much you ship in, there will still be enough for Christmas, so why take a chance on an uncertain market for Christmas when assured good prices for Thanksgiving? Put on each tag the exact contents of the case so that the shipment can be properly checked up.

50 Cents Per Pound

DRESSED WEIGHT

Wanted: 50,000 Head of Fancy Live and Dressed Turkeys
W. C. Price & Co. Phone Kearny 1599. 244-246 Clay St., San Francisco.

We have just sold LIVE TURKEYS for several of our shippers at the highest price Turkeys ever sold for in the State of California, namely 45c per pound. If you have any large, fat, young or old TURKEYS, we would advise you to dress them nicely and ship them to us by express, or express them alive to us IMMEDIATELY. We shall require the above number of TURKEYS to supply our trade with between now and Thanksgiving and Christmas.

Mark and Consign Your Shipment to This Firm.

W. C. PRICE & CO.

HONEY, GRAIN, BROOM CORN, GREEN DRIED FRUIT, AND GENERAL
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Established over forty years in San Francisco.

CONSIGNMENTS AND CORRESPONDENCE SOLICITED. Highest market prices and immediate cash returns guaranteed. Produce handled on consignment or bought outright for spot cash. Send us samples of any produce you have for sale, stating quantity and price. Any parties making us shipments of Dressed or Live TURKEYS or Wool are at liberty to draw on us as an advance upon their shipments 25c per pound and we will remit the balance of your money immediately after receiving your shipment.

We make a specialty of handling wool on consignment. Would advise you to ship us all you have on hand immediately. References: Bank of Italy, San Francisco.

THE HOME CIRCLE

THE LANDING OF THE PILGRIMS.

The breaking waves dashed high
On a stern and rock-bound coast,
And the woods against a stormy sky
Their giant branches tossed.

And the heavy night hung dark
The hills and waters o'er,
When a band of exiles moored their
bark
On the wild New England shore.

Not as the conqueror comes,
They, the true-hearted, came;
Not with the roll of stirring drums,
And the trumpet that sings of fame.

Not as the flying come,
In silence and in fear:
They shook the depths of the desert
gloom
With their hymns of lofty cheer.

Amidst the storm they sang,
And the stars heard, and the sea;
And the sounding aisles of the dim
woods rang
To the anthem of the free!

The ocean eagle soared
From his nest by the white wave's
foam:
And the rocking pines of the forest
roared—
This was their welcome home!

There were men with hoary hair,
Amidst that Pilgrim band;
Why had they come to wither there,
Away from their childhood's land?

There was woman's fearless eye,
Lit by her deep love's truth;
There was manhood's brow serenely
high,
And the fiery heart of youth.

What sought they thus afar?
Bright jewels of the mine?
The wealth of seas, the spoils of
war?—
They sought a faith's pure shrine!

Ay! call it holy ground,
The soil where first they trod:
They have left unstained what there
they found,
Freedom to worship God.

THE SECRET OF THANKSGIVING.

By Fannie Wilder Brown.

Dora was in tears. "I guess if those Pilgrim children had had such a poor time as I have," she said, crowding her reader and number-book into her school-bag so hard that a corner of her number-book pushed through the cloth, "they wouldn't have made any Thanksgiving. Oh, dear; Now I've torn my bag, and I suppose I'll have that to mend this afternoon, instead of going across the yard to play with Lena."

She snatched her coat from the big chair, and her hat from the broad window-shelf, where she had tossed them when she came in from her walk before breakfast. Little Sister Helen's big doll came tumbling to the floor from the coat Helen had wrapped it in, breaking its nose as it struck the floor. With her hat Dora pulled down a small potted rosebush which Auntie May had given her on her birthday. It struck on the doll's head, breaking the pot into fragments, covering the

doll with damp earth. The slender plant stem was bent in the middle so that the upper part lay at right angles to its stalk.

Helen cried: "My dollie is bwoke! My dollie is bwoke!" and ran to pick her up. She stepped on the rosebush, right on a dear little bud Dora had expected would be a blossom on Thanksgiving Day. Dora caught at Helen, just too late to save the bud, pushing her away so roughly that the little girl fell backward, striking her head on the brass fender in front of the fireplace.

"There," cried Dora, "now I guess you'll be more careful."
But Helen lay very still. Her face was white, her eyes shut.

"Wake up," cried Dora. "You mustn't act like that!"

Still Helen did not move. Dora took her hand and tried to pull her up, but the child lay as she had fallen. "Mother!" Dora called. "Mother! Come quick!"

Mother was dusting in the next room. She came in quickly, saw Helen on the floor, took her up into her arms, and hurried with her into the kitchen. "She will be all right in a minute," mother said.

Dora's knees knocked together in so queer a way she could hardly walk. The kitchen looked big and strange, and seemed to be turning around and around, while the sink seemed to stand on the top of a hill.

Mother turned the cold water faucet, caught a handful of water, and dashed it into Helen's face. "Oh," cried Dora, "don't!"

But mother did it again and again. Then Helen gave a little gasp, and her eyes opened.

"She's all right now," said mother, wiping the wet face tenderly and kissing both cheeks and lips. Then she carried her back into the sitting-room, and laid her on the couch.

"Put your coat and hat away, Dora," mother said. "You must stay at home from school today to help take care of Helen. I want her to keep quiet and rest, and you may sing to her and tell her stories."

All day long Dora tended Helen as gently and lovingly as possible. At night, after Helen had been put to bed in her little white-and-gold crib, and Dora lay in her own bed, thinking, thinking, suddenly she burst into tears.

"What is it?" mother asked, coming in with a lamp and gathering Dora up in her arms.

"I'm so sorry I hurt Helen. I did it, mother. I pushed her over. I didn't mean to hurt her, but I was cross."
"What was the trouble?"

"Everything went wrong—things always do go wrong just when I can't bear anything at all!"

Mother gave a queer little smile. "Did you take a pill, Dora?"

"No, mamma," Dora answered. "I forgot all about the pills. Shall I take one now?"

Mother nodded. Dora reached across to the dressing-table and took up a little pill-box. It was marked: "Pills for Dora, when she can't bear anything at all. In mild attacks, take one; in acute illness, take two; if very severe, take three." In the box were left about a dozen tiny rolls of paper, tied with bits of colored silk. Dora chose a "pill" tied with blue. She slipped off the thread, unrolled the paper, and read: "Think of something pleasant that is going to happen."

"But I wish there wasn't any Thanksgiving tomorrow. I've been wishing it all day. It won't make me thankful a bit, I know it won't. I'm just as sad as I can be, and I wish it was a day to cry instead."

"Dear me! This is an acute attack. I think you'd better take another pill."

Dora opened the box again. This time she chose pink. It said, "Count how many things you have to be thankful for."

"But I'm not thankful one bit," said Dora, "and Thanksgiving won't make me be."

Mother looked very sober. "No,

dear, Thanksgiving doesn't make people thankful or happy. That isn't what it is for. It is to give people a chance to show that they are thankful."

"I'm not. I'm puffed up mizzable."
"With a nice school and pretty clothes and playthings and Lena? With home and mother and father

and Helen?"

"But—if I'd been a Pilgrim, with a wild turkey dinner to eat, and a red cloak to wear, and a whole ship load of good things come over from England to them, I'd have been so glad I shouldn't have known what to do. No wonder they made a Thanksgiving! They didn't have to go to school, nor



Your Wife Should Be Considered

Mr. Farm Owner:

You may have fitted up your farms and out-buildings with electric, labor-saving devices, but have you considered the lady of the house?

An electrically driven washer, mangle, vacuum cleaner and other household devices will greatly lessen her work and add to her comfort.

A few words to your lighting company suggesting as a preference G-E MOTORS' will repay you for the trouble.



Ice Cream Freezer



Washing Machine



Vacuum Cleaner



1/2 H. P. G-E Motor

General Electric Company

Los Angeles Office:
Corporation Bldg.



San Francisco Office:
Rialto Bldg.



A MOTHER'S "UNION"

Let's start a Union for Mothers and get our mother to join at once. Not a Labor Union, but a Love Union. Everything is to be in perfect harmony so there can be no thought of "strike." We will begin with a profit-sharing system in the shape of shorter hours and more conveniences. How?—Easy. You can begin tomorrow, and it will not cost much either. Suppose by a simple operation you should quickly and easily change the entire heat system—cook-stove and heater—from the slavery of dirty wood and coal to clean, cheap gas—would mother approve of the "Union" and join?—you know she would and forever bless the organizer.

A Dreadnaught Oil-Gas Burner in those same stoves will do wonders for mother—shorten her hours and make all work-time a pleasure instead of drudgery. Incidentally you are going to reap a good big part of the benefits—think it over, Daddy Boy. Let's start that "Mother's Union" right away—Write for our circular that will give you further details.

Burner and Valve,
Combination Needle Valve and Drain,
Prepaid Anywhere \$7.50

SCIENTIFIC SPECIALTIES CO.,
Manufacturers,
310 SOUTH HILL STREET,
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More Light Than 20 Oil Lanterns

AT LAST—the light of lights! A lantern that lights with common matches just like the old style oil lantern, but makes and burns its own gas from common gasoline, giving a brilliant, steady, white light of 300 candle power.

MOST BRILLIANT LIGHT MADE
Brighter than the brightest electric bulb. More light than 20 oil lanterns. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lantern. The



Coleman Quick-Lite
No wicks to trim — No clothes to wash. No dirt or grease, no glare or flicker. Absolutely safe. Fuel can't spill — no danger if tipped over. Will last a lifetime. Write our office for Catalog 21-E. P.

THE COLEMAN LAMP CO.,
(Successors to)
COLE LITE & SALES CO.,
120 S. Los Angeles St., Los Angeles, Cal.

learn lessons, nor mend torn bags, nor anything!"

"Why, Dora! They had to work harder than you ever thought of working, and without any conveniences to work with, either. There were no stores, and no money to buy things with if there had been stores. They were glad to get the ship's food because they were almost starved. They were thankful because that terrible first winter and the wild animals and the fiercer Indians had not killed them all; and they sang hymns and prayed because they felt that God had taken care of them, and they wanted to show how much they appreciated it."

"I don't believe things went wrong with them as they do with me—and just when I can't bear anything 'specially.'"

"But things don't go wrong, dearie. We break and spill and tear things and hurt people when we let ourselves get cross and worried and sad. It wasn't what the Pilgrims had or didn't have, Dora, that made their Thanksgiving, or what happened to them or didn't happen to them. It was how they felt in their hearts. And that is what will make or spoil our Thanksgiving tomorrow."

Dora kept still for awhile, thinking. "You haven't taken that second pill yet," mother said.

"Well," said Dora, slowly. "I'm glad Helen was not hurt any worse. And I'm thankful I don't live where there are wolves and wild Indians. And I'm thankful we have stores and money to buy things. And—why, I'm thankful for lots of things. Yes, I guess I'm cured. There is Thanksgiving inside of me, after all."

THIS IS THE DAY OF THE CHILD.

The California State Board of Health says that this is the day of the child—particularly of the American child.

With the entry of the United States among the world powers, the importance of the American child has become tremendous.

Nothing in the world today is of greater moment than the development of this child of Liberty.

Upon his shoulders rests the task of perpetuating the ideals upon which the Nation was founded.

It is upon him that we must depend to keep America for the Americans.

Under the new social and political conditions his work will be no gentle pastime.

To make him fit for future responsibilities will require the provision of every attribute that makes for education and for physical well-being.

By giving to the Nation strong, healthy, intelligent children California can best prove her devotion to the principles of Liberty upon which the Nation was founded and can best prove her fealty to the bonds that hold the United States in everlasting union.

Every California child has a right to demand that he be given every opportunity to be healthy. His health is of public as well as private concern.

Potato wart has not yet been discovered in Wisconsin, but plant pathologists are watching for it as the potatoes are harvested. The wart is a spongy overgrowth which starts at the eyes and may cover the whole potato. Rot follows the warts and makes the potatoes worthless. Control of the disease is practically impossible.

CHOCOLATE CAKES.

The chocolate cake oftenest seen and perhaps most generally liked is the layer cake, put together and covered with chocolate. But there is really a wide variety in chocolate layer cakes, and of chocolate cakes in other forms it would be easy to give a dozen reliable recipes. These vary widely in character, from the simplest loaf or cookie, made light with baking powder, to the highly elaborate forms in which rich materials and skilled handling are united.

A hint of this variety is shown in the tried recipes that follow. One may choose a dark cake with white icing, a cake with the double (chocolate cream) icing, or both cake and icing rich and dark with chocolate may be considered better still. Nuts and fruit in either the cake or the filling may vary it still further. The combinations are easily varied, and only individual liking can decide upon the best. A few general directions are worth considering.

Plain cakes require a quick oven; richer cakes a slower one, and the texture of the cake depends upon the baking quite as much as on the mixing. Too cool an oven and too much baking powder, alike, will give a coarse texture. An oven too hot at the beginning causes a cake to rise rapidly and sometimes to fall afterward. For a fine cake a smooth, close-grained, buttery texture is desired. Chocolate helps to thicken cake batter and therefore allows a little less flour; it also takes up a little more butter. In dividing batter for a marbled cake, for instance, it is well to add a bit of butter of the size of a hickory nut to the dark part with the chocolate. Cocoa makes a convenient substitute for chocolate in light cakes. In using chocolate, either in the body of the cake or for filling and icing, the most convenient way is to soften and dissolve over boiling water.

THANKSGIVING DAY.

Thanksgiving Day is a day set aside each year, by the Government, for fasting and prayer, and also for the commemoration of the landing of the Pilgrim Fathers. Because of custom, it always comes upon the last Thursday in November.

The first day of Thanksgiving was observed December 21, 1620. A religious sect known as Pilgrims, because of their wanderings, emigrated to America that they might be free to worship God according to the dictates of their own conscience. After a perilous journey through unknown waters to an unknown land, during which they suffered many hardships because of storms and disease, they were indeed joyous and thankful that they had reached their destination and were now, to some degree, freed from the rigid laws of England. This first day of Thanksgiving was spent in fasting and prayer and the singing of hymns.

GRAPEFRUIT COCKTAIL.

Cut grapefruit in halves, remove each section, saving all the juice; add sliced oranges and bananas in equal quantities, sprinkle with powdered sugar and place in cocktail glasses, topping the fruit maraschino cherries. If the grapefruit shell is used for a receptacle, notch the edges evenly, before placing the fruit in.



Hanes gives wear-service that will exceed any man's expectations!

GET the big, extra-long-service features of Hanes winter men's Union Suits and Shirts and Drawers fixed in your mind! Go over the extra-wear-points brought out in the diagram circles shown in the Union Suit above—*guaranteed* unbreakable seams; *guaranteed* tailored collar that cannot gap; *guaranteed* elastic knit wrists and ankles; *guaranteed* closed crotch; *guaranteed* pearl buttons sewed on to stay; *guaranteed* buttonholes that last as long as the garment!

If comfort, warmth, wear and economy mean much to you in winter underwear, then buy "Hanes"! Every thread, stitch and button is *guaranteed*! You should immediately check up your dealer and get a supply.

Hanes winter weight Union Suits are standard throughout America—standard because they exceed in real worth any underwear you ever bought at the price!

Your confidence in Hanes Underwear should be based on the fact that every process of manufacture from raw long-staple cotton to the perfected garment is under direct Hanes supervision in Hanes factories!

Your choice of Union Suits or Shirts and Drawers is a matter of personal preference.

Union Suits for Boys All the quality, extra features and perfect workmanship that make Hanes men's Union Suits so universally popular go right into Hanes Union Suits for Boys! These staunch Union Suits stand up against the stiffest wear-service and wash service. Made in sizes to meet ages between 2 and 16 years. Two- to four-year sizes have the drop seat.

If your dealer cannot supply you, write us direct

P. H. HANES KNITTING CO., Winston-Salem, N. C. New York Office, 366 Broadway

Warning to the Trade—Any garment offered as Hanes is a substitute unless it bears the "Hanes" label.



Portable heat—convenient - economical

At the light of a match—instant heat. No smoke, no odor. Comfort without dust or dirt. Oil consumed only as needed.

Pearl Oil is refined and re-refined; pure and clean burning. Sold in bulk and in five-gallon cans. Order by name—Pearl Oil.

We recommend Perfection Oil Heaters.



STANDARD OIL COMPANY

ROAST TURKEY ROAST TURKEY

Roast your TURKEY this Thanksgiving with a Premier—the heat will travel slowly, in a lingering way, around the oven, thereby penetrating right through to the very heart of the cooking; and you'll find it more economical than anything you've ever used.

PREMIER sales are far ahead of all other KEROSENE OIL BURNERS combined.

\$12.50—Complete Outfits for Medium size Stove.

\$22.50—Complete Outfits for Large size Stove.

VAUGHAN & MATTISON,

Pacific Coast Representatives

225 Market Street,

San Francisco, Calif.



SAN FRANCISCO.

San Francisco, November 19, 1919.

BARLEY.

The lateness of the rainy season is holding back the ranges and compelling an increased purchase of feedstuffs. As rolled barley is the favorite for this the price of the whole grain continues to increase. Dealing in futures gives additional strength to barley. December deliveries selling as high as \$3.51 and May \$3.45. It is questionable whether barley can maintain its present prices after the first heavy rains, and certainly not after the ranges begin to show green.

Feed \$3.35 @ 3.45
Shipping \$3.40 @ 3.50

OATS.

Oats are slow and as yet have shown no indication of advancing with barley. There is some demand for black seed and for the uncleaned description from \$3.15 to \$3.25 is the usual price. For re-cleaned for seed there is no agreement on price. It varies from \$3.25 to \$3.90, depending on the condition, amount wanted, and on how badly it is wanted. No accurate quotation is possible.

Red seed, per cth. \$2.85 @ 3.00
Test for seed Nominal
Black for seed \$3.15 @ 3.25
Re-cleaned Red or Black for seed Nominal

CORN.

Corn is steady and unchanged, but if the dry weather continues an advance may be looked for. On the other hand a heavy rain would probably make the prices weaker.

California \$3.00 @ 3.70
Egyptian, choice \$3.30 @ 3.40

HAY.

Receipts of hay during the past week were 1046 tons, compared with 1349 the previous week. Such hay as is arriving by rail in this city is for Government account, to be double compressed for shipment overseas. Owing to the dry weather, which has continued so long the demand in country districts for hay has been very good. This demand and the disinclination of farmers to dispose of their surplus until the rains start the grass has created a firmness throughout the market, which was followed by an advance all along the line.

No. 1 Wheat, or Wheat & Oat \$19.00 @ 23.00
No. 2 Wheat, or Wheat & Oat \$18.00 @ 20.00
Choice Tame Oat Hay \$21.00 @ 24.00
Wild Oat Hay \$17.00 @ 20.00
Barley Hay \$17.00 @ 21.00
No. 1 Alfalfa Hay \$19.00 @ 24.00
Stock Hay \$14.00 @ 17.00
No. 1 Barley Straw, per bale 50 @ 80

FEEDSTUFFS.

The same conditions which have caused the increase in hay and whole barley prices have put considerable strength in feedstuffs. While rolled barley is the only variety to advance so far another week without prospect of a good rain may advance all prices.

Rolled Oats \$3.00 @ 4.00
Rolled Barley \$6.00 @ 6.00
Cracked Corn \$8.00 @ 8.00
Alfalfa Products \$8.00 @ 45.00

POTATOES, ONIONS, ETC.

The potato market is showing increased strength and activity. There has been a general advance in prices with the best demand for the Oregon product. Onions have been slow this week, but advances recently made have been maintained. The market can not be said to be weak for onions, but there has been lack of interest. String beans and peas are nearing the end of their season and are selling at higher prices. Locally grown eggplant is no longer on the market and only a small quantity came in from the southern part of the State.

String Beans, lb. 12 @ 17 1/2 c
Peas, lb. 15 @ 30 c
Carrots, per sack \$1.00 @ 1.25
Cucumbers, box 75c @ 1.00
do, Hothouse \$2.00 @ 2.25
Eggplant Nominal
Lettuce, per crate 75c @ 1.25
Tomatoes, Stone \$1.00 @ 1.25
Hubbard Squash, sack \$1.25 @ 1.50
Pumpkins, sack 75c @ 1.00
Potatoes, River, cwt. \$2.50 @ 2.90
do, Oregon Gem, cwt. \$3.25 @ 3.80
do, Oregon Burbank, cwt. \$3.25 @ 3.40
do, Idaho Gem, cwt. \$3.25 @ 3.40
do, Sweet, new, lb. 3 1/2 @ 3 3/4 c
Onions, Brown, sack \$1.00 @ 1.25
do, Yellow, sack \$3.25 @ 3.75
do, Green, Alameda Nominal
Garlic, lb. 20 @ 25c

BEANS.

There was a good deal more interest in beans this week than for some time past. While it was not sufficient to cause a general advance in prices the new crop beans of Large Whites, Red Mexicans, Pinkas and Bayos sold at higher prices. Some of the old crop Bayos were also sold at 50 cents advance over last week's quotations. The new interest in beans is welcomed by the local dealers.

Variety **Old crop** **New crop**
Bayos \$7.00 @ 7.25 8.00 @ 8.75
Blackeyes \$5.75 @ 6.00 6.00 @ 6.15
Cranberry \$6.00 @ 6.25 7.25 @ 7.75
Pinks \$5.50 @ 5.75 5.90 @ 6.25
Red Mexican \$5.00 @ 5.75 6.25 @ 6.75
Tepary \$2.50 @ 2.75
Garbanzos 9.50 @ 10.00
Large Whites \$5.25 @ 5.50 5.90 @ 6.10
Small Whites \$6.00 @ 6.25 6.00 @ 6.25
Limas \$14.50
do, Baby 13.00

POULTRY.

The bottom dropped out of the market for small broilers this week, the price for the best receding 7 cents. Larger broilers were also weak and lower on lack of demand. Dressed turkeys were weak and the trade seemed determined not to pay more than 45 cents for selected stock. At the same time the price of live turkeys was well maintained. Old geese advanced in price to almost a parity for the young stock on the holiday demand and the fact that young geese are not yet in good condition for the market.

Broilers, 1 1/2 lbs. under 36 @ 40c
do, 2 to 3 lbs. 32 @ 30c
Fries, 2 to 3 lbs. 32 @ 30c
Hens, extra, per lb. 34 @ 35c
do, Leghorns 30 @ 35c
Smooth young roosters, per lb. (3 lbs. and over) 30 @ 32c

THE MARKET REPORTS

Old Roosters, colored, per lb. 22c
Turkeys, dressed, young spring, lb. 40 @ 45c
do, live 38 @ 40c
Geese, young, per lb. 28 @ 30c
do, old, per lb. 26 @ 28c
Squabs, per lb. 60 @ 65c
Ducks, young 28 @ 30c
do, old, per lb. 25 @ 27c
Belgian hares 16 @ 20c
Jack Rabbits \$1.50 @ 3.50

BUTTER.

There was not much activity in the butter market during the past week and extra showed fluctuations of only a half cent. Storage butter and substitutes are being used in increasing amounts, and it seems doubtful if butter will advance to a much higher figure than at present. Last year and the previous year, December averages for butter were approximately four cents higher than the respective November average. But November of last year averaged about 7 cents less than the average of this year, while the average of two years ago was about twenty-five cents less than this year.

Thurs. Fri. Sat. Mon. Tu. Wed.
Extra 64 64 63 63 64 64

EGGS.

Eggs have reacted from the extreme low prices of last year to within 2 1/2 cents of last week's high point. The Eastern markets are very strong. Selected extras selling in New York today at 98c to \$1.00. All other descriptions of eggs showed considerable advance on the New York market today, and these quotations were received after the local

price for the day was made. This would indicate higher prices tomorrow unless an unexpected break occurs in the Eastern markets. The prices of pullets and undersized closed higher in this market, the former being within a cent and the latter within a cent and a half of last week's high. Shipments East from points of production continue.

Thurs. Fri. Sat. Mon. Tu. Wed.
Extras 73 73 73 79 79 80 1/2
Dirties, No. 1 59 59 60 62 63 64 1/2
Ex. pullets 59 59 58 60 62 63 64 1/2
Undersized 57 57 58 60 60 60 61 1/2

CHEESE.

While there was little activity in the cheese market this week some demand developed for California fancy flats and Y. A. Each description advanced a half cent on the demand. Oregon Y. A. advanced to a parity with the California product.

California Flats, fancy 32c
do, Firsts 27c
Y. A. Fancy 34c
Oregon Triplet 30 1/2 c
do, Y. A. 34c

FRESH FRUITS.

The apple market is rapidly becoming exclusively one for the Oregon descriptions. While there are still some small lots of California bellflowers they have little or no influence in the market. California pippins are in good demand and quantity, and sell at a higher range. Raspberries are now a thing of the past, and while it is expected a case or two may be received from time to time if the rain holds off, their quality is not good

and there is little demand. Strawberries are also becoming scarce, but their quality is good for the season.

Apples, Jonathan, Oregon \$2.50 @ 3.00
do, Spitzenberg, Oregon \$2.50 @ 3.00
do, Bellflower Nominal
do, Pippins, Calif. \$2.50 @ 3.00
do, Oregon, other \$2.00 @ 3.00
Quinces \$1.30 @ 1.50
Pears \$2.00 @ 4.00
Strawberries \$18.00 @ 20.00
Raspberries None
Grapes \$1.50 @ 2.50
Figs \$1.50 @ 2.00

CITRUS FRUITS.

Navel began to arrive a few days ago and they are now in fair quantity along the coast. They sell from \$5 to \$5.50 per box. Valencia's are still in quantity and have been reduced in price to \$4.50 for the best. Grapefruit is coming in in good supply and is selling at lower prices than a week ago. Lemons have been lowered a dollar a box for all varieties on account of general weakness in the citrus market.

Oranges, Valencia's \$4.00 @ 4.50
Lemons, fancy \$6.50 @ 6.00
do, choice \$4.50 @ 5.00
do, standard \$3.50 @ 4.00
Tangerines \$1.50 @ 3.00

DRIED FRUITS.

The dried fruit market was steady this week with no changes in quotations. Local dealers consider the market in good condition and do not look for material changes in the near future.

Apples 17 @ 18c
Pears 16 @ 18 1/2 c
Apricots 21 @ 28c
Prunes 11 @ 13c
Figs, Adriatic 12 @ 18c
do, Calymna 16 @ 21c

HONEY.

Honey felt the effect of the approaching holiday, and while there was no weakening in prices there seemed to be a total lack of interest.

Water White 18 @ 20c
Light Amber (Mountain) 16 @ 18c
do (Alfalfa) 14 @ 16c

RICE.

Rice quotations quiet and unchanged. S-S Siam Usual is quoted at \$10.25 for November and December delivery, while the same description is quoted 15 cents higher for delivery in January and February.

LOS ANGELES.

Los Angeles, November 18, 1919.

BUTTER.

Prices remain unchanged since reported last week. Demand holding up and receipts considerably lighter than a week ago, being 233,900 lbs.

Fresh, California, extra creamery 66c
do, prime first 64c
do, first 63c

EGGS.

Eggs selling very well and the market is quoted lower. Receipts also lighter, for the week, 491 cases.

Fresh ranch, extras 75c
do, case count 75c
do, pullets 62c

POULTRY.

Receipts are light. Broilers and friers in good demand and quoted higher. Heavy hens also selling well. Slow sale on light hens. The market is firm on turkeys and ducks, and a good demand is reported for them. Very dull on geese.

Broilers, 1 to 1 1/2 lbs. 45c
Broilers, 1 1/2 to 1 3/4 lbs. 45c
Friers, 2 to 3 lbs. 35c
Hens 32 @ 36c
Roosters (soft bone), 3 lbs. and up 19c
Stags and old roosters, per lb. 35 @ 37c
Turkeys 25 @ 30c
Ducks 25 @ 30c
Geese 27c

VEGETABLES.

Offerings in this market are lighter. The demand for all choice to fancy fresh is very good. Prices reported are considerably higher than quoted a week ago.

Potatoes, Northern Burbanks \$3.30 @ 3.35
do, Idaho Russets, cwt. \$3.00 @ 3.25
Sweet Potatoes \$2.00 @ 2.25
Onions, Stockton, yellow, cwt. \$3.85 @ 4.00
do, White Globe, cwt. \$3.60 @ 3.75
Cabbage, per 100 lbs. \$1.25 @ 1.50
Lettuce, crate \$2.50 @ 2.75
Rhubarb, per 30-lb. box 90c @ \$1.25
Summer Squash, lug 90c @ \$1.25
Peas, per lb. 12 @ 15c
Kentucky Wonders 15 @ 16c
String Beans, Green 14 @ 18c
Tomatoes, lug box 85 @ 90c
Lima Beans, local, lb. 8 @ 9c
Cucumbers, local, lug box \$2.50 @ 2.75
Watermelons 75c @ \$1.00
Peppers, Bell, lb. 6 @ 8c
Cauliflowers, lb. 1 1/4 @ 1.50
Celery, crate \$3.50 @ 3.75
Cauliflower, crate \$2.00 @ 2.25

FRUITS.

The demand in this market is good for all choice to fancy. Receipts falling off on most everything but apples. Prices are generally higher. Quinces now listed and selling at 3c and 4c the pound.

Grapes, Malaga, lb. 11 @ 12c
do, Tokays 11 @ 12c
Pears, Bartlett, lb. 6 @ 8c
Japanese Persimmons, lb. 5 @ 12c
Apples—Bellflowers, 4 tier \$1.75 @ 1.80
do, Jonathan, packed box \$2.75 @ 3.00
do, Red Permain, packed box \$2.00 @ 2.25
do, White Permain, packed box \$2.00 @ 2.25
do, Yellow Newtown Pippins, pkd box \$2.00 @ 2.25
do, Spitzenburg, packed box \$3.00 @ 3.25
Quinces, lb. 3 @ 4c

BEANS.

Very little doing in this market. All prices the same as quoted last week.

Limas, per cwt. \$12.00
Large white, per cwt. \$4.25
Small white, per cwt. \$4.50
Blackeyes, per cwt. \$5.00 @ 5.25
Tepary, per cwt. \$3.00 @ 3.25
Pink, per cwt. \$6.25

Special Livestock Market Report

San Francisco, November 19, 1919.

CATTLE—The market situation during the past week has changed but little. The continued dry weather is moving some stockmen to part with cattle they would otherwise prefer to keep. The demand continues good for well-finished steers. Range and dairy calves are both in good request.

Steers, No. 1, 1000-1200 lbs. 10 1/2 @ 11c
do, No. 1, 1200-1400 lbs. 10 @ 10 1/2 c
do, 2nd quality 8 1/2 @ 9c
do, thin 6 1/2 @ 7 1/2 c
Cows and Heifers, No. 1 8 1/2 @ 9c
do, 2nd quality 7 @ 7 1/2 c
do, thin 4 1/2 @ 6c
Bulls and Stags, good 5 1/2 @ 6 1/2 c
do, Fair 4 1/2 @ 5 1/2 c
do, Thin 3 1/2 @ 4 1/2 c
Calves, lightweight 11c
do, medium 10c
do, heavy 8 @ 9c

SHEEP—The supply of mutton sheep and lambs about keeps pace with market demand. There is a disposition to keep all suitable stock for breeding purposes. Quotations unchanged.

Lambs, yearling 10c
do, milk 12 @ 12 1/2 c
Sheep, wethers 9 @ 9 1/2 c
do, ewes 8 1/2 @ 7c

HOGS—The recent sudden advance has been checked, as the higher prices brought out freer offerings. The price situation remains the same, though the market is strong.

Hogs, hard, grain-fed, 100 to 150 lbs. 15 1/2 c
do, 150 to 225 lbs. 16c
do, 225 to 300 lbs. 15 1/2 c
do, 300 to 400 14 1/2 c

Los Angeles, November 18, 1919.

CATTLE—Steers in light supply and best in good demand. Prices are firm in this market, and unchanged.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 @ 1100 lbs. \$9.50 @ 11.00
Prime cows and heifers \$8.00 @ 9.00
Good cows and heifers \$7.50 @ 8.00
Canners \$5.00 @ 5.50

HOGS—Receipts of hogs falling off and higher under lighter offerings. Demands reported to be very good.

Per cwt. f. o. b. Los Angeles:
Heavy average's 275 @ 350 lbs. \$11.00 @ 12.50
Light \$14.00 @ 16.00
Heavy average's 225 @ 275 lbs. \$13.00 @ 14.00

Special Deciduous Market Report

(Written for Pacific Rural Press by J. L. Nagle.)

Sacramento, Cal., November 17, 1919.

Unfavorable and very cold weather in many of the Eastern markets during the past week, and due to the fact also that many of the offerings contained good and unsound fruit, accounts for the wide range in prices.

The continuing demand for wine grapes, however, cleaned up many markets on stock unsuitable for consumption; in fact, wine grapes outsold fancy stock table grapes. The movement in transit is light and the shipments will probably finish for the State this week.

Almerias from Spain put in their appearance about ten days ago, but there is a wide range in the quality of the fruit, the stock selling from \$1 to \$15 a barrel.

All markets should show a continued active demand on sound arrivals and though quite a

proportion of the fruit in transit is showing the effect of frost damage, this stock should be picked up readily by wine grape buyers at satisfactory prices.

Averages for the week:
CHICAGO:—Emperor Grapes, \$1.94; Cornichon, \$2.24; Zinfandel, \$2.00; Tokays, \$1.78; Malagas, \$2.58; Mission, \$2.15.

NEW YORK:—Malaga Grapes, \$2.38; Tokays, \$1.78; Emperors, \$1.90; Cornichon, \$2.13; Alicante Bouschet, \$2.80; Muscat, \$1.56; Mission, \$2.10; Zinfandel, \$2.05; Winter Nells Pears, \$3.43; P. Barry, \$4.57; E. Beurre, \$3.70.

BOSTON:—Cornichon, \$2.18; Tokays, \$1.05; Emperors, \$2.20; Malagas, \$2.25; Zinfandel, \$1.90; Mission, \$2.30; Muscats, \$1.10; E. Beurre Pears, \$3.80; B. Claireau, \$5.05; Winter Nells, \$4.30; Mission, \$2.60.

Special Citrus Market Report

During the past week the Valencia market has been very much easier. As a result prices in auction centers have lowered \$1 per box, while a decline of 50 cents per box was felt in the private sale markets. This decrease in price is due doubtless to the trade waiting for the early navels, to appear on the market, but with Thanksgiving near there is renewed activity for the Valencia crop. There are probably 1,500 cars of Valencia's remaining for shipment after this week. F. o. b., Cali-

fornia quotations are on a basis of \$4 to \$4.50 on Valencia's.

It is reported that four or five cars of the new navel crop are moving daily from north of the Tehachapi. They are coloring up well.

In spite of the fact that there are approximately 40,000 boxes of foreign lemons on hand, there is also a fair demand for California lemons, on a basis of \$5 to \$4 f. o. b.

The total shipment of cars of oranges for the past week were 417; while there were 92 cars of lemons shipped.

HAY.

Receipts are light but demand is very good for both grain hay and alfalfa. Prices quoted are the same as last.

F. O. B. Los Angeles.

Barley hay, ton	\$22.00@25.00
Wheat hay, ton	\$24.00@26.00
Alfalfa Northern, ton	\$24.00@25.00
Alfalfa local, ton	\$25.00@27.00
Straw	\$10.00@12.00

TURKEYS FOR THANKSGIVING.

(Written for Pacific Rural Press.)

The storage houses are entirely cleaned up on turkeys, leaving the field open for fresh stock. With every dealer competing to get stock to fill his orders, the price of turkeys was run up entirely too high to suit the buying public, with the result that the market has reacted, and turkeys that would bring 50c to 53c in the market last week, are unsalable at 47c today. We refer, of course, only to top stock. In view of the fact that the high prices on turkeys have induced hundreds of new raisers to go into the business, California will produce this year a crop estimated at 50 per cent in advance of any previous year.

On account of a very large production, we do not believe prices will be maintained within 3c to 4c of the present ruling market; for not only are there a greater number of unemployed men in California than ever before, but the fights now being waged against the high cost of living is asking the housewife to think twice before she will put \$5.00 into a turkey for the family. We candidly believe that turkeys will have to be purchased wholesale at a price which will retail to the consumer at not to exceed 50c, which will mean the wholesale jobbing prices around 40c to 42c with, of course, the usual differentials on off-grades.

Pack hens side up; toms breast up in separate cases, and give exact contents of each case, whether toms, hens, fancy or No. 2's.

Ship Thanksgiving stock not later than Monday, November 24th, otherwise you will miss the best market.

CONEJO RANCH HAS CHOICE ONES.

The Conejo Ranch, which is located on the Ventura Highway, 40 miles northwest of Los Angeles, is rapidly taking a prominent place amongst the purebred swine-breeding institutions of the State.

At the San Francisco National Live Stock Show, which has just closed, the Conejo herd captured 10 Championships, 20 Firsts and 19 Seconds, thirds, etc. At this Show the awards included the Reserve Grand Champion boar, in both Duroc and Hampshire classes; also the Junior Champion boar in both breeds. The Conejo exhibit also won Grand Champion sow in the Duroc Division, Reserve Grand Champion sow in both Duroc and Hampshire Divisions, and Senior and Junior Champion sow in the Duroc class; Champion barrow in Hampshire; also First Prize Get of Sire and Produce of Dam in Durocs and Hampshire.

Almost as creditable a winning was made at the Los Angeles Live Stock Show, which was held in October. The Conejo herds captured 35 ribbons, which included Grand Champion Hampshire sow, Senior Champion Hampshire sow, and First Prize Produce of Dam and Get of Sire.

At the Los Angeles Show an exhibit of the Hereford cattle was made, which won seven ribbon awards. This is the first showing ever made by this ranch of Hereford cattle.

SHORTHORN SALE SUPREME.

W. C. Short of Reno, Nev., one of the oldest Shorthorn breeders in the West, has announced his first public sale, putting up at auction at the State Fair Grounds at Sacramento on Tuesday, December 11, fifty-two head of young bulls and females. Short acquired a part ownership in this herd, which was established in the early seventies by A. Banta, in 1898, and became sole owner in 1910. Short has been a good buyer at Shorthorn sales in California and the East, getting the kind of bulls that made his herd one of the best in the great cattle-growing State of Nevada. Col. Ord L. Leachman of

Sacramento, who will handle the sale, just returned from Reno, where he reports the cattle to be in fine shape, although only recently taken off the range. They are all deep red in color.

THE WOOL SITUATION.

At the close of September last there was in the hands of the Government, manufacturers and dealers 729,373,000 lbs. of wool, grease equivalent. These stocks of wool were 8 per cent greater than were held on June 30, 1919, and 50 per cent greater than stock held one year before. At the present rate of consumption it is pointed out that these stocks are sufficient to last for more than a year. The only grade in which there is a shortage is that of fine wool. Boston holds first place among the wool markets of the country, with Philadelphia ranking second and Chicago third. Fine wools are in very urgent demand, and although low-grade wools are lagging, the opinion prevails among traders that an advance in the price of coarse wools can not long be delayed as they must be blended with the finer grades to meet the enormous demand for woolen goods.

RAIN LACKING IN MOUNTAINS.

Our special correspondent reports feed very short in Tuolumne, eastern Stanislaus, eastern Merced, and Mariposa counties, due to lack of rain for the last two seasons. No rain after the last of March for two years. Ranchers and stockmen around La Grange, which is centrally located for this area, who have been up in the mountains, also bring the same report from the Forest Reserve. The stock is correspondingly poor, and probably little or no range beef will be shipped this year. The fall roundup is not complete, due to the fact that the stockmen wish to keep the stock on the forest ranges as long as possible, holding the foothill feed until the first snows.

PRIZE WINNERS SHIPPED TO CHICAGO.

Under the management of Alex McDonald the livestock that won some of the highest awards at the recent show in San Francisco are being sent to Chicago to compete in the International Livestock Show there.

High prices for rice are due to Oriental shortage. Reports from the Philippine Islands are that an embargo has been placed on all exports and a Government importation has been attempted. The Government is handling distribution and fixing retail prices.

There has been an enormous increase in the amount of leather exported from the United States to Great Britain since the cessation of hostilities. Sole leather constitutes the chief item.

Early Baart wheat seems to have proved too vigorous for the rich lands in the Byron tract of Contra Costa county, according to D. L. Schrader.

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YOUNG MAN OR WOMAN wanted to care for poultry (White Wyandottes) department of ranch situated on Coast in San Mateo county. Previous experience necessary. Apply by letter. D. Atkins, 260 California St., San Francisco.

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All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weissbaum Pipe Works, 160 Eleventh street, San Francisco.

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HOLT 30-CATERPILLAR—new tracks, engine recently overhauled. 5 disc plow, 8-ft. double disc harrow. A bargain. \$2,000. Fair Oaks Ranch, Willets.

DISC WANTED—Ten-foot double disc engine second hand. State make, weight and price. Lake County Canning Co., Upper Lake, Cal.

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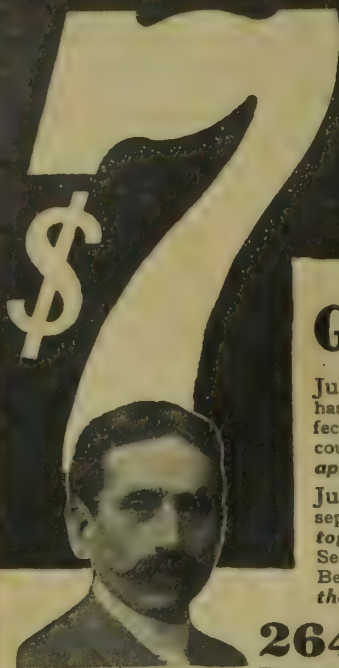
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Before you pay any money we want you to prove for yourself just what the Melotte will do. Use it for 30 days. See how easily it operates. See how easily it is kept clean and sanitary. Note the simplicity—the durability. **Test the Self-Balancing Bowl!** Learn why the bowl can't vibrate or get out of balance—why it can't remix cream with milk—why it is the recognized world's closest skimming device. Compare Mr. Melotte's great separator with all others. Do this: Get them ALL on trial. Test the Melotte side by side with every other separator. See which works the easiest—which is most profitable—which operates at least expense—which is most sanitary and easiest to clean. Then, take your skim milk to a creamery—let them prove which separator skims the cleanest! We welcome such a test! Mail coupon at once—get full details.

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Has smooth, rounded surface — no crevices. Easy to clean as a china plate. Can't rust. One-half less tinware to keep clean.

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THE PACIFIC RURAL PRESS

SAN FRANCISCO

NOVEMBER 29, 1919.

LOS ANGELES

Fruiting of the Date Palm in California

Written for Pacific Rural Press.

NOW THAT THE DATE PALM has advanced so far into the realm of commercial achievement in the Coachella and Imperial valleys, in the southeast corner of California, that a speaker at the Chico convention anticipated that the new plantings would proceed at the rate of a square mile a year until the cured fruit went out of the State in trainloads, it is interesting to remember that the adaptations of California to the free fruiting of the date palm are not restricted to the district which is now manifesting most enterprise in the development of the date industry. It is interesting also to remember that the establishment of that industry about twenty years ago in the region which now cherishes it, was not a discovery, but was really a stage or phase of development on the basis of earlier demonstrated adaptations; and though this phase is most important industrially and naturally the intensity of application to its requirements has given us by far the most important knowledge of the plant and disclosed original methods in the handling of it and its products, there still remains the fact that the date palm manifested its own acceptance of California conditions more than twenty years before the first palm of the new regime of enterprise was planted in the valleys which are now justly proud of their achievements.

It has always been that way in the development of special industries in California. Individuals in particular localities, who have given strenuous attention to particular products, have conscientiously declared their regions the "homes" of this and that plant which yielded the product upon which they had developed their industry. There is nothing wrong in that for they have domiciled the plant, defined its purpose and attained its commercial success with much insight, invention and enterprise. The only charge we have in mind is a certain narrowness of conception, and we cite that merely to enforce the fact that the resources and adaptations of California are greater and more wide-reaching than any regional man or set of men can possibly be.

Very interesting details might be clustered around the proposition that California is greater and broader than any man's conception of her adaptation to industries. While Southern California was concentrating along citrus lines in the '80's the conclusion was that the central interior regions were not adapted to citrus, because those regions were concentrating on deciduous fruits. Vice versa, the south was proclaimed not adapted to deciduous fruits. During the last thirty years the Sierra foothills and mesas in the central part of the State have developed great citrus productions, and Southern California mountain valleys have developed commercial production of apples, pears and cherries. There are hosts of such demonstrations that popular conceptions have been narrow as the men who made them, while nature has waited patiently for them to expand their ideas and start their industries in broader harmony with the adaptations which California affords. The fact is that California has probably no very best place for anything, but has many places of similar excellence here and there among her various topographies and exposures, and it is up to men to find them. California is still playing a great game of hide-and-seek with her industrial children, and may almost be thought to be laughing

at their pranks of discovery and self-appropriation.

All this preaching has no more relation to narrowness of conception with regard to adaptation to the date than it has to other plants, nor more to do with plants than it has to do with cows and their dairy doings—but we take a text from the date palm because we desire to present a very interesting picture, which brings up to date the history of the plants of which we wrote in these columns in September, 1877, and pictured at that time the product thereof. We are indebted for this picture, which went into the camera last week, to W. R. Nutting, who was not only the pioneer in color-

picturing of California, but since 1887 has been periodically depicting the progress of these palms—thus these plants have been the pets of the writer for forty-two years and of Mr. Nutting for thirty-two years, and both of us have gained the idea that we know something about how date palms behave in California. Possibly, in connection with Mr. Nutting's new picture we may be pardoned for recalling what we wrote so long ago, as it contains that which modern historians most highly esteem, viz.: contemporaneous records of events. This is the story of the plants which are now shown thirty years older than when the account was written in 1889 for "The Vacaville District," the first volume of interpretative color-printing in connection with California fruit-growing:

"The Putah creek region is entitled to fame as the first locality in the United States to produce the date of commerce. There were date palms at the old missions, but no record of their fruiting is found, and other dates have been planted by Americans in Southern California, but had not fruited up to 1877, when clusters of dates were shown at the Mechanics' Fair in San Francisco. These trees are growing on the place of Mrs. S. C. Wolfskill. Another bearing date palm is near the residence of John R. Wolfskill. The two trees shown in the picture are of different sexes; the taller is the male. The smaller palm began bearing fruit in 1877. It was then 15 years old, as the seed, taken from a dried date was planted in 1862. The fruit on the smaller tree is of a red color and becomes ripe and of good flavor. The date palm in fruit is a beautiful sight. The glaucous green pinnate leaves are arched out-



DATE PALM FRUITING FORTY-TWO YEARS AT WINTERS.

The ladder stands against the bearing tree; the taller is staminate. Scene in the pioneer garden of the late John R. Wolfskill. Photo by W. R. Nutting.

ward. Between two of these emerge the bright orange yellow polished fruit stalks, which divide into a spray of slender bright yellow stems a foot or so in length; and thickly set upon these clusters are the coral-red date berries covered with a rich bloom. It is a sight not easily forgotten by a lover of nature, and especially by one reared in a northern zone, the characteristic vegetation of which is so different; and as Mr. Wolfskill says, it is a wonder people in warm sections of the State do not plant more date palms instead of so many fan palms, for they are fully as handsome and graceful, besides the pleasure of seeing and eating their fruit. The success of these beautiful trees in the Winters district is an unimpeachable testimonial to the salubrity of the climate."

Mr. Nutting also has a beautiful picture showing a great armful of ripened dates on one spray grown in Fresno county, where he has extensive plantings of date palms. Thus has Nature extended in California the domicile of this tropical fruit.

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EDITORIAL

PUBLIC INTEREST LEADS.

NOW that one side of the United States Senate would not approve the League of Nations with reservations and the other side would not approve it without them, that peaceful source of discord has been nailed up on the barn door of the national capitol to bleach out a little—in fact, it may stay there to serve as a mark for the political sharpshooters of the presidential campaign of 1920. As that matter is temporarily disposed of, President Wilson will take another try at constructing a peace-league between labor and capital, and in his proclamation calling a new conference he says to the newly chosen delegates:

"It is not expected that you will deal directly with any condition which exists today, but that you may be fortunate enough to find such ways as will avoid the repetition of these deplorable conditions."

And this means that he does not propose to have the conference held up by any contentious element which can see nothing but its own purposes to strike for. He also guards against past disasters by calling out no class gladiators, but only those who can be expected to have only one great end in view, and that is the public interests. He says:

"Guided by the experience of the last conference, I have thought it advisable that in this new body there should be no recognition of distinctive groups, but that all of the new representatives should have concern that our industries may be conducted with such regard for justice and fair dealing that the workman will feel himself induced to put forth his best efforts, that the employer will have an encouraging profit, and that the public will not suffer at the hands of either class."

That is an eminently satisfactory declaration. It covers the agricultural demand that labor shall work loyally for the success of whatever job it enters upon and that the employer shall be content with a fair reward above the costs of production. Agriculture will not insist upon holding its own hand in the game so long as those who are trying to stack the cards against its just interests are also excluded. Agriculture demands justice, equal opportunity and broad patriotism in public affairs, and is willing to take these through the channel of true public interest. In the new conference which will assemble in Washington on December 1, California has two representatives out of a total of seventeen: Herbert Hoover of Palo Alto and H. M. Robinson of Pasadena. Agriculture has two: President Thompson of Ohio Agricultural College, and President H. J. Waters of Kansas Agricultural College. Of course, the point might be urged that these parties are a shade too academic, but they are both broad-minded and specifically well-informed, and as only professional men are to sit in the new game, agriculture will take its chances of a square deal on the basis of the highest public interests in industrial peace. We have a trustful expectation that something of great value will issue from the new conference.

THE CENSUS OF 1920.

It is very interesting that we are on the threshold of a new census of the United States. The figures

of the census of 1910 are worn to a frazzle, and though they represent nothing of the present day they are still being repeated in current statistical volumes because there is nothing with a shadow of authority to take their places. This is, of course, unfortunate. It is not as bad as it used to be because the United States Census office is now in continual operation instead of being dusted out and set in motion once in a decade, as was the old way. This new arrangement has given us new statistics at more recent dates in certain special lines of production and manufacture, and they are very valuable, but in the fundamental lines of population, basic agriculture, etc., we are still away behind the times. Arrangement for co-operation between the United States and the individual states, to secure half-decade enumerations, are widely inoperative because the states do not do their parts. California, for instance, has never provided anything but a dribble for authoritative figures, and the best our State Statistician, Mr. Robertson, has been able to do is to rake up and print a collection of figures from national bureaus, class journals and other statistical dust-heaps instead of undertaking original enumerations which would do the state some credit and give our students of economics and humanities something juicy to squeeze out for popular edification and instruction.

Of course, such complaint is not timely nor warranted at this time because next year the new figures will be gathered, and yet, when we get fresh figures we might remember and resolve to always have them fresh and never fall again into the figurative desolation of the last decade. What we desire now to emphasize is the fact that the census of 1920 will be begun in January and not in July as heretofore. In the matter of statistics of agriculture this change in the start is very important. All figures will be of the crops, plantations and conditions of the year 1919—just as the last census had to do with 1909 and not 1910, the census year. To tackle the farmers for figures of the previous year while they were busy with and filled with the facts of the year after, was a foolish piece of business. According to the new plan of enumeration in January, farmers will have time for figuring and will not be confused by fresher facts. Of course, it may be less significant in California, where there is something doing every minute, than in states where a closed-in winter gives farmers nothing much to do but to fodder the stock, and yet even here there is more time and fresher memory for the facts of a preceding year in January than in the following July. Let our readers remember then that the census enumerators will be after them next January, and all the facts of their operations of 1919 will be called for. When you get rained in, as you soon will, figure out your crops, plantations, prices gained, wages paid, etc., for the year which is now closing, and be ready for Uncle Sam's enumerators next January.

ARMOUR AND THE CO-OPERATORS.

It clearly caused a tremor to pass over the assembly at the Chico convention when the representative of the association of co-operative canneries announced that the officers thereof had entered into a contract with the Armours to act for ten years as distributors of their products. It is not remarkable that a growers' co-operative association, combining for a decade with a concern commonly regarded as a trust, should cause the sensibilities of the growers' convention to receive a slight shock, for is it not the current conviction among those favoring co-operative action by producers that they were organizing to place their products upon the open market in such a way that commercial aggression and combination could not avail against them? It was the claim of the representative of the co-operative canners that their arrangement with Armour was merely a practical way of disposing of their product profitably to which it was obviously necessary for them to do if they were to continue to co-operate in manufacture; that it was a movement to promote direct trade and eliminate a host of middlemen because the Armours had their own direct distribution to hundreds of retailers in all parts of the country and thus dispensed with an army of jobbers and wholesalers who were all taking their profits from the business, and while thus

simplifying trade and reducing the number of participating profiteers, they could also reduce the exactions of these and other intervening agencies in securing the adequate advances which continuation of packing by producers required. The goods go into the distributing hands of the Armours at prices which bear relation to the prices of the California Packing Co-operation, which are apparently accepted as a standard of current market values. The representative of the co-operative canners was quite confident that they had made a very fortunate arrangement for the distribution of their product and one which would prove of great advantage to the growers who have invested in establishments to give their products imperishable and acceptable commercial forms.

Whether this move of the co-operators was wise and right we are not now pretending to judge—nor to either praise or condemn. The time for that may come later. But we may say that the operation must naturally excite apprehension until some things about it are demonstrated. Does it forfeit the rights of producers in disposing of their products themselves, to turn their products over en masse to a concern which is reputed to be organized for the purpose of controlling and restraining trade? In this instance, have the producers fallen into good company or bad, and will the courts adjudge them to have forfeited producers' co-operative rights by selecting such a distributing agency? We hope we have stated the facts of their transaction correctly, so that our readers may proceed to fairly consider the influences and relations of the facts. This is all that we have in mind to do at this time.

"CALIFORNIA FRUITS": \$3 NOT \$5.

Referring to the announcement in the Rural Press of November 15, that the price of the new edition of "California Fruits and How to Grow Them" was \$5, we remark that the printer who made that mistake must be pardoned, because he was the victim of unconscious cerebration—induced by the fact that a raise in price was seriously considered. We were advised by other publishers that with present prices of labor and materials, the book could not be brought out at the old price and handled as heretofore. We considered this friendly advice carefully, but concluded that we would attempt what they said was impossible—even at some risk to our own affairs. For the purpose in the publication of this book has never been to make money, and we did not propose to interfere with the attainment of its greater aims by refusing to risk losing a little money. Two chief ends were in view at the first construction of the book in 1889, viz.: first, to contribute to the development of the fruit industries of California; and, second, to afford a source of elementary information about methods so that the Pacific Rural Press need not serve always as a pomological "primer"; but while constantly serving as a faithful guide to beginners, as they might call for such help, it would have space to continuously treat of advanced problems and thus keep those experienced in details constantly going forward into improvement of practice and into organization for profitable distribution of products and for protection of producers against aggression by self-seeking commercial interests. It is not too much to claim that both of these original purposes have been attained and progressively maintained. More than twenty thousand copies of the book have been placed in the hands of growers, and have served for consultation about details of methods for the last thirty years and during all that time the Pacific Rural Press has been regarded by growers as a faithful ally in all efforts to secure progressive development. We could not, therefore, think of raising the price of the book and making it less attainable by those who would be helped by it—that is, beginners in fruit growing, who often have to count their dollars very closely in getting a start with land and trees; nor could we limit the scope of the Rural Press for discussion of advanced considerations by constant re-iteration of elementary details which the book conveys. Therefore, we concluded that "California Fruits" should go at the old price: it was the only way we could win our war for the fruit industry. We say, then, to all who need the help of the book; take it at \$3 per copy,

and with the extra money which the printer's error tried to exact from you, plant three or four more trees and thus recover your investment in it.

CANNOT LOWER PRICES WITH HIGH WAGES.

The National Grange has certainly declared the agricultural situation in no uncertain language—as we pointed out in one respect last week. In another matter, that is, the relation of cost of production to the price of food products, it is no less frank and emphatic. At its session in Grand Rapids, Michigan, on November 29, it adopted this resolution:

"The farmer cannot be held responsible for increase in the cost of living that will result from increased wages and shorter working hours in industry. If industrial wages are increased and hours of labor decreased, the changes will influence farm wages and hours of farm labor in the same way and still further decrease farm production and increase farm costs."

That is, of course, true as far as it goes, but it is by no means, all of it because the farmer is hit not only by the direct increase of farm wages, but he is hit again and perhaps even harder, indirectly, by the increase in prices of all machinery and supplies which he has to buy. One of our readers sends us a note calling our attention to this fact, as follows:

To the Editor: What are Gompers and his Union agitators doing for the farmer? Well, they are urging the farmer to raise more food and doing everything in their power to bring the price of farm products down. At the same time they are trying their utmost to still further increase factory wages and to reduce production in the factory by cutting down the hours of work, both of which increase the price on all factory-made articles that the farmer must buy, and drain the farm of its needed help by the lure of shorter hours and higher wages in the factory. Should Mr. Gompers get the factories unionized he will then pay his respects good and proper to the farmer. Mr. Farmer, will you take heed while you may?—W. H. L., Louisville.

Here, then, we have the situation from two angles: the declaration of a national association of farmers and the suggestion of the manufacturers that farmers should take heed. Our judgment is that the farmers are understanding which way the cat will jump.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Earth-Closet Fertilizer.

To the Editor: Would the contents of a patent toilet (no chemicals used) be beneficial or injurious to walnut trees—buried close around them as a fertilizer? What would be the effect on a young family orchard?—H. L., Concord.

This is what the French call "poudrette," and they use it largely. It is a strong fertilizer and should be covered in a furrow or long trench—scattering it thinly and not burying it in a mass. It should not be applied too closely to any tree, but placed in the open spaces away from the trees.

Transplanting Walnut Trees.

To the Editor: Is it practicable to transplant three- and four-old Franquette walnut trees? I have several mixed in my apricot orchard and I would like to put them along the front. If so, kindly advise how to proceed.—C. E., Eunnyvale.

Yes; if the trees have made moderate growth and have matured their wood well. It used to be held that such trees were better for transplanting than younger ones. Dig carefully and get what lateral roots you can conveniently and dig a large hole to spread them well. Cut back the top considerably, cutting to laterals and covering the cuts with thick paint or asphaltum. Transplant when the soil is not likely to be water-soaked—say, in February; earlier, if your soil is light and well-drained. Help them along with some water through the first summer.

Rotation to Kill Water-Grass.

To the Editor: I have land north of Sacramento, on which this year I have taken off the second crop of rice. The land, this year, had considerable water grass. Immediately after harvesting I plowed the land, and want to plant Gyp corn about May 1st. Will the land slack out enough between now and the first of May to get a good crop of Gyp corn? In the fall, after taking off the Gyp corn, I intend to

plow the land and get it ready for rice the following spring. Will that give the land time enough to slack out? What do you think of this procedure as a means of cleaning up the water grass and at the same time getting something off the land?—A. J. D., San Francisco.

It is always a question how soon water-soaked and unaerated land will give a crop. The heavier and most putty-like it is the slower it is to come into condition. We would help the land to air itself and to get rid of much foul stuff by disking it lightly two or three times during the winter—whenever there is a good weed growth to get rid of. You may get a lot of gyp corn, and if you do it would indicate that you might get a crop of barley hay during the winter of 1921 if you can clear off and plow after the gyp crop by September so as to give about three months for the rubbish to rot before seeding the barley toward the end of December. We have given you a pretty close schedule, but it will work if you keep on time and the land is of a responsive kind.

Melilotus Without Plowing.

To the Editor: Do you think that sowing inoculated Melilotus alba on top of the ground, which has not been plowed or broken up for ten years, will produce a suitable growth?—W. N. Y., Bird's Landing.

On a sandy soil with abundant, continuous moisture, you might expect a good catch of melilotus without plowing. We have seen a good stand of it on an apparently dry sand of a river bar where the stream planted and covered it until the plants started and then the roots chased the water down. You could imitate this by sowing and harrowing the sand—if you started early and the rains come at short intervals. But we should hesitate to put our money in seed at current prices and take so many risks of not getting it back. Besides, if we paid extra money to get inoculated seed (which seems reasonable for such long, unused land), we should try to give it a better chance to grow. Bacteria are very apt to lose vitality and such exposure as might result from broadcasting on unstirred land would be a hard test for it. Bacteria do not multiply on the seed to great extent. They multiply in the soil and are put on the seed only to easily get them into the soil near the seed. For both the seed and the germs we should try to do better farming.

Bridge-Grafting Root-Cavity.

To the Editor: I have a nine-year-old walnut tree which was infected with crown gall. Chiseling away the infected wood leaves a concave depression about two inches deep at the deepest part, and extending two-thirds the way around the trunk—the depression covering about one square foot of surface. Is there any material that I can use to fill up this cavity flush with the surface and then bridge it by grafting back in order to close the space as quickly as possible?—E. S., Hemet.

Paint the wound with Bordeaux mixture and fill with Portland cement even with the under surface of the root-bark. When it is hard, cut walnut scions of two-year-old wood small enough so you can bend them. Cut them a little longer than the wound, with a slope on each end on the same side. Lift the healthy bark a little above and below and spring in the scions with their end slopes under the bark and against the wood surface of the root and cover with earth to prevent drying. This is bridge-grafting, and if carefully done is very successful, because such scions carry sap readily. If you have an idea of bark-grafting by fitting a plate of bark over the filling of the cavity, we advise you to forget it. It is not the whole bark which carries sap to make tissue connections; it is only the inner bark in a very thin layer. The best way to connect with that is by means of scions set as described.

Legumes with Grain.

To the Editor: If I sow 30 pounds of wheat and 30 lbs. of Canadian field peas, treated with bacteria, will I get a larger yield than if I sowed wheat alone?—S. T., Byron.

If you are counting on more wheat than by using a larger seeding of wheat, you will be disappointed. If you are counting on a larger yield of both peas and wheat together, you may get it if there is spring moisture enough to keep both plants going well to the ripening time. Addition of bacteria will help the peas unless the land has already grown beans, peas, or wild clovers. If the land has already plenty of bacteria naturally (as it shows by the

growth of these plants), you do not need to buy more of them. It will help a grain plant to have a legume plant growing with it—if there is moisture enough for both and bacteria enough for the latter.

Subsoiling and Fruit Setting.

To the Editor: I am subsoiling an old peach orchard both ways, to a depth of sixteen to eighteen inches—running three furrows to a tree row. The trees are set twenty-four feet apart on the square, and I am not running nearer than eight feet from the trees. What will be the general effect on the trees, in your opinion? Is there any foundation for the theory that the resulting root pruning will have a favorable effect on the setting of the fruit buds.—F. G. W., Red Bluff.

The subsoiling will admit water freely to the lower strata of the soil, and if the soil is heavy and does not take moisture rapidly enough to prevent loss by surface run-off, or if it has been hardpanned by a long course of working at a certain depth, the subsoil will help the trees. Root-pruning is influential in checking the wood growth of young trees or of older trees growing on very rich soil and turning such trees to larger fruiting. We know of no advantage in root-pruning old trees which you are trying to give a new lease of life and bearing. We should trust to top-pruning, water and fertilizers to do that.

Walnuts and Almonds.

To the Editor: I have light, sandy soil on which I intend to plant seedling Franquette walnuts, 40 feet apart. Between the walnuts I want to put in almonds, to be pulled out when the walnuts are bearing well and need the room. What is your idea of this, and what would be the best almond to plant for quick bearing and good marketable quality?—L. N., Spyrock, Mendocino county.

The plan is a good one where local conditions suit both nuts. For walnuts you should be sure that your sandy soil has substance enough to grow trees and that it will retain moisture enough to grow walnuts, or you can give it enough by irrigation. For walnuts you must know that the tree will bear in your northwest coast district and will not lose too many crops by spring frosts to make the trees profitable. If you are sure of this by the behavior of earlier plantings, go ahead. Probably Drake and Languedoc would be the best to plant because of rather late blooming and their action as inter-pollenizers.

Cutting Back Eucalyptus.

To the Editor: When is the best time to trim old eucalyptus trees that have grown very tall?—R. V. V., Suisun.

Theoretically, the best time to cut back a eucalyptus or any other evergreen is a little in advance of the beginning of a new-growth period—because the old foliage has largely finished its duty to the tree, and because the start of new growth prevents die-back and heals wounds. But in the case of eucalyptus one does not have to pay much attention to such fine compensations. The tree is so hardy and resolute that you can top off anything you desire whenever it is handy for you to do it.

Self-Firing Hay.

To the Editor: Will you kindly advise me if there is any danger of a barn catching fire by putting in hay that is not thoroughly cured and getting hot? Did you ever hear of a barn burning from that cause? If so, was it proven beyond all doubts?—W. J. S., Tracy.

We have never seen a barn burn, but we have seen plenty of browned hay that would not hold the fork, and which it is reasonable to believe would have burst into flames if it had received air enough to promote combustion. It is our judgment that the common impression that barns do burn by catching fire from fermentation of wet hay is correct.

CALIFORNIA WEATHER RECORD

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending November 25, 1919.

	Part	Rainfall		Temperature	
		Seasonal	Normal		
Eureka.....	.14	3.50	8.33	58	40
Red Bluff.....	.00	1.00	4.90	62	40
Sacramento.....	.00	.72	3.11	70	42
San Francisco.....	.00	.08	3.53	72	49
San Jose.....	.00	.57	2.74	74	34
Fresno.....	.00	.58	1.85	74	38
San Luis Obispo.....	.00	.54	3.20	84	40
San Luis Obispo.....	.00	1.85	2.00	82	50
Los Angeles.....	.14	1.45	1.20	82	52
San Diego.....	.06	1.97	1.80	56	16
Winnemucca.....	.00	.85	1.70	62	54
Reno.....	.00	1.06	2.79	60	28
Tonopah.....	.00				

Saving Labor Making Money with Alfalfa

Written for Pacific Rural Press by R. E. Hodges.

MONTEREY COUNTY has a thriving dairy industry, based chiefly on three market outlets, butter, condensed milk, and cheese. The dairymen are in almost every case well-to-do and pretty well satisfied with conditions. The chief dairy center is Gonzales, which is surrounded by miles of alfalfa fields. Here is located the Alpine condensary, to which milk is hauled by motor truck from as far up the valley as Greenfield, King City, and San Ardo, nearly 50 miles away.

These dairymen have made money, not only on account of favorable prices for their dairy products, but also because they have reduced the cost of production by reducing the amount of labor required to feed their cows. It is regrettable that they do not pay more attention to balancing the feed and thus obtaining more from their alfalfa, but that is another story. This article is concerned chiefly with labor-saving methods of handling alfalfa.

Only one rancher could we locate or learn about who is raising alfalfa to sell. Practically the entire acreage is grown as part of the dairy ranching and most of this alfalfa is never touched by the hand or implements of man.

Hundreds of dairymen pasture the most of their alfalfa from about the first of April until the first of November. For feed in winter months, some of them cut hay and pasture the fields alternately; while others reserve certain fields for hay, and pasture the rest throughout the season. Some buy barley hay from their grain-growing neighbors who surround the district. This is the best practice, for barley hay helps balance the alfalfa.

A good example of successful pasturing of alfalfa may be seen on the ranch of Healion Bros., who milk five strings of cows and keep about 75 head of young and dry stock all on 150 acres including about ten acres, for buildings and barnyards. They sell nothing but milk—about 3400 pounds per day—and they buy nothing but 25 or 30 tons of barley hay per year and outside pasture for dry stock sometimes in the spring.

"To cut alfalfa and feed it to a herd like ours would require three additional men and would yield not over 70 per cent as much milk," says W. F. Healion, who has had ten years or more of dairying experience. He gives credit for the present success of the ranch to his milkers. "These Swiss sure know how to get the milk out of alfalfa," says he.

About 30 acres are cut six times a season for hay. This is used through the winter and for a morning feed when alfalfa pasture is particularly lush. Haying is a continuous operation performed by the milkers.

Systematic Pasturing Day and Night.

The other 110 acres are divided into seven fenced fields of ten to fifteen acres each. The size of the fields should be smaller for smaller herds.

When the growth is of medium height the cows are given a good feed of dry hay and the entire herd is turned onto one field with one man to watch them. After a few days the tops of the alfalfa have been grazed off, the herd is put on the next field for day pasture, and is kept on the grazed field during nights without a watchman. Care is necessary not to leave the night pastures too rich. After a few nights the cows are put on newer stubble and dry stock finishes what is too poor for milk production. The cycle of pasturing each field lasts about a week; but the cows get onto new day pastures every three or four days, so seven fields keep them going nicely. It is necessary to fence the fields in order to get them grazed off evenly.

Aged Stands of Alfalfa.

Pasturing the alfalfa in this way seems to benefit it. Good stands seven years old are common. Manure is spread where it will do most good. It is not spread by fork or by machine. Cows are kept off the fields while they are frosty, for damaged alfalfa could be seen afterwards if anything walked through it then. It is all right after the sun comes out. No attention is paid to dew, but no pasturing is done while the soil is wet, on account of damage to the alfalfa. The soil is dark sediment mixed more

or less with decomposed granite from the hills.

Bloating Minimized.

Damage to the cows will be uppermost in the mind of every reader of this article. Healion Bros. had considerable trouble with bloat when they started at Gonzales and they tried all kinds of "cures." Last season they lost none and only had to stick one. This season they had more trouble due to several changes in herdsmen who did not know the cows. Most of the trouble comes from misjudging the richness of night pastures. Trouble is minimized by feeding plenty of hay before turning the cows onto soft new alfalfa. Then, after 1½ or 2 hours the cows will lie down quietly without having over-eaten. The herdsman watches; and if a cow shows signs of bloating, he drives her to the "bloat corral." The rest are left on the pasture, because if they were driven off they would get hungry and would be more likely to over-eat if turned back on the alfalfa. Meanwhile milk production would be reduced.

"Bloat Corral."

The "bloat corral" is a singular institution, as successful as it is simple, a project worked out by the Swissmen. It consists of three or four stalls separated by poles and with a stick across the rear of each. Its distinctive feature is that its front end is piled up with dirt so that a cow standing in it has her front feet 18 to 24 inches higher than her rear ones. Within 15 minutes she will be worse or better. In most cases she will belch gas and the pressure is then pretty sure to go down gradually. If she does not belch, but seems to be making more gas, the attendant sticks her when she shows considerable distress, but before she falls down.

Slight Variations.

A. E. Reinhold carries out a similar plan of alfalfa pasturage, but does not feed hay during the summer nor does he keep a man with the cattle all the time. Two or three inspections per day are given. He has more loss from bloat probably than Healion Bros.;

but this always occurs during the night or in the morning, never in the afternoon. This is considered due to greediness of the cows in the mornings. His fields are cut into lots of 15 to 20 acres each for about the same number of cows Healion Bros. keep.

Likes Weeds in Alfalfa.

John Foletta of the Coburn district near King City pastures a crop of alfalfa between cuttings for hay. He emphasizes the fact that Russian thistles make prime cattle pasture while they are young in the spring and foxtail makes fine winter pasture. His soil is sediment and he too avoids pasturing when it is wet. Most of his alfalfa is pastured during the growing season.

The Only Alfalfa Hay Grower.

The only alfalfa grower we found who doesn't pasture his crop is G. C. Boysen. He kept about 80 milk cows until two years ago when the labor situation led him to sell practically all of the stock.

Since then he has turned all his alfalfa into hay, which is sold in the shock and paid for when hauled over the scales. This yields, at seven years of age, about eight tons per acre average for the 150 acres, according to Mr. Boysen. Last spring he sold the entire season's crops at \$12 to \$14 per ton. Next season each cutting will be priced when it is sold, for Mr. Boysen would have enjoyed the higher prices that prevailed this fall. Already over 600 tons of next year's crop are sold, to be paid for at current market prices when cured.

Less Labor with Hay Than with Cows.

Cutting the alfalfa for hay requires an irrigator and two men besides Mr. Boysen himself. If he were milking five strings of cows, it would require at least five or six men besides himself. So, while the dairymen are saving labor by pasturing their alfalfa, Mr. Boysen is saving still more labor by cutting his for hay. Of course, he is not making as much money as the dairymen; and a time may come when he will wish he had cows to make use of his hay; and then he may find cows as hard to get as hay may be hard to sell.

Chemical Fire Extinguishers Save Grain

Written for Pacific Rural Press by M. B. Pratt, Deputy State Forester.

Three years ago the use of chemical fire extinguishers in combating grain field fires was unknown. In the past summer rural fire companies, organized through the efforts of the State Forester's office, aided by the Farm Bureau, Chambers of Commerce and county supervisors, have prevented with the aid of fire extinguishers the destruction of thousands of dollars worth of grain, hay and pasture.

Fire prevention and fire protection in rural districts is a matter of growing importance. "Why grow grain to burn?" asks the farmer. For this reason the story of how extinguishers came to be used in fighting grain field fires and an account of how the company that has used them the longest handles a fire may boost the good work along.

The moon, rising fire-red from out the summer haze that o'erhung the broad acres of ripening grain in the Sacramento Valley, shot fear into the heart of Oscar C. Schultze, prominent merchant of Dixon, Solano county, one evening in 1917. The war was on. Each paper and magazine published the slogan, "Food will win the war." The moon, through the haze, appeared a great fire, threatening to destroy thousands of acres of needed food.

That night the merchant conceived the idea of using chemical fire extinguishers to fight grain field fires. The next day he experimented with the result that he equipped one of his delivery trucks with several extinguishers, buckets, rakes and shovels



Extinguishers ready for use in fighting grain field fires in Solano county.

and announced his readiness to answer fire calls. Such effective work was done from the start that the attention of the State Forester's office was attracted and adopted the plan. Thus the idea was spread with the result that in 1919 thousands of dollars worth of grain was saved from destruction.

The Dixon merchant continues to make fire-fighting an important part of his summer work. A glance at the record of his company in 1919, the third season of its existence, is most inspiring. Twenty-two fires occurred during the summer months within a radius of nine miles of Dixon. Despite the large number of fires the loss was held to less than \$10,000. Farmers of the district declare the loss would have been ten times as great under the old system.

In combating twenty-two fires 590 extinguisher charges were used. At the rate of 50 cents each, the cost for

charges was \$295. Add to this the cost of operating the fire truck, the value of the time of fire-fighters, allowing liberally for both, and compare this cost with the estimated saving of \$100,000. It will be seen the fire company is paying big dividends to the farmers benefited and to the whole community.

One of the greatest savings through this system of fire-fighting is in the fact that back-firing is unnecessary. Back-firing a grain field always costs money.

Three seasons' experience at Dixon has developed a working plan that may be of benefit to other fire companies. Twelve 2½-gallon fire extinguishers are kept in a rack, on the floor of the fire truck, ready for immediate action. Arriving at the fire one or two men are detailed to the work of supplying water; one man mixes the soda and recharges the emptied extinguishers. On the fire

line two men, with extinguishers, walk a few paces apart directing the stream from the extinguishers at the base of the fire. Behind them come men with rakes to rake out whatever fire patches escape the chemical. Other men with loaded extinguishers are ready to step in as soon as extinguishers are emptied. Thus eight or ten men put out a fire as fast as they can walk.

While this is a plan for an organized fire company, individual farmers can do much to decrease fire loss by adopting precautionary measures. Each farmer, for his own protection, should have fire-fighting equipment ready at all times, especially during the dry summer months.

A newly enacted State law, that became effective July 22, provides that combined harvesters, headers, stationary threshing machines, hay-baling presses, while in operation, must be equipped with two suitable fire extinguishers of not less than 2½-gallon capacity, ready for immediate use.

Since a large percentage of grain fires during the past summer resulted from back fire, burning carbon and sparks from tractors and trucks, the individual farmer can do much in the line of fire prevention. The new law provides that farm engines must be equipped with effective spark arresting and burning carbon-arresting devices.

Fire losses affect the economic conditions of the entire country. They affect everybody individually. They boost the high cost of living.

To Prune and Apricot Ass'n Members

(Written for Pacific Rural Press by R. E. Hodges.)

"If every prune grower were just like me, where in the world would our profits be?"

Imagine the Santa Clara Valley without the California Prune and Apricot Growers, Inc. Wonder where you would sell your 1920 apricots and prunes. Pinch your pocket-book in contemplation of the event. Figure out who would be responsible.

If the growers' organization dies for lack of a controlling proportion of the crop, the growers can compliment themselves for their own consummate asininity. The time to kick the packers is past. Regardless of what the packers did when there was no organization, they are better actors now. The greatest proportion of them have been eliminated and the few who are left are responsible parties in business to stay. You would fight for your business as they are doing if you were as much alive as they are.

Don't Be a Dead One.

Get busy on your own business. It will get your farther. You have neighbors out of the Association. Get them in. They also are human beings. They have reasons that have heretofore kept them out. Probably those reasons are selfish. Your reason for being in the Association is selfish. It is properly so. Show your neighbors good reasons for joining. Get busy to assure safety for your own investment.

You can't get a man to join your company by calling him a scoundrel. You and your organization's representatives have weakened yourselves by antagonizing outside growers foolishly and needlessly. Bear in mind that your object is to get them in. Think of that when you are tempted to get sore. Don't spoil your chances by calling the outsider a fool. He may be one, but he won't care for your company if you tell him too roughly.

Outsiders Would Be Surprised.

An outsider recently went to borrow something from a neighbor who is a member of the Association. When he left, he invited the neighbor's family to come over and visit his own. The neighbor did not say to his face, but he said to another neighbor that he came near telling the outsider that he did not care to cultivate the acquaintance of anyone he considered his enemy. This member, and a large proportion of other members feel that any grower who does not support the Association weakens it and is therefore his enemy. When members' pocket-books and property and living conditions are endangered by their neighbors, they feel it keenly. The growers who weaken the association by staying out of it had better have good reasons for doing so. They would be surprised if they knew the public contempt that is rightly or wrongly held against them. Some of the outsiders have good reasons. Most of them have reasons that could be overcome by proper argument and management; but none of them care to be bulldozed. "A man convinced against his will is of the same opinion still."

It is for you members of the Prune and Apricot Growers' Association to find out the reasons why your neighbors are out and remove those which are removable. Meet the outsiders on a conciliatory basis. Don't surrender essential principles; don't promise impossible accomplishments; don't bulldoze them. The end justifies all fair means; but unfair means will defeat the end.

We hold these truths to be self-evident:

Growers Should Control.

A fruit growers' organization should be controlled exclusively by those who make their living by growing fruit.

Growers cannot take the time to investigate and market their own products.

It has proved necessary for growers to employ experts at packing and marketing and accounting to handle those phases of their business.

It is absolutely necessary that those employed experts be constantly sub-

ject to the supervision of growers' bonafide representatives; and that the growers be kept thoroughly informed as to the conduct of their own business.

When that situation is realized the greatest argument against the present organization will have been knocked out.

Are Benefits or Suspicious Strongest?

The writer has made a special effort to learn the reasons offered by outsiders for not coming in. We are not admitting the validity or accuracy of the reasons given; but we feel sure that members of the association seeking to influence their outside neighbors to join, cannot afford to ignore the statements made. We cannot affirm or deny the accusations because we have repeatedly been refused the most elementary information from the Association (on the ground that its publication would furnish ammunition to enemies of the organization).

It may be good strategy to deprive both sides of ammunition and thus bring about bloodless wars, but in this case the seeds of suspicion are assiduously cultivated.

Charges of graft, incompetency, treachery, etc., are not in the province of this journal to investigate, but where such charges are made, it is the province of members of the Association to have them cleared up, very promptly.

Is It Dangerous to Join?

Meanwhile, the Association has three years' records of splendid service to the entire community, including its supporters and its enemies. If there has been any graft or incompetency in the management, the benefits have so far outweighed the damages that we have not found a man in the Valley who would like to see the Association put out of business (as its directors have threatened unless 26,000 acres additional are signed up).

Large independent growers have assured us that they will not permit the Association to die for lack of acreage. A representative of one of the largest packing interests is equally earnest in desiring the Association to continue as a strong factor in the prune and apricot business, although he is bitter against its present management. Most members (and many outsiders who sold early at prices which seemed enormous but which proved lower than Association prices) are fervent in favor of continuance of the organization. Where such unanimity as to its value exists, there can be but little reason for withholding membership for fear of graft, incompetency, or treachery, especially since such mismanagement can be corrected more effectively from within the organization than from without, and since the apparent accomplishments of the Association have proved that membership in it is no disaster to any grower.

MARIPOSA GROWERS PACK OWN APPLES.

This is the first year that apples have been packed on the ranches in the mountain districts of Mariposa county east of Coulterville and Mariposa, before hauling them to markets. Some of the growers this year solved the shock problem by contracting with neighbors who had small sawmills. Many varieties are grown, but they all have either high color or flavor with punch, or both.

PEACH BLIGHT — SHOT-HOLE FUNGUS.

November is the last month for the first spray to prevent shot-hole fungus, which injures the crop on almonds, prunes, apricots, etc., and causes peach blight, from which many growers suffer every year. Later spraying means crops reduced or lost. Use Bordeaux mixture now.

"Well-begun is half done," applies particularly to grain raising—a good seedbed.

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Long Pruning Demonstrated

(Written for Pacific Rural Press.)

The long system of pruning prune and apricot trees was demonstrated on four ranches in Santa Clara county last week by Prof. W. P. Tufts of University Farm, where several years' experiments have proved the value of this system in making stocky young trees. Big crowds of real fruit growers watched Mr. Tufts as he pruned various trees and each criticized the cuts according to his own opinion. The reason for each cut was explained as it was made. After pruning the last tree, Mr. Tufts said that farther down the row there was another tree of the same age (about four years) which had been pruned by the long system last year. Although he had not seen it, he said it

would be safe to guarantee that it was larger than the one just pruned which had been cut back last winter after the common fashion. The difference in height, diameter of trunk, and diameter of branches was so remarkable that some of the visitors would not believe both trees were the same age until the orchardist was found. Part of the difference was due to this tree being in a lower spot and having had more water. So to get a fairer comparison two other trees, side by side, were found, the only difference having been in the pruning. The one whose branches had not been cut back was notably stockier all through, so that any one could see the difference without measuring.

California Co-operative Canneries

Our readers will remember a note we published recently regarding the suit of The Fruit Growers of California, Inc., charging that the California Co-operative Canneries was an Armour project masquerading as a farmers' co-operative concern. The Santa Clara Unit of the Farm Owners' and Operators' National Association appointed a committee to investigate the matter and the committee reported November 6, as follows:

"We, your committee appointed to investigate the California Co-operative Canneries to determine whether or not said co-operative canneries are controlled and dominated by the Armour interests and whether same is worthy of the support of the growers,

beg to report as follows:

"1st. We find that no known Armour interests own or control any of the stock of said canneries.

"2nd. That we recommend said co-operative canneries to the growers of California.

"3rd. That we further find that said co-operative canneries have a most valuable marketing contract with the Armour Company, which insures a fixed market, which is so badly needed by any new co-operative canning company.

"(Signed): E. L. Fellows, San Jose, Cal.; W. J. Fulgam, Visalia, Cal.; Geo. C. Aydelott, Hanford, Cal.; F. Starr Walton, Yuba City, Cal.; J. A. Teagarden, Auburn, Cal."

Madera Mountain Apples

A revival of the apple industry in the lower Sierra Nevada seems to have taken place. In the Ahwahnee Valley in Madera County there are 200 acres of apples planted. Each year sees an increase in this acreage. W. C. Chaffee at Ahwahnee has set out 14 acres more. He took all ribbons at the Ahwahnee Valley Fair this year at Oakhurst. Six of his Kings measured 6 inches in diameter.

Mr. George Teaford of North Fork, Madera County, has one of the finest mountain apple orchards in the Sierras. He has two acres of 52-year-old trees, from each of which he took an average of 15 boxes this year. He

packed on the ranch and shipped by truck to Madera and Fresno. These apples brought him \$2 per box. This very old orchard is one of the few to be seen in the mountains today which has been properly and constantly cared for in the past years.

Wheat Embargo Removed.

All export and import embargo, restrictions on wheat and wheat flour are to be removed December 15. A partial embargo has been in effect in order to safeguard the supplies of the allies. Now the door is open to us to ship to anyone anywhere and base the price on world conditions.

Officers of Farm Owners' Association

Trustees of the Santa Clara unit of the Farm Owners' and Operators' National Association, elected in October, met November 15 in San Jose and organized, re-electing J. J. McDonald chairman, C. E. Warren vice-chairman, V. T. McCurdy, treasurer, and Miss Mary P. Richter, secretary. The new trustees are named below:

First Supervisorial District—Robert Britton, Luther Cunningham, J. H. Harkness, Morgan Hill; and Frank Stevens, Coyote.

Second Supervisorial District—J. A. Fair, John Hassler, John S. Hensill, and A. R. McClay, all of San Jose.

Third Supervisorial District—H. F. Curry, Albert M. Foster, Thomas D.

Landels, John W. Shaw, all of San Jose.

Fourth Supervisorial District—Arthur P. Freeman, Lawrence; T. J. Henderson, Campbell; A. W. Greathead, San Jose, and S. E. Johnson, Cupertino.

Fifth Supervisorial District—E. K. Clendenning, Campbell; J. K. Durst, Sunnyvale; E. L. Fellows, Santa Clara; and R. P. Van Orden, Mountain View.

Trustees at Large—Lewis H. Britton, Morgan Hill; J. J. McDonald, Milpitas; Charles E. Warren, Cupertino; V. T. McCurdy, Santa Clara, and F. C. Willson, Sunnyvale.

PACKERS SOLD TOO MANY RAISINS

To the Editor: Are raisin prices too high? While it is generally supposed the Wholesale Grocers' Association is responsible for this talk the members of the Association are pretty well convinced that the talk was fathered by outside packers, several of whom sold more raisins than they could buy. At the present time one of the outside packers is running an ad. in the local paper which reads: "We must have at once 100 tons Muscat raisins. Growers and others owning or controlling any Muscat raisins are requested to make us their offerings on or before November 15. On this date we will accept the most favorable offerings." Please note the

last ten words of this advertisement. If John Doe offers his raisins at 12c they will take Richard Roe's raisins at 8, 9, or 10 cents, as the case may be. Nobody in Fresno county believes there are 100 tons of Muscat raisins unsold, and it is rather discouraging to some of the outside growers this year to have the Association set the price at 10c to their members because there are a number who staid out of the Association in order to try and get a little better price, and they sold early in the season in a number of cases at 6 to 8½c. The people of Fresno and the Association members especially, have good reason to believe this is an attempt on the part of the outside packers to bust the Association.—A Raisin Grower, Fresno.

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Here and There in the Fruit Business

Avoids Orange Thrips.

Of the many troubles met with by orange growers the thrips damage ranks high. Although a thrips-scarred orange is just as good to eat as a clean orange, its selling price is reduced very greatly, and that hurts. A small crop of clean oranges is as profitable as a big crop of thrips-marked oranges, so thrips control is well worth while. Whether removing dead twigs and leaves under the trees is responsible for it or not, the oranges of H. P. Taylor, close to Exeter, are astonishingly free from thrips injury, and from splits too; for that matter, though probably for another reason. Several years ago Mr. Taylor read in the Rural Press that dead leaves and litter in a vineyard provided a fine shelter for injurious insects and figured that if this was so with grapes it probably was so with oranges, so he had the leaves carefully raked out from under the trees. Whether this practice is responsible for it or not, the fruit for the last few seasons has packed a much higher percentage of first grade fruit than any orchard in the district. Before picking this season a careful search showed only one or two thrips-scarred fruits per tree. In many other orchards on similar soil a casual glance showed much damage from this cause. The trees were also loaded with an extremely heavy crop of very smooth, high-quality oranges. The leaves are generally raked out late in the fall, about the middle of November. It is a very simple, inexpensive job and if it does what it seems to do, the dividends it pays are enormous. Trials by many other growers would quickly prove its real value.—D. J. W.

Vineyard Cover Crops.

Certain farm practices that are highly recommended may be impossible to put into effect. Thus it is in Fresno vineyards on sandy and white ash soils when cover crops are mentioned. A cover crop is a fine thing for the soil physically and adds plant food too. But it is first hard to get a fall growth started on sandy soil in most cases. A soil with lots of clay will start a wild growth much quicker, and a planted crop will get hold quicker. The only thing to do in getting a good cover crop is to irrigate in the fall to bring up the seed artificially. However, on most vineyards the raisins are drying and trays are on the ground so long that it gets too cold to do any good irrigating for cover crop purposes and the only thing to do seems to be to let nature take its course. In orchards the case is altered, for the fruit is off earlier. H. B. Quick of Parlier got bur clover started on his place five years ago. His peaches were on the downgrade then, but they have done finely ever since and there has been a steady improvement in the soil. Once the clover got a good start it was easy to make it come the next year. [Possibly this would work in vineyards.]

Raisin Co. to Investigate Problems.

Problems of grape planting, cultivation, pruning, irrigation, fertilization, insect and disease control, picking and curing the crop, etc., are to be investigated by the California Associated Raisin Co. through a Bureau of Service recently inaugurated in charge of Fred K. Howard, formerly King's County Horticultural Commissioner. Assistance will be given to growers along these lines to enable them to increase their crops and produce raisins of the highest quality. The information will be furnished free to all members of the Association. No Worms Spread by Walnut Bags.

"Every walnut packing house in the State is now equipped with an electric laundry mangle for the treatment of empty bags before they are sent out to the growers." These mangles are heated and bags are rolled through them to kill codling worms or eggs before they are distributed. The California Walnut Growers' Association fears the codling worm as the worst pest of walnuts if it should not be

checked, and is actively in sympathy with the law passed at the recent session of the Legislature which Director G. H. Hecke of the State Department of Agriculture is enforcing through Field Entomologist D. B. Mackie. The law appropriates \$10,000 annually for two years "for the purpose of determining and applying control measures to combat the spread of the walnut codling moth." The State Director of Agriculture is empowered to enforce rules for this purpose. It is a criminal offense to distribute bags not processed by such mangles.

Pruning Branches for Quick Healing.

It takes more time to saw a branch from a limb without leaving any stub; and in practice such branches are seldom cut as close as they could be. Where a real stub is left, it does not heal over, but dries out and cracks. Wood rot gets in and, when a heavy load is on or a heavy wind comes, that is the breaking point. At the base of a branch is always a more or less distinct collar where the diameter of the branch is greatly enlarged. Experiments at the Wisconsin College of Agriculture have shown that the rate of healing is just as fast if the cut is made on the smaller diameter just outside this collar as if the cut removes the collar. In the latter case the cut is much larger and therefore takes that much longer to heal. It is concluded that the best place to cut is at the outer edge of the collar.

Orchard Planting near Paso Robles.

Over 2700 acres of orchards are being planted this year by the Associated Almond Growers of Paso Robles. Field Manager G. A. Nehrhood writes that he has purchased a little over 300,000 trees for this district and he thinks 100,000 additional will be planted. On its own land, this company is planting an average of 70 trees per acre. These are running 92 per cent almonds and eight per cent prunes. The prunes are three-fifths French, three-tenths Imperials, and one-tenth Robes. Mr. Nehrhood says, "I consider the Pacific Rural Press the best journal of its kind in the country; and I read it with much interest each week upon its arrival."

HORTICULTURAL JOTTINGS.

Oranges in Fresno are almost up to the required test and pickers are being signed.

Pear trees in Beaumont section of Riverside county are showing great distress from pear blight.

California Prune and Apricot Growers plan the erection of a \$100,000 packing house in Visalia.

Lemons in California are estimated at 77 per cent of normal as against a ten-year average of 86 per cent.

Bakersfield districts reports about 1,000 acres of cotton, selling at 40c per pound and seed at \$50 per ton.

Car shortage for citrus fruits is to be remedied at once, the Railroad Administration announced November 13.

The California Peach Growers, Inc., report shipment of 14,000 tons of dried peaches from Fresno district to date.

Yuba and Sutter counties figure on shipping 5,000 tons of raisins, which are 1,600 tons more than were shipped last year.

California Associated Raisin Co. re-elected Wylie M. Giffen Manager and enlarged their stock by \$650,000 at the recent meeting.

U. S. Bureau of Crop Estimates reports 42.6 lbs. of surplus honey per colony—an advance over last year, indicating better condition of bees.

Greco Cannery received its first order for \$2,400 worth of grape jelly. The indication is good for \$60 a ton for wine grapes, so the cannery claims.

A thousand sacks of almonds worth \$30 per sack were recently shipped in one car from the Sacramento plant of the California Almond Growers' Exchange. This is said to be the most valuable car of almonds ever shipped out.



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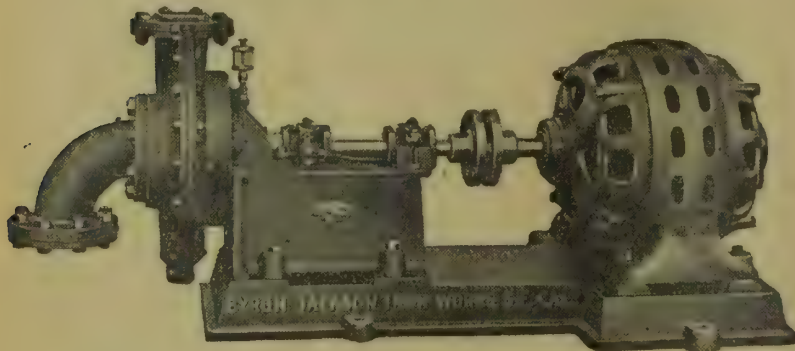


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Fumigation Plant for Nurseries

(Written for Pacific Rural Press.)

The nurserymen of California regretted that Senate Bill No. 940 was killed in committee. The bill provided for the appropriation of \$20,000 for the equipment of a State experimental vacuum fumigating plant for the destruction of insect pests on plants and nursery stock. As this is a matter that affects the whole horticultural industry it was felt that it was important enough to take under open discussion. The nurseryman, as the producer of young stuff for future orchards is the man who feels the need most of anything that shall aid in clearing stock from natural parasites and expedite the work of speedy transportation of the tree from the nursery to its future location. Delays are dangerous, and to nothing is delay more harmful than that of holding young plants and trees around whose roots pests are seeking security again in their natural element. The fish out of water is analogous.

Expert Advice Sought.

Dr. C. L. Marlatt, chairman of the Federal Horticultural Board, Washington, D. C., who addressed a Nurserymen's meeting, at their request, explained that in Federal Quarantine, where actual material was impossible of inspection because of its bulk and method of packing, vacuum fumigation was imperative. For instance, cotton from China and Mexico, whence came the boll-worm, was put through these vacuum fumigating plants at the rate of thousands of bales a day. Buyers themselves had built plants costing half a million dollars to expedite the work and insure themselves against loss. There are vacuum fumigating plants from Boston to Seattle, wherever large imports are made.

There are half a dozen large plants owned by the government where the fumigating is done at actual cost. The operation is very simple. One hundred and 60 bales of cotton go into the chamber on truck, vacuum is obtained in 10 minutes, and the whole operation is over in one hour, and not a living creature is left in the bales. There is a plant at Laredo (Texas) that holds 15 freight cars. These brick sheds are built on the border to provide for fumigation before any cotton is allowed to enter the United States.

Method of Driving in Gas.

After the cotton or merchandise has been placed in the chamber and the air exhausted the fumigating gas is turned in till the chamber is filled, then some air is again turned in behind the gas to thrust it into the bale.

Dr. Marlatt thought the plan of fumigating nursery stock possible and probably desirable. The Federal Board practiced it—even on delicate orchids from the tropics and other most delicate plants, with impunity. Under proper supervision nursery stock could be fumigated without injury to them and to the destruction of all insect life though it could not be expected to be of value against plant diseases. Dr. Marlatt was pressed for figures of cost and ventured a suggestion that an experimental plant to hold a carload of nursery stock might cost perhaps \$2000. Actual definite costs are in his files.

On a motion by Leonard Coates a committee of three nurserymen were appointed to investigate the possibilities of installing an experimental plant and working in co-operation with the State Horticultural Commission.

Astonishing Results from Use of Lime

(Written for Pacific Rural Press.)

The following notes are taken from a letter written by Karl Rudolf, Agriculturist for the American Beet Sugar Co.:

I submit herewith data of my 16 years' experience in using lime at the American Beet Sugar Company's ranch at Chino.

"Lime, if added to the soil, acts simply as a stimulant to crop production, which, however, will exhaust the soil and make it unproductive unless the necessary plant-food is given to the soil. At the Chino ranch we have been applying beet sugar lime for years on the land during beet slicing season, directly with the Steffens and filter-press water. Our results as to crop production have been astonishing."

"Heavy adobe, by the use of this lime, has been loosened to such an extent that while formerly eight head of stock were needed to plow, four are easily doing the work now."

"Lands which were completely exhausted have been made to produce heavy sugar beet, grain, alfalfa and other crops. The damage by insect pests was greatly decreased, inasmuch as the seed germinated quicker, the plant grew faster and offered greater power of resistance to these pests."

The following is analysis of sun-dried lime-cake from settling pond at the Oxnard factory:

Eight and .55 per cent organic matter; .33 per cent nitrogen; 54.36 per cent carbonate of lime; .57 per cent potash; .67 per cent phosphoric acid. The carbonate of lime will run up to

75 per cent, according to its moisture content. Having been burnt, hydrated, and composted, it is perfectly precipitated and is therefore in most readily available form.

For field and vegetable crops I advise applying six to eight tons of beet sugar lime to the acre.

For oranges and lemons from three to five tons per acre.

For walnuts from two to three tons per acre.

For olives, prunes, apricots, peaches, plums, cherries, pears, apples, figs and grapes from three to five tons per acre.

The best results will be obtained by double discing or spring-tooth harrowing after the application, followed by irrigation. The irrigation is the most important factor in order to obtain the highest results through the use of the beet sugar lime.

Lime on Truck Farms.

The continuous irrigation on truck farms necessarily sours the land, which can be sweetened and restored by the use of lime. Besides sweetening and aerating the soil it will help take water and hold the moisture better, create more vigorous growth and generally improve quality and increase the yield. Continuous growing of leguminous cover crops, heavy manuring, also the frequent irrigation of orchards and vineyards, brings about acid soil conditions which reduce the productiveness of the land. This can be prevented by an occasional application of lime.

EMPEROR GRAPE CONDITIONS.

Emperor grapes have been moving nicely from Central California vineyards. The berries may run slightly smaller than usual, but the color is excellent and quality fine. Cars have been supplied enough to keep the fruit moving. No damage was done by the rain of the end of October, as the weather cleared quickly and the berries dried promptly. Frosts following the rain were mild enough in the leading Emperor sections to do no damage. Shippers were offering \$100 a ton for grapes of those who did not

want to run marketing risks. The shipping season is practically finished. Seventy dollars per ton is quite a loss, but a certain Emperor grower of Tulare county lost that of about a fifth of his first day's picking partly because some of his grape were shaded too much and partly because some of the pickers were not watched carefully enough. A postponement in picking and careful instructions to the pickers saved such loss for the balance of the crop.

Before planting any crop, consider where your market will be.

How the Experience of Years Saves Money in This Post-War Maxwell

THE run of 300,000 Maxwells to date saves you many a worth while dollar in the new Post-War Maxwell. Those 300,000 saved in many ways.



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6. They taught how to get the most mileage out of a gallon of gasoline, a pint of oil and a set of tires.
7. They taught how to build a car that the less skilled driver would find simple to operate and take care of.
8. They taught that it was better to build more and take less profit per car rather than build less and take more profit per car.
9. They taught how to put more and more value in the car without increasing its cost.

This Post-War Maxwell is next year's car. It contains features developed during the war, many of which will find their way into other cars in the summer of 1920.

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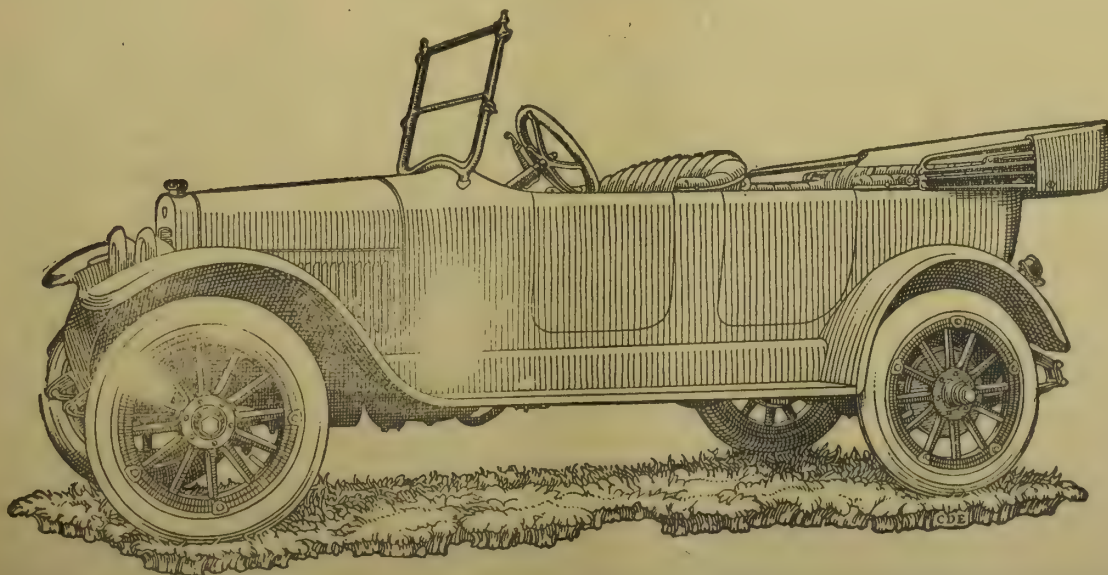


Table Fruit in the Citrus Country

(Written for Pacific Rural Press by D. J. Whitney.)

Two thousand acres of fruit and vines in one holding, practically all given to the production of table fruit; in other words, to the production of fruit for direct use, without drying, canning, or other processing; that is the holding of the Redbanks Orchard Company, about 12 miles northeast of Visalia, where hills meet valley, overlooking the delta of the Kaweah and St. John's rivers.

This ranch is noteworthy in several ways: it is thought to be the largest orchard of table fruit in California, therefore in the United States, therefore in the world. Secondly, it is in the midst of a very specialized citrus district and on theoretically excellent citrus land, in a stretch of country where the deciduous fruit and vines that are grown are used mainly for canning and drying. Furthermore, the ranch is noted for its excellent management and advanced methods. This ranch, therefore, though located in a section where its specialty is largely overlooked, in size and success, invites comparison with orchards and vineyards where table fruit is the main product. It indicates a fine line of development for all of the thermal belt of Central California.

Natural Conditions.

There can be no doubt that the very conditions that invite citrus success in Central California invite success with many kinds of early shipping fruits, likewise late shipping fruit (better say, late shipping grapes). These conditions are rareness of killing spring frosts, or of serious spring rains to prevent good pollination of the bloom; warm, dry weather to hurry ripening and (in the fall) few rains or frosts to spoil the late fruit. Up to the present time, save for Emperor grapes and early plums, most non-citrus planting has been directed toward dry or canning peaches, raisin grapes, figs, apricots and olives—all good in their way, although there is no doubt but that shipping fruit pays big profits when it is grown and handled right.

This ranch was started about 17 years ago, and a big variety of fruits and vines were put out with the expectation that a number would prove unsatisfactory. Those which have done poorly have been pulled up or worked over. Those which have been successful have been increased so that the result is, a considerable variety of fruits suited for the location is now grown. The list is interesting.

Tractor Pulls Orange Trees.

A 20-acre orange orchard on a side hill with southwest exposure, as ideally located for frost as could be devised, was one of the first plantings. Early this September a tractor was brought up, hitched to one tree after another and the lot pulled out. It is surprising what long roots came out by this method. It would seem that no grubbing at all would be required to clear the land up. The trees were thrifty, bloomed heavily, but would not set good crops.

It is noteworthy, however, that this uprooting is not aimed at the citrus business as a business, for Phil Baier, principal owner and manager of the company, is planting 230 acres of young citrus trees on valley land of his private holding close to the Redbanks ranch.

Furthermore, not far from the uprooted orange orchard, higher up on the side hill, a peach orchard is being replaced by lemons, which do excellently under such locations, so citrus trees are all right in their place.

Near the old orange orchard is a small block of olives of an oil variety, planted at the start. Heavy bearers in good seasons, but with fruit too small for the cannery, the olives are all used on the ranch and in that way are profitable, but the olive acreage is not being increased, table fruit being considered more profitable.

Of other fruits the tendency is away from peaches and toward plums and grapes. The management claims to have usually the earliest peaches in the State, which are shipped mostly to

Los Angeles and San Francisco, poor shipping qualities of early varieties preventing Eastern sales. When it comes to mid-season varieties the competition from Eastern peaches is getting more and more to reduce profits and to increase the risk so peaches are not held in high esteem by the owners.

The plum business, though, is prospering. A long stretch of hillside, with a southwest exposure, comprising part of the ranch, gives extremely early fruit and enables them to get the cream of the market with early varieties, like Climax, Beauty and Clyman. The bulk of the plums are Tragedies, which many orchardists in the district have planted.

Grapes.

Grape varieties have been reduced to five or six main kinds, with a few of several other varieties, Emperors, Malagas, Tokays, Cornichons, Almerias and Wilsons leading.

Emperors are deservedly the popular shipping grape of the district, late, beautiful in appearance, an excellent shipper, heavy bearer, and now that the redwood sawdust packing has been discovered, keeping in first-class shape far past the holidays and commanding very high prices. High trellises over some of the rows were early tried and are still in use. They are successful in some ways, but are troublesome in cultivating, as the canes hang down from them and get in the way of the horses, so standard methods of pruning are adopted for all new plantings.

About the only Malagas of the district (at least, that the writer knows of) are grown here. As a rule this ranch is able to ship out the first car of them. To do so in any place requires careful, selected picking. This year, owing to labor costs the management waited until all the grapes were marketable, so as to have only a single picking and Dinuba beat them out. Malagas bring fine profits, as they are the first high-class eating grape in the market after the Thompsons, and early shipments command high prices. The Wilson grape is like the Malaga, larger and with more base, but later. In fact, the difficulty of getting enough sugar in the juice to meet legal requirements is against it. The red Malaga, or Marvel of Malaga, is grown some, but is not thought much of.

Tokays Are a Surprise.

This Central California district has a poor reputation for Tokays, although they produce well. The hot, dry atmosphere seems to be bad for the color. Seemingly it takes the Lodi climate and the black soil of Lodi at that to justify the term "Flaming Tokay." Where this ranch wins out is in earliness. They can put excellent Tokays (save that the color is light) into the market three weeks ahead of Lodi and quit shipping when prices fall down a bit, then when Lodi quits they can start picking once more. The moisture of the Lodi district, and earlier fall rains, compel Lodi growers to keep shipping while they can. In this dry, clear atmosphere, by keeping the water in the soil, the grapes will hold on the vines for a long time without getting over ripe and then, when shipping looks promising again, the water is taken off, the fruit sugars up, and marketing can begin all over again. This rule holds true for Malagas and Cornichons also. It seems peculiar that the same vineyard can get both the early and the late markets for one variety, but it can be done by adapting methods to natural conditions.

Almerias.

This variety, shipped from Spain to Atlantic ports in immense quantities and at high prices, for late markets, holds attractive promises to California vineyardists in late districts, now that redwood sawdust has proved superior to Spanish cork as a packing material, and it is one of the Redbanks leading grapes. Certain difficulties with it offset its good qualities enough to make other grapes just about as profitable. It is late in coming into bear-

ing and apparently requires very long pruning to make a crop. One special requirement, or help, in proper cropping, is to have Emperors planted

very close to it in parallel rows, seven feet apart. This is to provide shade, for the Almeria seems to require more shade than its own fol-

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age will give. Close planting of Emperors next to it seems to fill this need. The quality of the Almerias from this district is excellent in comparison with the Spanish grapes. The main necessity to make the Almeria rival the Emperor in popularity is to find how to make it produce right.

One of the features of the ranch is the excellent accommodations provided

for the help. All of the buildings are attractively designed and well built and have the surroundings well kept. There is a swimming pool for help in summer, reading room, good dancing hall, player piano and other accommodations to make life agreeable and pleasant. Its location off the usual run of travel has caused it to be less known than its merits deserve.

The Farmers' Union of America

(Written for Pacific Rural Press by C. W. Blabon, Sec'y-Treas. Oakdale Farmers' Union.)

The 1919 State Convention of the Farmers' Educational and Co-operative Union of America will be held in Oakdale, Stanislaus county, California, on the 2nd, 3rd and 4th days of December. There was keen rivalry among several of the larger cities of the State for this honor, and Oakdale can count herself fortunate in having secured the State Convention of this great State and National Organization. The Farmers' Educational and Co-operative Union of America is a Fraternal Beneficiary Association of Farmers, whose purposes are as follows:

To secure equity and establish justice and apply the Golden Rule.

To discourage the credit and mortgage system.

To assist the members in buying and selling.

To educate the agricultural classes in scientific farming.

To teach farmers the classification of crops, domestic economy, and the process of marketing.

To systematize methods of production and distribution.

To eliminate gambling in farm products by Boards of Exchange, Cotton Exchanges and other speculators.

To bring farming up to the standard of other industrial and business enterprises.

To secure and maintain profitable and uniform prices for cotton, grain, livestock, and other products of the farm.

To strive for harmony and good will of all mankind and brotherly love among ourselves.

To garner the tears, of the distressed, the blood of the martyrs, the laugh of innocent childhood, the sweat of honest labor, the virtue of a happy home as the brightest jewels known.

Production, Marketing, and Legislation.

The farmer has three problems, and prospers or does not prosper in proportion to the success with which he handles them.

He must know how to farm scientifically.

He must know how to market scientifically.

He must know how to have legislation in his interests.

These things he can accomplish only through co-operation with his fellow-farmer. The individual farmer can only produce; there his efforts must cease, until he has learned to organize. It matters not how much he may know, how scientifically he may farm, he is powerless, unless he co-operates with his brother farmers along lines that will enable him to market his products in a businesslike manner.

Stanislaus Farmers' Union Activities.

Many and numerous are the ways by which the Farmers' Union can and has assisted its members. Among our local activities we mention a few. The farmers of Stanislaus county own and operate one of the largest warehouses in California, situated in Modesto. This Co-operative Warehouse covers the major portion of a city block and cost over \$10,000 to erect, the whole amount being subscribed by farmers. Here the farmer is enabled to dispose of the great bulk of his produce and procure for it the highest prices. He is enabled to purchase all his wants along this line from his own warehouse. The producer and consumer is brought face to face, and the middleman is eliminated entirely from the bargain. Were it possible that this method could be pursued throughout the entire country the great H. C. L. would cease to be the boggy that it is.

In the thriving town of Riverbank, Stanislaus county, one of the most successful co-operative stores is in operation. This store is owned and controlled by farmers and railroad brotherhoods jointly. They carry upwards of a \$10,000 stock, and save the members \$500 to \$600 per month. Here again the small producer finds a ready market for all his produce. He receives all that is paid, and the consumer receives in rebates on his purchases an amount aggregating a saving of approximately 20 per cent on his monthly bills.

The Farmers' Union Co-operative garage, to be erected and owned by the Farmers' Union of Stanislaus County, in the city of Modesto, is to cost in the neighborhood of \$6,000. Nearly every farmer is the proud owner of a car, and this Co-operative Garage is receiving the generous support and financial aid of every Farmers' Union member in Stanislaus county. The Oakdale Farmers' Union is contemplating the erection of a similar garage to the one being erected in Modesto.

Legislation but No Politics.

While the Farmers' Union is in no sense a political organization, it takes an active interest in all public questions of the day, both State and National. Under no circumstances, however, can it enter sectional politics. It cannot endorse a candidate, put out a candidate, nor formulate a platform. At its conventions it agrees on certain measures, and elects legislative committees. These committees argue before committees having certain legislation, either detrimental or beneficial to the farmers' interests, pending passage. In this way great pressure is brought to bear to either kill or pass a measure as the case may be. The writer and State Secretary Fred Millard were appointed by Senator J. M. Inman to serve on the California Asiatic Exclusion League which met in Stockton last September, and pledged the support of the farmers of

the State of California in the work of the organization.

Social Side Important.

The Farmers' Union is made up of many small units known as Locals, and it is within these locals that a spirit of comradeship and brotherly love is engendered and fostered. Lectures, debates, socials, dances, suppers tend to lighten the hours of long winter evenings.

It has been said, and truthfully, that no home is so capable of giving to the world a race of patriotic, loyal and intelligent citizens as that of the American farmer. The constant association with nature and her beauties tend to develop and bring out in the heart and life of the farmer all that is noble and good and true.

AGRICULTURAL NOTES.

On October 4, 1,101 crates of onions and 2,174 barrels of potatoes were shipped to the West Indies from New York.

A number of growers interested in certified seed potato production met in the State Director of Agriculture office November 17.

Official changes in the Turlock Merchants and Growers, Inc., have put H. W. Rickenbach in the presidency, and have made D. F. McHaffey sales manager.

The California Vegetable Union has recently opened a branch office in Sacramento which will handle their business in the northern part of the State.

About 2,000 acres of potatoes, onions, cabbage, and lettuce are to be planted in Sutter Basin to be marketed by the California Vegetable Union.

Three to five cars of hay are being shipped daily from Pixley, Tulare County to Los Angeles, over 1,000 tons having been shipped. The Tip-ton and Earlimart districts are also shipping large quantities of hay.

No advance in prices of sulphate of ammonia, dried blood, tankage and cottonseed meal for fertilizer, or fish scrap is to be allowed over prices in effect October 7, as ordered November 11 by the U. S. Department of Agriculture.

The State Department of Agriculture has collected all of its various bureaus and moved all together to the Rebis Hotel building in Sacramento. A lady called at their new quarters thinking she was in a second-hand furniture store.

We speak of the two dry years just passed, but Sacramento claims four dry ones. In the past four seasons 61.84 inches of rain have fallen there. This is the driest quadrennial since that beginning in 1855, when rainfall totaled 60.83 inches.

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Lima Bean Marketing Contract

Many of the large growers of lima beans had contracted their crops for a term of years to shippers outside the California Lima Bean Growers' Association. Last year the largest three factors (the Association, the A. & H. Levy Co., and the J. M. Waterman Selling Agency) were unable separately to market the crop. It was only by an emergency combination of practically all factors into the Lima Bean Selling Agency that the crop was cleaned up before the 1919 crop started to come in. That Selling Agency wound up its affairs this fall and the three big factors united with control of more than 80 per cent of the total crop under terms of the following proposed agreement as furnished us by R. L. Churchill, Manager of the Association. This puts control of the marketing of more than 80 per cent of the limas in the Association, which employs the other two factors as brokers. The contract is to run five years with an option whereby the Association may renew it on or before January 1, 1924.

1. Contingent upon the membership of California Lima Bean Growers' Association being brought to the point where our Association will have charge of the marketing of at least 80 per cent of the total 1919 crop of limas and baby limas grown in Southern California, said estimate to be made not later than August 1, 1919, our Association proposes to enter into a contract with the A. & H. Levy Company and the J. M. Waterman Selling Agency, appointing these two firms joint selling agents with the Association's own marketing organization for the marketing during a five-year period of the beans controlled by our Association during that period.

2. All the beans to be sold by the three marketing agencies are to be sold upon a uniform form of selling contract.

3. The Board of Directors of the Association shall formulate rules and regulations governing the marketing, fixing prices, determining quantities to be sold and the manner in which offerings shall be made, establishing standards of grade and quality, which rules and regulations are to be kept by the Levy and Waterman companies and by the Association's own selling organization.

4. The Levy Company and the Waterman Selling Agency, and any member or partner of said firms, are to be bound not to handle or deal in lima or baby lima beans directly or indirectly for their own account or for the account of any one other than the Association during the life of the agreement.

5. The Levy Company and the Waterman Selling Agency are to exercise every proper influence within their power to cause bean growers to become and remain members of the Association during the life of the agreement.

6. The Association is to pay to the Levy Company and the Waterman Selling Agency as full compensation for their services under the agreement, a flat brokerage rate (without maximum or minimum) of five per cent. upon the f. o. b. coast selling price of lima or baby lima beans sold by said firms upon sales confirmed by the Association. Out of said five per cent. flat brokerage the selling agents are to pay the brokerage of 1 per cent customarily allowed upon sales of beans to broker representatives in distributing markets; also the 1 per cent cash discount usually allowed to purchasers when drafts are paid on presentation. No extra brokerage or special discounts to be permitted.

7. Members of the Levy Company and the Waterman Selling Agency are to have full opportunity to confer and consult with the board of directors of the Association with reference to all matters pertaining to the marketing of lima and baby lima beans, and are to be treated fairly and impartially by the Association.

8. The Levy Company and the Waterman Selling Agency are to be bound to keep all the terms and conditions of the selling contracts and the rules and regulations established by the board of directors of the Association under penalty of cancellation of their contracts and forfeiture of an indemnity bond.

9. The Levy Company and Waterman Selling Agency are to be free to contract or purchase lima and baby lima beans of the 1924 crop upon their own behalf, provided the Association does not notify them on or before January 1, 1924, of its intention to continue similar agreement.

Alameda County Farm Bureau Meeting

(Written for Pacific Rural Press.)

The annual meeting of the County Farm Bureau for the purpose of election of officers, listening to a resume of the work done by the various workers in the county organization, and witnessing demonstrations in livestock judging and poultry work, was held at Hayward Saturday, November 22d.

The chairman of the committee on Agricultural Clubs, M. L. Mowry, of Centerville, reported that while five clubs had been formed in 1918, there had been no progress in 1919 in actual formation work, owing to the lack of an Assistant Farm Adviser. Several will be formed as soon as this vacancy is filled.

President Rinderspacher gave a summary of the activities of the Farm Bureau during the past year. Among other things of great benefit accomplished was the changing in the proportions of the amount of barley and wheat raised in the county. Formerly the proportions were 25 per cent wheat and 75 per cent barley, which percentages have actually been reversed. A saving of from 3 to 5 cents per pound on the purchase price of copper sulphate (blue vitriol) was effected as well as 5 cents per pound on binder twine. These are the salient features of the work, showing direct benefit.

Farm Adviser M. A. W. Lee made a business talk about what the Farm Bureau meant to the agricultural communities of the United States, and to California in particular, mentioning all the activities that had been touched upon in Alameda County.

Dr. J. J. Hogarty, County Livestock Inspector, in his talk confined him-

self chiefly to blackleg and its control, emphasizing the fact that stockmen generally will not vaccinate their stock until they have lost some. In other words, "they have to be shown" that it is necessary.

J. F. Mullins, Chairman of the Board of Supervisors, spoke on "Supervisors' Interests in Rural Development," and said that the Supervisors had been public spirited and granted all reasonable request. Also that the county was fortunate in having such a great corps of specialists in the agricultural work.

Horticultural Commissioner F. Seulberger spoke on "Rodent Control and Standardization of Pack," and stated that 200,000 acres of land had been gone over in the distribution of over 21 tons of poisoned grain with an estimated killing of 6,000,000 rodents. Mr. Seulberger said the poisoned grain produced excellent results during the dry season, but results by this method were nil during the rainy season.

The closing of the educational features of the day were a talk on "Brooding" of young chickens by Prof. J. E. Dougherty of the Poultry Division of the University of California, and livestock judging demonstrations by Farm Adviser Lee and L. Kelly, superintendent of Shore Acres Dairy.

A fifty-plate banquet and dance in the evening marked the close of a very pleasant and profitable day.

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AUSTRALIANS GRATEFUL TO AMERICA.

To the Editor: Having just read an article contained in your issue of November 1st, referring to our advent in this wonderful country, and some of its phases—I just felt that it was one more instance where I wanted to send thanks for the sentiment contained therein.

It would be difficult to fully express our appreciation of the way in which America has thrown open her arms to us right from the first suggestion of this trip. Though having mixed considerably with the American soldiers in France, and realizing that a distinct friendly feeling existed between those of our two great countries, our arrival in New York on September 4th seems to have been a signal for a rapid and apparently endless succession of happy experiences in coming in contact with your country and its people, and at first hand realizing by this contact the excellent fellowship existing.

Besides the social pleasure experienced here, our party, without exception, is gaining great benefit educationally. The seventy-five members now taking definite courses here are rapidly realizing the greater necessity of the co-operation of science with agricultural pursuits and aside from an anxiety to seize all possible knowledge available, our people are keen to spread the news first hand in Australia of the magnificent manner of organization which renders available to practically the lowliest a series of educational courses, agricultural and other, fitting him for thorough future citizenship, as allowed by the University of California and its branches.

Most interesting reports are frequently reaching me from those twenty members of our party distributed throughout California. These members are attached to various institutions, farms, factories, fruit orchards, etc., and I like to take this opportunity of referring to the generous way in which they are being received and assisted to gain knowledge, not "American Secrets," but sound, general knowledge in which America leads us, and which, by distribution, we feel sure will aid tremendously in the future mutual benefit of both our countries.

I sincerely hope that our visit will be the means of encouraging at least some of our American brothers to take a similar trip to Australia, where, though they may not gain greatly in intensive agricultural knowledge, many items of interest to them may be found, and an opportunity afforded us of returning at least to a small degree, the fine generosity we are experiencing here. E. H. DAVIES, Captain.

Care of A. I. F. Irrigation Students in America.

BEANS SOLD TO EUROPE.

In a communication from the California Bean Growers' Association they say that with the assistance of Herbert Hoover, they have sold 3500 tons of 1918 crop of white beans for export, which will be filled from holdings now in New York City. This order was placed with the European relief commission. After many months of waiting this is the first actually completed sale for export and the trade is now proceeding to cover its season's requirements at prevailing prices before the normally expected advance.

Mr. Hoover is quoted as saying, "there is no reason for American beans selling below cost of production as Europe needs all surplus bean stock over home requirements." It is believed that from now on the filling of foreign export orders will soon absorb the 1918 surplus.

The active interest of Mr. Hoover in assisting the California bean growers to obtain foreign export orders will help materially in relieving the distress which was occasioned on account of the purchase by the Government of Oriental beans during the war, and is greatly appreciated by California bean growers.

The rice crop of Glenn county is estimated to be worth \$10,000,000.

Before planting any crop, consider whether your moisture will be sufficient.

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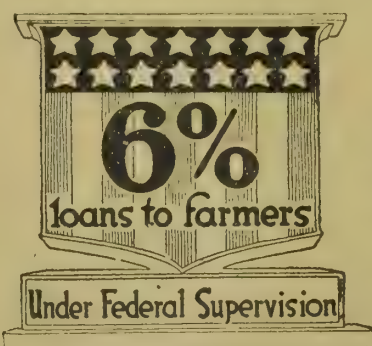
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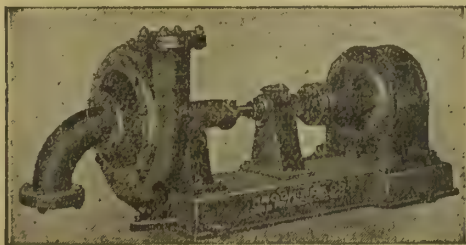
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33x4	17.30	22.00	3.35
34x4	17.80	23.50	3.45
36x4		26.60	
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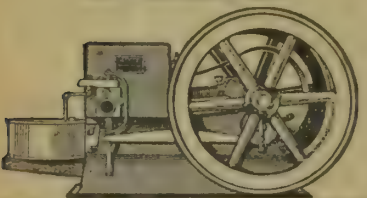
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Significant Agricultural Pointers

Baart and Bluestem Wheat Compared.

A fine comparative test of Bluestem and Early Baart wheat last season is reported by Warren & Sebbelov of the Natomas tract in Sacramento county. Eight hundred acres of Bluestem and fifty-one acres of Early Baart were seeded between November 10 and 20 at the rate of 80 pounds per acre. The Bluestem showed up a good stand before the Baart began to appear. It seemed to require less moisture to germinate. Owing to the dry fall they never did get half a stand of Baart, although the land and preparation were the same for both varieties. "Once out of the ground, however, the Baart soon outgrew the Bluestem and particularly displayed a tendency to stool which we have never seen equaled by any other variety of wheat on this kind of soil; i. e., heavy adobe with a few inches of sediment on top. I counted as high as 42 heads on one stool and would put the average at fifteen or twenty; while Bluestem never has produced over six on the average. All Baart heads were large and well filled from top to bottom. Although two weeks behind the Bluestem in coming up, the Baart matured two or three weeks earlier, yielding from 51 acres a total of 974 sacks or 19 sacks per acre. We are wondering what kind of a crop we would have had if all the seed had sprouted. Bluestem in two adjoining fields of same soil and showing a perfect stand averaged 14 1/2 sacks per acre. The coming season we expect to plant half of our acreage to each variety which will enable us to cut the Baart before the Bluestem gets too dry."

Organize to Standardize Tomato Packs

Owing to the difficulties experienced by Merced growers last summer in trying to market unstandardized packages of tomatoes, they have organized the Merced Growers' Packing Association. Members have agreed to deliver to the Association all vegetables grown by them for packing and marketing. Instead of unsupervised scattered packing, there will probably be uniform packing next season which will conform to the law.

Potato Storage Requirements.

To take good potatoes out of storage several points must have been observed. Undiseased, uninjured potatoes must have been cooled from outside to center before being stored. With our cold nights in California this is seldom difficult. The storage room needs ventilation to carry off heat and moisture that develop from the pota-

toes during storage. But there must be no rapid changes of temperature and no high temperature. They are best kept at 34 to 38 degrees. Walls of the storage room may be double and filled with sawdust and provided with windows to be closed during day times and opened at night except in freezing weather. In the Delta many potatoes are left where they grew in well drained land until along in January or later.

Spray for Cabbage Worms.

Spray cabbages when the worms first appear. Arsenate of lead is the commonest spray, used at the rate of one pound powdered arsenate per 50 gallons of water. Twice as much arsenate is needed if the paste form is used. Add two or three pounds of laundry soap per 50 gallons to make the spray stick to the waxy leaves. One-half ounce of powder and an inch cube of soap per gallon will work for smaller quantities. There is no danger of poisoning consumers of the heads, but the outer leaves must be destroyed.

"It Increases My Self-Respect."

"I toiled, I sweat, and I produced—and I sold at the other man's price for his profit. I produced better stuff than my neighbors only to find that theirs set the price, very often, at which I must sell in the local market. By consistent advertising I have been able to secure a fair price. My experience is that advertising pays more than it costs. It frees me from my neighbors' limitations. It increases my self-respect and has added hundreds of acquaintances and friends."

Irrigating Old Grain Foothills.

Irrigation is reclaiming the foothills east of Marysville from the waste caused by years of thin grain farming. Four co-operative irrigation districts are operating in this section, two having been formed recently. These are the Cleveland and the Honcut systems.

Standardization Fines Doubled.

Fines have been doubled each time for three convictions obtained against a Japanese in Alameda county for violation of the Standardization law in packing tomatoes. The fines were \$25, \$50 and \$100. After a while this man will learn to be good.

Fewer Squirrels, More Feed.

Hogs instead of squirrels are eating the acorns in the Lynch district of San Luis Obispo county for the first time. Squirrels were well nigh exterminated here last summer at a cost of about 23 cents per acre.

How Can We Increase Wheat Yields?

(Written for Pacific Rural Press.)

The average yield of wheat per acre in this country is only 15.5 bushels, according to Dr. R. J. H. DeLoach, director of the Armour Farmer Bureau. The world's total wheat crop is a little over 4,000,000,000 bushels. The Minnesota Experiment Station found that it required 12 1/2 hours of human labor and 30 hours of horse labor to produce an acre of wheat. Take present prices of labor and wheat and about \$20 per average acre would be the return, from which interest on fixed capital and taxes have to be deducted. The higher the yield per acre the less the proportional cost of overhead. Except the increased cost of threshing and sacking, a 30-bushel crop costs no more to raise than a 15-bushel crop.

It is pointed out by Dr. de Loach that the first way to reduce cost of wheat production is in the selection of seed. Generally, at least one-third of the plants in any field are failures.

The next principle to be observed is the proper rotation of crops, whereby cover crops can be plowed under one year in two or two years in three. Each section of the country has its own crop rotation system, but the plan must always provide for a substantial production if organic matter is to be returned to the soil.

The third point for consideration is the proper balancing of plant foods in

the soil. Belgium applies more plant food per acre to her wheat-lands than any other country on the globe, and, just prior to the war, reported the highest yield per acre of any country in the world and the lowest cost per bushel to produce.

Eighty per cent of our grains are fed to live stock and 20 per cent eaten by humans. It is through our live stock that much of our soil fertility is maintained and our own rations balanced.

Half the States in the Union grow less wheat than they consume while the other half grow more, with a net surplus for the whole country of 317,530,000 bushels in 1918. The North Central States west of the Mississippi River grow about 70 per cent of the surplus.

In the United States, to increase wheat production, we can only intensify farming—produce more per acre. Our own University and Experiment Stations have done much experimenting with wheat varieties suited to the various localities and conditions of California. It used to be said that our State could not produce a strong glutinous red wheat. The splendid grains exhibited at the State Fair by different counties, with their high yields, show that we can and do produce a strong red wheat of high productivity. Start with good seed.



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We urge you to send us your next shipment of furs and let us prove to you that our prices are the highest—our grading the most correct and liberal and our returns most prompt. We have been in the fur business continuously for 43 years and we have made more staunch friends and have a larger percentage of regular old shippers than any other fur house in the U.S. These facts justify our claim that Abraham is America's Leading Fur House. Other fur houses make the same claims, but it is generally conceded by our competitors that the hardest fur house to fight against for business is the Abraham Fur Co. Why? Because our returns are always top of the market and any fur house that wants to keep pace with us will have to go some and be on the job early and late.

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Nut Grasses and Their Eradication

To the Editor: Please identify the enclosed grass for me. It is a new pest to this part of the country. There is a suspicion that it was introduced from abroad in the fibrous bark of some date-palms. It spreads by underground runners, which form nodules or bulblets at intervals. These form at all depths down to twelve inches, and sprout independently, making the grass almost impossible to eradicate, as these bulblets will survive any amount of drought and cannot be destroyed by cultivation. They have an aromatic, bitter taste, a little like aloes.—W. F. A. M., Thermal.

(Answered by Professor P. B. Kennedy, University of California.)

These are plants of the sedge family, very much resembling grasses but with triangular instead of round stems. The flowers and seeds are borne in clusters, terminating the stem, which spreads out at the top like the ribs of an umbrella. The roots creep under the ground, and here and there swell up into thickened parts of various shapes and sizes, the largest being about one inch. These are storage reservoirs of food material and are quite palatable, and explain the name of nut-grass.

They have a very wide distribution from Maine to Florida, and west to California and Texas. Their natural habitat is in wet ground, and, unless drainage can be secured, their eradication on such ground is well nigh impossible.

It reproduces both by seeds and by these underground nuts, so that mowing to prevent the production of seed is not sufficient. The nuts must be destroyed. Ordinary cultivating once or twice a year only encourages the growth of both the plant and the nuts, and has a tendency to enlarge the area

by dragging the infested soil containing the nuts over more and more territory.

Therefore the nuts must be removed from the soil in toto, or starved out. As they receive a large part of their nourishment from the air through the leaves, by allowing no leaf growth to be produced the nuts must eventually succumb from lack of food material. But the land must be valuable to pay for the labor involved, as it may take one, two, or even three years to get the best of it. Some advantage may be taken of the palatability of the nuts by plowing frequently, thus aiding hogs, which are very fond of them, to eat as many as possible. Geese or goats confined in the patch would also tend to greatly lessen the leaf growth.

After this cultivation may be resorted to with good chances for success, either with or without a crop on the ground. The nature of the crop should be one that could be cultivated in two directions, and the sweep type of cultivator, which cuts off the plant just below the ground, is the only one to be considered.

Arsenic spraying may prove to be the correct method of control, but we do not know of its having been tried out.

When all is said and done, it is a serious pest, and as it usually gets started from a very small beginning, perhaps a few nuts hanging on to the roots of nursery stocks or with balled stock, "a stitch in time" is the old but very appropriate adage in the control of nut-grass. In its incipency the whole infestation, plant, soil, nuts, and all, could be taken away in a wheel-barrow, and given such a warm reception that the troubles of years could be avoided in one hour.

is packing the soil too much. For that reason toothed tools are used after plowing wherever possible to get the depth required.

SULPHUR INCREASES ALFALFA.

Sulphur as an alfalfa and clover fertilizer increases the size and branching of the roots, and builds up vigorous nodules of nitrogen-forming

bacteria, as shown by several years' experiments at the Oregon Agricultural College. The plants are of denser, darker foliage and the quality of the hay is improved by increasing the sulphur, protein and nitrogen content. The sulphur is applied in the form of gypsum, flowers of sulphur, iron sulphate or superphosphate. A bulletin has just been issued giving details of the experiments and results.



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NEWS NOTES FROM NEVADA

Mr. W. D. Duke of Likely, California, which is near the Nevada-California line, has purchased a new ranch in northern California. Many Nevada breeders who have made annual purchases of Hereford bulls from Mr. Duke's herd in the past will wish him well in his new location.

Mr. Jas. N. Hollenzer of Ursine, Nevada, is a new breeder of Shorthorns. He is located in one of the beautiful little valleys of southern Nevada, where the feed elevation and climate are conducive to the development of a high-class herd of pure bred Shorthorns. The herd consists of some ten or twelve females of excellent type, headed by the good bull, Types Boy, by Cumberland Type.

Mr. J. Selby Badt, manager of the Warm Creek ranch, Wells, Nevada, has added two Shorthorn heifers, Pacheco Lass 141 and Crimson Bud, from the Pacheco and Miller herds. The heifers were purchased at the San Francisco Shorthorn auction held during the Livestock Show.

Mr. Badt is building up a good Shorthorn herd and the new purchases make an excellent addition to his good herd.

Mr. Wm. Short of Ruby Valley has just returned home from attending the series of Shorthorn sales held in Southern Idaho.

Mr. Short purchased a small herd of eight females and a good herd bull to add to his pure bred herd of Shorthorns.

During the past few months he has sold around two hundred and fifty head of pure bred, but unregistered Shorthorn cows in order to give more attention to his registered herd.

It is very seldom that a purchaser is able to buy an entire herd of pure bred cattle that has been in the hands of one breeder for a long period.

Mr. A. M. Heaton of Las Vegas recently purchased the entire herd of Dutch Belted cattle of Frank Reed Sanders on the 21st anniversary of Mr. Sanders' entry into the Dutch Belt business. In this herd was the outstanding cow Thelma of Columbia.

Included in the deal were also a few registered Jersey cows.

Mr. Heaton furnishes milk and cream to the dining car service, and is

building up a high class dairy near Las Vegas.

Mr. Raymond Husted, general manager of the Wyoming Hereford Corporation of Cheyenne, Wyoming, passed through Reno last week with a shipment of a car load of Hereford bulls and heifers which he delivered to the H. F. Dangberg Land and Livestock Company of Minden. The bulls were for range purposes, while the heifers were for the breeding herd.

BEANS AMONG TREES WITHOUT IRRIGATION.

(Written for Pacific Rural Press by Geo. L. Horine, Winton.)

Down here in Merced county we are beginning to hear talk of having another dry year. Whether we do or not, time will tell, but there can be no harm in taking dry year precautions.

Last season was one of scant rainfall and short irrigation down in this section, and many orchards suffered greatly. If the method of treatment of my two-year-old almonds would be of interest I should be glad to explain it. Let me say that on the part of the orchard referred to, the water level is 22 feet, and no irrigation whatever was resorted to. Numbers of these trees put out new growth of twenty or more limbs six to eight feet in length. The land is sandy loam. In addition to this a fair crop of black-eyes was raised between the trees.

The land was plowed late in December away from the trees nine inches deep. It was then allowed to lie just as the plow left it until early April, when it was replowed toward the trees about six inches deep. Follow this I spring-toothed twice in each direction as deep as I could set the springtooth. This went about six or seven inches down. This was done at intervals of a week. A cutaway disk with 20-inch disks was used twice before May 1st, when the beans were planted. The disk went about 8 inches. Four spike-tooth harrowings finished the job. The beans were cultivated once with narrow shovels.

This season I expect to plow in about two weeks and go a little deeper the first time—otherwise the treatment will be about the same. The great thing we have to guard against

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Mechanical Power on the Farm

SUBSOILING MADE 1 1/4 TONS WHEAT PER ACRE.

"The most valuable tool I have on my ranch in Imperial Valley is your five standard subsoil plow. Before using this subsoiler my crops of grain were unsatisfactory, both as to quality and quantity of production. I have the "medium" type of soil and previous to purchasing your subsoiler I disked the land as deeply as possible and seeded and irrigated according to the best farming practice in Imperial Valley, and believed I was getting good results.

"Last season I subsoiled every acre of my land, thereby thoroughly pulverizing and aerating the soil. Then I planted and irrigated as I had done before; the result was marvelous. One piece of land that produced twelve sacks of barley the year previous, yielded twenty-seven sacks of early Baart wheat, weighing 140 pounds to the sack and testing 61 1/2 pounds to the bushel.

"There is no logical argument against subsoiling, but there is every logical argument in its favor. The quality of your materials and workman ship is evidenced by the fact that my subsoiler, after hard usage, is as good as new.

"The Imperial Valley farmer must "shake up" his soil and nothing will do this better than your subsoiler. It is a pleasure to me to recommend this tool to thoughtful progressive farmers."

The letter quoted above was written last September by Robert A. Todd to the Killefer Mfg. Co. Subsoiling for grain is a new practice in the State within the past two or three years; but it is rapidly gaining favor. Of course, very little of it is done with horses or mules—that would require a small regiment of animals, for it frequently requires two of the biggest tractors. The more power subsoiling requires, the greater benefits will be seen after it is done right.

BEWARE OF ELECTRIC LIGHTS IN THE PUMP PIT.

Every once in a while a fatal accident occurs from the use of ordinary electric lamps in damp places. This should be carefully guarded against in the case of electric lamps used in pump pits. While the voltage generally is not high unless some defect has developed in the transformer, the wet conditions in a pit make such good connections with the ground that enough current sometimes passes through a man to kill him. Brass lamp sockets do not withstand moisture. Neither do the thin fiber sheets by which their electrically charged inner shells are insulated from their outer shells. Common lamp cord does not long withstand moisture, and a man with wet feet on a damp floor may come to death through handling the cord where it burns through at the psychological moment. A man standing on a wet concrete floor was recently killed by the point of one of the fine wires which had broken in the lamp cord and punctured its insulation so it came in contact with his hand. Safety is increased by use of rubber boots, wooden handles on the lamps to be carried about, and most of all by use of cords and lamp receptacles designed for moist conditions.

POWER FOR CATTLE RANCH.

As labor becomes harder to keep steadily at work, more ranchers are turning to mechanical power to do various jobs about the place. One such is R. M. Diggs of Monterey county. In a lean-to shed he has a 5 h.p. 220-volt motor hitched to a line shaft. A circular wood saw outside the shed is surrounded by stove wood sawed by power from the lineshaft. Another belt from the lineshaft runs an emery wheel which also is outside. A barley crusher in the shed is run by a belt direct from the motor.

This motor uses 2 3/4 kilowatts of electric energy.

Beside the barn when we called was a No. 26 alfalfa chopper which had half-filled the large hay bay preparatory for the feeding of cattle in sheltered racks on both sides. The latter had been blown in by the chopper and stacked beautifully without any pressure against the building. As each crop of alfalfa was cut, it was added to the stack. The chopper was run by a 25 h.p. motor mounted on a permanent stand beside the barn, but easily demounted to store in the dry when the season's chopping was over. This motor uses about 14 1/2 kilowatts.

The chopper with a self-feeder was mounted on a wagon truck, and a blower pipe with a long-radius elbow was provided to carry the feed as high as necessary and deliver it at the far end of the barn to keep the stack level for its full length.

Mr. Diggs has found by experience that it pays to have feed available on the ranch for his cattle in case of a dry short season on the ranges. That is why he bought the alfalfa land. But with alfalfa at present prices, he figures he must get all there is in it. He is convinced that he can accomplish this object profitably and only by chopping it fine before storage and feeding.

LOW TRACTOR DEPRECIATION AND REPAIRS.

To the Editor: In regard to the article in the November 15 issue about tractors and horses, it sounds too much like an ad for tractors. I may be a tractor man myself later; but \$30 for repairs and overhauling is certainly off the mark on a \$5,000 tractor. Depreciation only \$250—the life of a tractor is eight years instead of 20 years.—G. A. R., Byron.

Sure the average life of a tractor is eight years or less and the average amount of repairs would be nearer \$300 than \$30. But it depends largely on the operator. Mr. Fanoe's tractor is probably better than new at this moment, for it is in good running order, while a new one would have to be worked in. This tractor appears as good as new and we have every reason to believe what Mr. Fanoe told us. He ought to know; for he was the only driver of the machine and he helped the expert to overhaul it. His figures on repairs and depreciation applied only to the first year of use and are out of the ordinary. More troubles and wear may become apparent next year. But these low figures are a fine illustration of what we have been preaching in various ways—depreciation and repairs depend more on the operator than on the tractor or the work it does. A tractor built more than ten years ago has been busy on a farm in the Middle West and was taken from the field to the Wichita demonstration last summer. There it plowed against the best of the others and returned home to get busy on the harvest. There is no telling how much longer this tractor will run, for its operator is evidently taking care of it. Such care takes a great deal less time than would be required for the number of horses the tractor displaces.

TRACTOR FOR MORE WORK OR BETTER WORK.

A prominent Tulare county orange grower claims that operators of tractors in orchards make a bigger mistake in trying to spread out too much with the tools they are pulling than in trying to pull too heavy a load. One of the big reasons for orchard tractors is to secure deep, thorough cultivation. Many persons forget this and do just the same kind of work with tractors that they would with horses, only with greater convenience. For example, in discing this man uses a six-foot double disc, setting it as deep as it will go and loading it down, while lots of other men with the same make of tractor pull an eight-foot disc and set it more shallow. The load on

HAVE YOU SEEN THE NEW

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After years of experience this new Beeman has been perfected to meet California conditions. It has an abundance of power. All working parts are specially protected against dust and dirt. It is equipped with tools that successfully work California soil.

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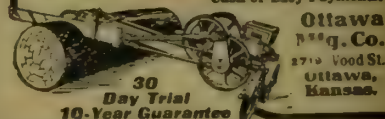
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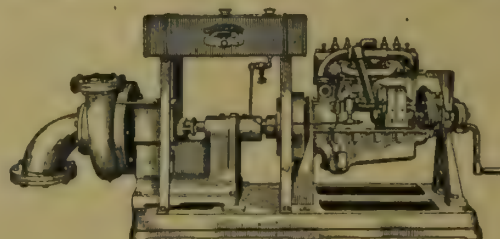
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—For Pumping Without Electric Power

A PUMPING unit that practically runs itself. The nearest thing to electric reliability that has ever been developed.

Start it pumping and leave it for other work elsewhere in the field if you wish—it will stay on the job, delivering a large volume of water steadily.

Seven to eight gallons of distillate keeps it running for ten hours without stopping.

Driven by an extra heavy vertical type engine, designed to operate at uniform speed. Governor controls it.

Inexpensive to install. No other direct connected engine driven pumping outfit like it. This is especially designed to meet pumping needs exactly where electric power isn't available or wanted.

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Don't attach "any" engine to a pump and expect to get good service. Send the coupon and learn how this rig will give you more water at smaller cost.

Distance to water below surface of ground.....
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If you have pit give width.....length.....depth.....
H.P. of motor or engine if you have that equipment.....
Give total depth of well.....Is well straight and true.....
Inside diameter of well.....
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the tractor is the same. One outfit gets the work done quicker; the other gets it done slower and better. With a very light tool, such as a springtooth cultivator, a much wider cut can be made with just as deep cultivation, as with disc.

AVOID FREEZING IN THE TRACTOR.

A California tractor salesman claims that the radiator of a tractor will not freeze as soon as the pump in one which has a pump water circulation system. He sold new pumps all spring for a certain make of tractor whose pumps had frozen during the winter. Welding did not seem to fix the pumps permanently. Many new cylinders also were sold to replace those bursted by freezing. The worst troubles in this respect were in the cold lowlands. The few tractors in really cold mountain valleys are probably better cared for; but each night the man in the lowlands guesses it won't freeze tonight and then the trouble comes.

The only remedy is prevention, as an Irishman might say it. Drain the cooling system every night. It won't take much time to fill it in the morning.

"Cold Weather Tips."

A folder issued by the Avery Company for free distribution is entitled "Cold Weather Tips." It applies more to eastern winters than to our own; but many a California tractor man would have used his tractor more if he had followed the suggestions below which are taken from the folder.

Drain every night in freezing weather and be sure all parts of the system are drained.

Kerosene can be used instead of water in very cold weather. Mixture of one part denatured alcohol with two parts water and about ten per cent glycerin works well, the glycerin being used to retard evaporation of the alcohol.

A higher-test gasoline for priming will give easier starting on cold mornings.

Lighter oil is not so sticky in the bearings when you work hard to turn the engine over on a cold morning.

Moisture is apt to form on the spark plug points when the machine is idle, and short circuit them when attempting to start the engine. Keep the plugs clean.

Be generous with oil on all inside moving parts when putting the tractor away to stand idle for some time.

HIGH SCHOOL TRACTOR COURSE.

To the Editor: A big tractor demonstration will be held at the Lodi Union High School, December 1 to 13. The equipment will include twelve tractors of different makes, gas engines, farm machinery, and disassembled parts. The value of the equipment demonstrated will approximate \$100,000. The material at the disposal of the students will be studied under supervision of the most competent instructors available in the State.

The schedule of sessions will be during the day from 9 to 12 a. m. and from 1 to 4. Evening sessions will be instructed from 7 to 9.

A small laboratory fee will be charged for the entire course, \$4.00. The fee is merely to defray local expense.

The importance of the tractor work in California is evident in the fact that many of the dealers cannot keep the demand supplied. More and more machinery is taking the place of hand labor. Skilled operators are not sufficient to operate the number of tractors in the field today. It is the purpose of this center through the large corps of service men and qualified instructors to put over practical information regarding the maintenance of tractors and farm machinery.

The center is heartily supported and endorsed by the State Board of Education, by the University of California, the Lodi Business Men's Association and the Farm Bureau and Farms of the district.—H. W. Shepherd, Director of Agriculture.

Plow dry; for you can't plow wet in time.

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\$1450 Cut to \$1195

WE are pleased to announce that in spite of rising costs the production of the La Crosse Tractor has become so standardized that we offer a reduction of \$255 from the former price of \$1450.

We have been allotted a limited number for distribution at the remarkably low price of \$1195. This is the standard Model G three-plow tractor, rated at a full 2,000 pounds drawbar pull. With its perfect kerosene burner and its own twin cylinder horizontal motor it holds many records for low fuel cost and dependability.

The price of \$1195 is for the tractor complete with belt pulley, fenders and governor ready for work.

It has the fewest number of parts and every part is very accessible. There are thousands of these tractors being used successfully under many different conditions.

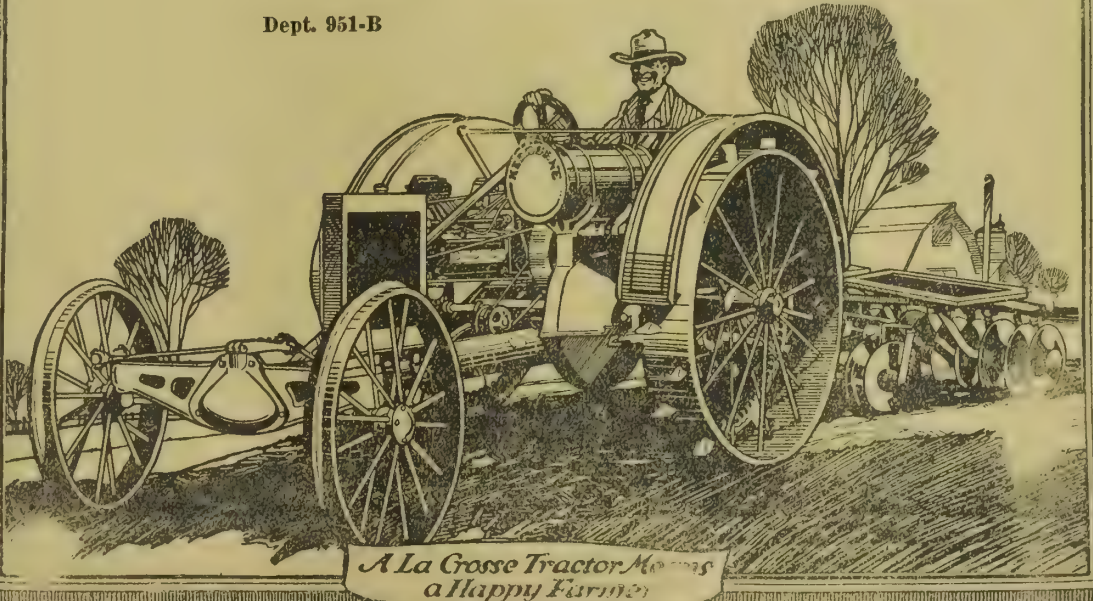
If you ever intend to have a tractor here is your opportunity to get a dependable three-plow tractor at a price only made possible by standardized quantity production.

During the next two weeks we will be increasing our number of dealers. If we do not have an agent in your community, and you know a live dealer who wishes to build a permanent tractor business on a proven success, urge him to write us at once.

Even though the production on this standard model will be more than doubled in 1920, the factory cannot promise delivery beyond present allotments.

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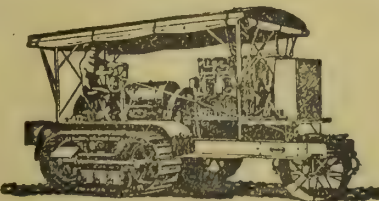
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31x4.....	8.00	2.25	36x5.....	12.50	3.60
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In 1919 gin receipts show that California produced 19,119 bales of cotton.

A Champion from a Champion

(Written for Pacific Rural Press.)

Sometimes a cow may be a great producer of milk and butter, but never has a calf that is a show animal, but in the case of this grand champion bull of the Holstein-Friesian breed at the California International, King Morco Alcartra is a son of Tilly Alcartra,

strong competition, is Segis Pontiac De Kol Burke, that is considered one of the premier sires of the Pacific Coast. The grandam on the sire's side is Riverside Sadie De Kol Burke, whose milk records for all periods stood for a long time as world's rec-



King Morco Alcartra, grand champion Holstein-Friesian bull at the California International, 1919. Owned by A. W. Morris & Sons Corp., Woodland.

the greatest cow in the world from the milk-and-butter standpoint combined. Her record is so well known and published so often that it is not necessary to repeat it here.

The sire of this bull, that is not only famous from reflected glory, but also from honors of the very highest kind won in the show ring in very

ords. It will be seen from this that this bull's two nearest dams have yearly records averaging 31,126 lbs. of milk, yielding 1204 lbs. of butter. This could be carried on throughout all the records of these two cows, making most wonderful combinations. Suffice to say, this fellow is a really wonderful individual, and bred "in the purple," if there ever was one.

BEANS FOR SWINE.

To the Editor: Will you kindly give me some information regarding the food value of small white and pink beans for hogs? What is the best method of feeding—cooked, soaked or ground? How do they compare in food value with barley and wheat?—F. W. McN., Pozo.

(Answered by Livestock Editor.)

It is a very hard matter to get hogs to eat raw beans. An agent for stock molasses from sugar cane claims that beans ground and mixed with molasses are readily eaten by hogs and that they thrive on it. Experiment alone will determine the value of this. Thoroughly cooked beans make good hog feed, although a rather narrow ration, the protein content being high. The molasses is an excellent addition to the cooked beans, making them more palatable and balancing the ration. Compared with wheat and barley, which are nearly alike in actual feeding value, the small white or navy bean contains about 8 per cent less digestible nutrients than the wheat and barley. The tepary and Mexican frijole, the last a red bean, contain only about 4 per cent less digestible nutrients. The beans, however, are higher in their protein content and will produce a larger percentage of lean meat in the dressed carcass if fed alone, or are better builders of bone and muscle in the young animal. They are not as palatable and therefore, unless fed in combination with some other feed like molasses or barley or wheat, will not produce as good results and rapid gains.

HARD MILKER.

To the Editor: We have a cow that is very hard to milk. She is 6 years old, has had three calves, and is a good milker. Can anything be done that will make her an easy milker?—Mrs. D. L. T., East Bakersfield.

(Answered by Livestock Editor.)

This trouble is very hard, almost impossible to overcome. There are dilators put out by some of the mail order and dairy supply houses which in some cases help for a time. The results generally are negative, however, in the end with the animal in the same condition as when starting treat-

ment. The application of a small amount of vaseline to the teats a short time before milking has been recommended by one correspondent who thinks it a great assistance.

LIVESTOCK GLEANINGS.

The wool market is not in as promising condition as it has been for the past two or three years. Wool growers about Byron are hoping for better prices, and are holding for a rise.

It appears that it is the plan to ship 40,000 bales of Australian and 10,000 bales of New Zealand wool to Boston for sale in December, and 30,000 bales monthly after this if it seems advisable.

Alfalfa hay around Orland, Glenn County, is very scarce, due to over-selling by farmers to the alfalfa meal mills. Over 4,000 tons of alfalfa have been ground by the mills at this point alone. It would seem to the outsider that more of this alfalfa should be fed to stock, and Orland work up even a greater fame as a live stock center.

Manufacturers used about 60,000,000 pounds of wool, grease equivalent, in September, 1919, which represents the second largest monthly consumption during 1919, the figures for July, 1919, being 63,000,000 pounds, grease equivalent. The September totals exceed those of the same month last year by 2,000,000 pounds, and then the mills were all busy on war contracts.

It is said that large doses of stock molasses diluted with water will prevent the formation of prussic acid in a steer's stomach if he has eaten too much frost bitten second growth sorghum. This must be administered before much absorption has taken place. It sometimes happens that a bunch of cattle have been turned in on a piece of second growth sorghum and perhaps one or two have already died, then it would be a good thing to administer large doses of the diluted molasses to those that are not yet down. It certainly would do no harm, and might save several cattle.

H. H. Gable, who won first on carlot of steers, bred them on his range just a few miles north and west of Esparto. Any one that has seen his

range herd will not be surprised at his winning. Mr. Gable started his range herd on grade Herefords 15 years ago, and has used nothing but the best purebred sires since, until his grade herd to all intents, purposes, and appearance, is purebred. His pure bred herd is a most excellent one as well, and he has made several recent additions of females that keeps him in the line of progressive breeders. Not content with this, he is off on a tour of the eastern big shows and farms. He will visit the American Royal at Kansas City, and the Chicago International before he returns.

Things seem to be coming Mr. Gable's way, as he won the pool on the average at the recent Hereford sale at the California International with a guess of \$710 when the actual average was \$711.

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PACIFIC RURAL PRESS
525 Market St., San Francisco.

The Ninth Pacific International a Success

(Written for Pacific Rural Press.)

The opening of this great show was marked by the dedication of the magnificent new three hundred thousand dollar stock pavilion. Frank Brown, president of the Pacific International Livestock Exposition, accepted the building on the behalf of the stock breeders of the Pacific Northwest. Many prominent men from all parts of that great region, from the Inland Empire to the Pacific Coast, took part in the exercises and eulogized the founders of this great enterprise devoted to the exhibition of livestock and promotion of the industry. This building is said to be the largest stock show pavilion, and is one of the largest buildings under one roof in the world, and covers fully 7½ acres of ground.

One thing was particularly noticeable, and that was that the concessionaires were not profiteers, as the patrons could eat just as cheaply as in the downtown restaurants.

Judging commenced Tuesday morning on the fat classes. Day and Rothrock of Spokane, Washington, had grand champion steer of the show. The best pen of fattened hogs, light, was won by Herbert Willard of Dayton, Oregon, on three Poland-Chinas. The heavy pen of three went to Ray J. Fox of Lyons, Oregon, on Poland-Chinas. The champion carload of fat steers went to Ed. W. Coles of Haines, Oregon, on Herefords.

California exhibitors were strong in the Milking Shorthorn classes. Thos. Harrison of Santa Rosa, winning first on bull 1 year old, first on heifer 2 years old, first on junior yearling heifer, first on senior heifer calf, second on aged bull, and bull under 1 year, with numerous other awards. Alexander & Kellogg of Suisun, won first on bull 2 years old, aged cow, and senior yearling heifer, second on heifer 2 years old, junior yearling heifer, and senior heifer calf, with other awards.

In the beef Shorthorn classes Little Sweetheart continued her grand championship winnings. This certainly places her at the head of the Shorthorn females west of the Rocky Mountains, and some of the best judges think she is the premier female of the continent today. Mr. Glide purchased her last spring from the Ormondale Company of Redwood City. Mr. Glide also won first on his 2-year-old bull, Matchless Elite, first on aged cows, with Spicy Lady, and first on aged herd. Thos. B. Dibblee Estate were not in the blue, but made a very good showing, getting third with Hallwood Flash in the aged class with six competitors, and third on Bashan Augusta in the senior yearling bull class of eight. In the females they stood about the same in larger classes. It was truly a great Shorthorn showing.

The Hereford exhibit was large, even more extensive than the Shorthorn show. Cattle from 19 different herds from all over the Northwest, and some further east, made a great showing.

Aberdeen-Angus were in the minority, as Congdon & Battles of Yakima, and State College of Washington, were all of the exhibitors. It would seem as though beef cattle of as much merit as the "doddies" should have a larger representation.

The swine exhibit was extensive, and as good as it was large, including Berkshires, Chester Whites, Duroc-Jerseys, Hampshires, and Poland-Chinas. Hampshires and Duroc-Jerseys were represented by herds from Lincoln, Nebraska, owned by Roy E. Fisher, who has been making a circuit of the late fall shows on the Coast.

Holstein-Friesians, Jerseys, and Ayrshires were all well represented, making an exhibit second only to that at the National Dairy Show, it is said. It tells the story of what is being done in dairy lines in the Northwest.

The auction sale prices obtained for the reserve grand champion steer, the grand champion barrow, and the reserve grand champion wether, were

almost sensational even in this day of high prices. The steer weighed 1240 pounds and sold for \$56 per cwt., with a total of \$694.40. The barrow weighed 400 lbs. and sold for \$50 per cwt., bringing \$200.00. The wether weighed 210 lbs. and sold for \$28 per cwt., a total of \$58.80. Sales of other prize winners were excellent, and most of them brought big money.

The Pacific International has added more luster to its already excellent reputation as a livestock show, and like the Chicago International can now go forward from year to year, executing still greater deeds in livestock promotion.

CHEESE VANQUISHED BY CONDENSED MILK.

(Written for Pacific Rural Press.)

Cheese has been vanquished by condensed milk in the Coburn district of central Kings county. A new factory is being finished as an expansion of the cheese factory, formerly operated here by the present owners, Switzer and Meynberg. Machinery, building materials, and labor for the new outfit have cost between \$80,000 and \$90,000 according to Esmond C. Switzer, senior member of the firm. They were receiving about 75,000 pounds of milk per day when we called at the factory recently. This was being sold for whole milk until the new machinery should be installed by the last of November. After that, the plans are to convert about half of it into malted milk, part may be condensed, and part will make dry powdered milk. Mr. Switzer claims to be one of the originators of the latter product, which has been in use about twelve years. High prices and bonuses paid to dairy-

men by the Alpine factory, took milk away from the cheese factory. The September price was \$3.26 for milk.

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Without milk after the fourth week is now practical. AN-FO Calf Meal in water nourishes calves properly. No scours or pot bellies. Raises Sturdy Calves. Feed Dealers, or Animal Food Co., Oakland, supply.

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The Eye of the Master Fattens His Cattle

(Written for Pacific Rural Press by Thos. F. McConnell.)

The above heading is taken from the title page of "Feeds and Feeding," that well-known work on these subjects. It is an old adage or saying, originating in the ages past in Europe, used by Prof. W. A. Henry, of the Wisconsin College of Agriculture, in years gone by in his lectures to agricultural students. Prof. Henry, while the greatest of scientific feeders, was nothing if not practical, and did not fail to impress it upon the minds of his students that it was necessary in order to get maximum results from the minimum amount of feed, that the business of feeding stock could not all be done from a distance. In other words, no matter how scientific a ration may be figured out, and no matter how generous the supply of feed, if there is not personal supervision by a competent person in all feeding operations, they are in 95 per cent of the cases found to show a balance on the wrong side of the ledger in the end.

The question may be asked, if this applies to all kinds of live stock? The answer is, yes, from the one lone pig or lamb in a pen to the wildest steer on the widest range. Feeding stock is not sitting in an office chair after a course (long or short) in an agricultural college, and figuring out an exact ration, and then supplying the requisite amount of the different kinds of feed to incompetent persons to place before the animals. Successful feeding cannot be done by just dumping the feed down before the pig or cow or sheep, as the case may be, without any other attention.

Selection.

How, then, may "the eye of the master" be applied to secure the maximum results so much desired? First and foremost in procuring animals, either lamb, pig, steer or cow, that will respond to proper treatment. The best feeders of meat-producing animals select those that correspond to a certain type that is universally acknowledged to be the best. It makes no difference really what breed characteristics in the way of color, head, or horn, they may possess, only have them all alike, as uniformity is really one of the leading essentials when they come to be placed on the market. In the dairy herd it is not necessary to pay much attention to the color of the cow as it is to the color of the milk, especially if the blue color is avoided. Cows of high production, as indicated by their records in a cow-testing association, or otherwise, should be selected. Heifer calves from high-producing dams, rather than those about which nothing is known. In other words, buy or raise the best.

The animal husbandman, and all those who make a success of caring for farm animals are entitled to the name, sees to it, after he has his herd or flock selected, that their environment is what it should be. It is not meant by this that expensive buildings are needful, but that they should be adapted to the use to which they are put.

Water.

An abundance of clean, pure water is one of the leading essentials which "the eye of the master" will see is provided. This should be abundant at all times of the year. A water supply that is plentiful during nine months of autumn, winter and spring, may fail entirely during the summer when the stock need it most. All know how the older and stronger animals in large herds will prevent the younger and weaker ones from drinking even after the leaders have slaked their thirst, therefore he will provide places where these weaker ones may drink undisturbed. In late years in the best-cared-for herds this trouble has been eliminated by modern equipment and segregation of the younger animals. Sheep are not so bad about preventing one another from drinking as cattle, for as soon as they are through drinking they step back if the place is crowded, and others take their places.

The qualification of clean water is not overlooked by the "master." Where running water is possible, the

source should be fenced to prevent trampling and wallowing with consequent excrement contamination. The spring water should be conducted into troughs, preferably of concrete or galvanized iron, as in the end they are the cheapest, the overflow to be carried away to eliminate mud holes. Have the watering places in the shade if possible.

Feed.

This is a magician's potion in the hands of the "master." Sometimes feeders are at a loss where to obtain the knowledge they desire when five minutes use of a pen or pencil and a two-cent stamp will bring the information. The U. S. Department of Agriculture publishes "Farmers' Bulletins" bearing upon almost every phase of agriculture and livestock raising. Unlimited information may be obtained by writing or visiting the California Experiment Station, Berkeley, or the University Farm, Davis. Last, but not least, the Pacific Rural Press is always ready to answer questions by its readers through its columns.

If the herd or flock is small much more attention can be paid to individuals than if it is large. When cattle are fed in stanchions they are usually taught to take the same place every time, and it is astonishing, to those not familiar with the fact, how quickly each one comes to know its place and go directly to it. When this is done it is easy for the feeder to see if each animal is eating its portion up clean, also just how quickly each one cleans up its portion, and if, like Oliver Twist, it asks for "more." Here the natural caretaker will notice a lack or an excess by the actions of the individual animal. These conditions are found mostly in dairy herds in both small and large lots. If the feeder is not observing, and an animal does not clean up its portion, two things may happen. The animal may "go off its" feed and loss of production follow. The excess of feed left in the manger may sour and rot causing an unclean condition to obtain, that becomes repugnant to the animal, and even less feed be eaten than would be if just the right amount was fed. It also may cause digestive troubles that will take some time to overcome. The expert coming into a herd will notice lack of condition in such individuals at once.

It is such conditions as these where the "eye of the master" corrects trouble in its incipency and "fattens his cattle." The expert cannot help but notice unfavorable symptoms in an animal as soon as his eye strikes the individual. Condition of the coat in cattle, the position in which the animal stands and where it stands. If standing off by itself, in case of cattle or sheep, it may be all right, but if not chewing its cud and standing in an uneasy, not restful, attitude, it is better to investigate at once and see what is wrong. In other words the expert becomes very familiar with the normal, healthy appearance of his stock, the way in which they stand and walk, the way in which they eat and drink, the way they act when turned out of a corral or stable. Becoming very familiar with the normal condition, anything abnormal strikes the eye at once and correction of the difficulty is begun at once.

Cruelty.

The true live stock man is always on the lookout for evidence of cruelty towards dumb animals on the part of those caring for them. The animal that has been beaten or clubbed will indicate it immediately by shrinking upon approach when tied or fastened, and running away if loose in corral or field. This is a condition that should be guarded against for two reasons: first, for humanity's sake, and second, because it is unprofitable in all classes of livestock to have them in a constant condition of fear upon the approach of a human being.

Disease.

Indications of such are very patent to the eye of an expert, especially all acute cases. Injuries are noticeable, of course, to almost every one at once,



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but it is astonishing how great an injury will pass unnoticed by the ordinary caretaker at times. If an animal is seen to be limping, even slightly, the cause should be determined at once as cloven-footed beasts sometimes get a stone or stick wedged between the hoofs, a hoof broken or grown out too long, all of which can

THE BEST BRED HOLSTEINS MORRIS EVER SOLD

Fire destroyed the big cow barn, the season's hay crop, all of the mill feed, and four silos on the A. W. Morris & Sons farm at Woodland, early in November. They must therefore reduce the size of their herd and have instructed us to sell at public auction.

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Put up in 50-lb. Blocks and 3-lb. Bricks for convenient feeding. Animals partake of it as nature dictates—a little at a time—keep themselves free from worms and in thrifty condition without bother to you—no dosing, no drenching, no overdosing, no waste.

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P.O.....State.....

be corrected many times with very little trouble if taken in time.

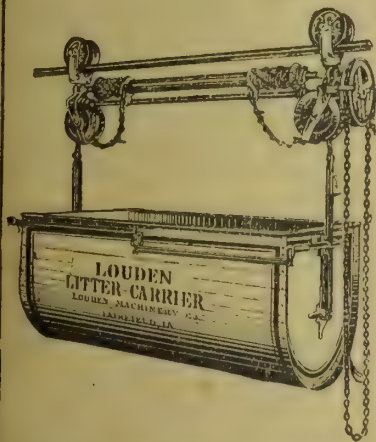
Parasites.

Parasitic troubles, like lice on hogs and cattle, scab on sheep, should be and are prevented from obtaining a foot hold where the "eye of the master" is looking after his animals. The real master never allows such things to make their presence known on his animals, but if for any reason he should be away for a time and the stock neglected during that interval, he will notice it immediately upon his return. No one not acquainted with the matter knows how much injury the different forms of parasites do to farm animals, especially swine and sheep. These parasites are all blood-suckers and cause loss both by actual consumption of blood and by irritation and distraction of the animal from its regular business of growing meat and wool. It costs far less to keep them out than it does to feed them.

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3 Times Over!"



That's what one dairy farmer recently told us. And time is not the only factor in cleaning a barn. Shoveling manure every day requires man-power and means labor. A Louden Carrier will save the labor of at least one man. Makes barn cleaning easier, cuts labor, cuts cost.

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Creamcup Herd offers service bulls and bull calves of 34-1b. breeding. Females offered for foundation stock. Tuberculin tested.

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WATERFORD ROAD, MODESTO
Registered Holstein Friesians
Prize winners at all the Shows. Inspection invited and satisfaction guaranteed.
Write for prices.
R. L. HOLMES, Prop.

Large as Well as Small Numbers.

It may be thought by some that these precautions apply only to the small operator; it applies in all phases of the livestock business from the pig club boy or girl to the largest feeders and dairymen. The feeder of small lots, or the dairyman with a few cows, know their individuals better. The feeder of large lots of steers or sheep watches out for those that are smaller and weaker, and cuts them out from the rest of the bunch, and places them by themselves where they are all of the same size and condition, and can be given feed better suited to their condition or at least get "what is coming to them."

Swine breeders, in speaking of litters of pigs, say "there is always a small one." It is more or less true, but why is it so? Because in some way somewhere that little mite of life was not getting "what was coming to it." Coming into the world in this condition it is handicapped in the struggle for existence, and unless the "eye of the master" sees to it that it is assisted in this struggle, it will always be a runt. Nine times out of ten the runt can be made into as good a pig as any if proper attention is given it.

Range as Well as Ranch.

The proper observance of detail and conditions of animals shows as much or more in cattle and sheep from the range as from the farm. The packing houses are looking for animals that will slaughter well and are not all hide, horns, and hoofs, like the old Mexican or Texas "longhorn." The "eye of the master" is seeing that more purebred sires are used in the herds of cattle and flocks of sheep all over the great Southwest. This attention to the breeding alone is one great result of expert supervision.

The man who knows that the water-holes are looked after, seeing that weak and crippled ones are cared for, when the feed is getting short and the thousand and one details of range life will have the best bunch of steers or the best flock of lambs to ship to market when the time comes. If it is all left to the man who is interested more in whether the country is going to stay "wet" than he is in the welfare of the animals under his care, the results will not be what they should, and the shipment second-rate rather than first-class.

In closing, the writer remembers some 20 years ago, when Frank W. Harding, now Secretary of the American Shorthorn Association, was in active management of Anoka Farms at Waukesha, Wisconsin, he accepted a student from the Short Course of the Wisconsin College of Agriculture to work on the farm. This student wanted to learn the business of breeding, and feeding purebred cattle. When he commenced work on the farm, much to his surprise it was not with the cattle but out in the field with a team and harrow. A day or two of this work and he approached Mr. Harding to find out when he was to go to work with the cattle, but was told there was no vacancy in that line, and that he would have to wait until he knew more about raising the reed before he would be allowed to take up the work of feeding. Another day of following the harrow and the student made another application to be permitted to feed the Shorthorns, suggesting to Mr. Harding that he give the applicant a list of the cattle to be fed each one, but the student was informed that it was not possible to feed cattle that way. Mr. Harding further impressed this fact on the man's mind by telling him that his herdsman knew each individual in the herd, and about how much it would eat. That he was watching each one to see that it did not get too much, and still enough to produce maximum growth. Making it clear to the student (who by the way was a New York City man) that cattle could not be fed entirely by the scales and measure, but judgment, backed by long experience and observation, was necessary to successfully feed and care for a herd of cattle. The student could not see it that way, and was not willing to commence at the bottom of the ladder and gave it up as a bad job.

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the world's standard CREAM SEPARATOR



"It is so
much easier
than the old
way."

In these times of high butter prices and scarcity of labor, no housewife should bother with the old-fashioned gravity method of skimming milk. The De Laval Separator will recover one-fourth more cream and do it with less work and in shorter time.

Neither is there any excuse for struggling with a half-worn-out or inferior separator that wastes cream and is hard to turn and difficult to wash. The work can be done much better, quicker and easier with the De Laval—the world's standard separator.

By purchasing a De Laval now, it will have paid
for itself by spring

The nearest De Laval agent will be glad to demonstrate a De Laval
If you do not know his name, write to nearest De Laval office.

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PURE HAWAIIAN CANE MOLASSES

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By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

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One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars
for shipment anywhere.

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CLAREMONT HERD

GUERNSEYS

Represent the best blood lines of the breed. They combine big production and show type.

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VICENTE ROAD,

BERKELEY, CALIFORNIA

California Breeders have sold more than
\$350,000.00 worth of
cattle in our sales, under the most stringent
requirements laid down by any sales organization in America. Satisfied buyers have
been the rule in all our sales.
CALIFORNIA BREEDERS SALES AND PEDIGREE CO.
C. I. HUGHES, Sales Manager, Sacramento, Cal.



Calf Profits

Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1860 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.
Write for New Data See actual figures showing you how to increase your calf profits
COULSON CO. - - - Petaluma, Cal.

Livestock and Dairy Notes

LIVESTOCK SALES DATES.

December 2d—Frank B. Anderson, Berkshires, State Fair Grounds, Sacramento.
 December 11th—W. C. Short, Shorthorns, State Fair Grounds, Sacramento.
 December 16-17th.—Merritt-Bowers Co. Beef Cattle, Horses and Jacks, Tagus Ranch at Tulare.
 December 18th—A. W. Morris & Sons Corp., Holsteins, Woodland.
 January 14, 1920—Glenn County Poland-China Breeders' Association Sale, Orland.
 January 15th—California Duroc Association, bred sows, Davis.
 January 16th—Harvey M. Berglund, Duroc-Jerseys, Dixon.
 January 17th—Hollingshead & Sons, Duroc-Jerseys, Orland.
 January 27th—Geg. V. Beckman & Son, Poland-Chinas, Lodi.
 January 30th—Winsor Ranch, Bonita, Duroc-Jerseys, sale at Los Angeles.
 January 31—Ireland Ranch, Owensmouth. 50 head Duroc sows and gilts.
 February 6th—Tulare County Poland-China Breeders' Association, Tulare.
 February 10th—F. D. Burr, Duroc-Jerseys, Orland.
 February 11th—Fresno County Poland-China Breeders', Fresno.
 February 12th—San Joaquin County Poland-China Breeders', Lodi.
 February 14th—J. Francis O'Connor, Berkshires exclusively, Santa Rosa.
 February 15th—Sandercock Berkshire Sale, Sacramento.
 February 16th—H. C. Muddox & Son, Berkshires, Sacramento.
 February 18th—Western Berkshire Congress Sale, Davis.
 February 18th—Tulare County Duroc-Jersey Breeders, Tulare.
 February 21st—Merced County Poland-China Breeders, Merced.
 April 11, Butte City Ranch, Shorthorns, Berkshires, Shropshires and Shetlands.

Dairy.

The famous Holstein-Friesian bull, King Segis Pontiac Alcartra died recently. He was valued at \$50,000 and owned by Jno. H. Arfman, of Fairmont Farm, Middletown, N. Y.

H. L. & E. H. Murphy, owners of Brighton Farms, Perkins, have sold to Leon F. Douglas, owner of "The Pocket Ranch" at Geyserville, 6 milking Shorthorn heifers of excellent type and breeding.

Ralph E. Watson of the Henderson Company, Sacramento, reports the cow, Lottie Walker Spofford 3rd, as progressing at a 32 lb. rate in a 7 day test as a 6 year old. Queen Pontiac Calypso, at the same ranch, has just completed a 25.5 lb., 7 day record as a junior 3 year old.

U. S. Department of Agriculture announces that despite the high price of butter, consumers continue to be defrauded by butter containing an excess of water and salt. Several lots of inferior butter have been seized recently.

The cow testing association of Sacramento County is proving a very valuable institution for the dairy industry in that region. More pure-bred bulls were sold to owners of grade herds the past year than in two years previous. Membership in the association has increased over 100 per cent in the past 12 months. To Messrs. Watson and Green is due much credit for the success of this association.

It is interesting to all dairymen and to Holstein-Friesian breeders in particular, to know that of the seven cows of this breed that have produced over thirty thousand pounds of milk in a year, four of them are owned and have made their records in California. They are as follows:

Tilly Alcartra, 30,451 lbs. at 5 years old, and 33,425 lbs at 9 years of age, California.

Luttske Vale Cornucopia, 31,469 lbs., Washington.

Winnie Korndyke Cornucopia De Kol, 31,340 lbs., California.

Raphaella Johanna Aaggie 3rd, 30,637 lbs., California.

Queen Piebe Mercedes, 30,230 lbs., Minnesota.

Lindale Bonnie Pauline, 30,024 lbs., Ohio.

Ormsby Segis Marie, 30,249 lbs., California.

The disposition of skim milk was one of the chief topics discussed last week at the "Creamery Operators' Convention" at Davis. President Gray, of the California Central Creameries,

gave some statistics on the subject and told how 9 per cent of skim milk is protein nutrients. A market for a large proportion of this can be found in the form of the dried product, but there is danger of flooding the market if it was all put up in this form.

The Lucerne Cream & Butter Company of Hanford, announces new records for October in both production and pay roll. The amount paid to dairymen of the district was \$98,170.08. The output of butter for October, 1919, was 59,900 lbs. greater than in October, 1918. This is certainly a prosperous appearing statement.

The Henderson Company of Sacramento, breeders of Holsteins, reports through their manager, Ralph E. Watson, the sale of 7 bulls during the past 30 days at very attractive prices. During the past year the business has been excellent, and demand increasing rapidly. They now have 30 excellent daughters of their senior herd sire, "King of the Blacks and Whites."

A. W. Morris & Sons Corporation, the Holstein breeders of Woodland, will have a one-day sale on December 18th of 65 head of top-notch cattle, instead of a two-day sale of 125 head. Jack Shillcock, the well-known eastern fitter and ring man of Holsteins, has been engaged to take charge of the sale stock and have them "fit as a fiddle" by sales day.

Miss Aaggie Acme Burke, A. W. Morris & Sons' new state record, two-year old, with 20.10 lbs. butter to her credit 8 months after calving, is the dam of the bull calf, King Korndyke Acme, which was second in his class at the California International, and would have been first had not another calf from the same herd been entered that took first. This heifer is still milking around 65 lbs. daily at 9 months after calving.

Swine.

Les McCracken has bought the sows and gilts from J. H. Cook of Paradise, that the latter intended to put in a sale shortly after the first of the year.

J. F. Lehman of Lodi reports the sale of a litter mate of the grand champion Golden West King at the California International, to J. W. Wakefield of Acampo.

Wednesday, December 3d, the Boys' Pig clubs of Fresno County will hold a sale of 45 purebred animals, most of which are Poland-Chinas. The stock consists of bred sows and gilts, open gilts and boars. All animals have been selected with care so that those wishing to purchase hogs of this kind should attend.

W. I. Young, prominent Poland-China breeder of Lodi, has sold Black Beauty 5th, junior champion Poland-China sow at Sacramento, 1918, to N. K. Horan of Lockeford. Mr. Young also sold the boar, Golden State King, to Mr. Horan, but reserved a breeding privilege. Other sales reported by Mr. Young are 3 gilts to J. C. Benson of Acampo; 1 boar and 2 gilts to Mrs. Cora Hoag of Acampo.

F. E. Crowell of Alpaugh will add another pedigreed hog herd to the growing number in Tulare County, and will introduce the Berkshire breed in that section. At the California International he bought a 21 months old boar of the famous Epochal strain for a herd leader from J. Francis O'Conner of the Castle View ranch of Santa Rosa. At the sale of his stocker and feeder herd, 575 head, including a large number of pigs, sold for \$5,000 last week.

One of the profitable instances of Pig Club results is that of the Webber brother and sister at Yuba City. At a Berkshire sale sometime ago, each of the children bought a sow pig 2 months old for \$15.00. These pigs were consigned by the Anchorage Farms at Orland. They were bred late and both farrowed good litters. After the pigs were weaned, one sow sold for \$125 and also a pig from one of the litters for \$60 shortly after

weaning. The brother and sister have paid the original investment with interest, breeding fees, feed, and all expenses, and have a good start in the care for the pigs outside of school swine raising business. The children hours.

Joe Chinoweth of Visalia seems to be as active as ever in selling "Red Hogs," as he is always sold out. He seems to raise the Duroc type that his neighbors want, and has an excellent home trade.

Frank Schofield writes that he is very much pleased with "Buster the Great," recently purchased from Buckland & Son of Fresno. He is a big type of Poland-China of very fashionable breeding.

Officers of the Tulare County Poland China Breeders' Association have decided to hold a breeders banquet on

the night of February 5 in the interests of the Poland China strain. The day following the banquet the association will hold a consignment sale of sixty head of pedigreed open and bred gilts at the sales pavilion of the Tulare County Live Stock Association at Tulare.

A consignment sale of sixty head of bred gilts will be held at the sales pavilion in Tulare February 13 by the Tulare County Duroc-Jersey Breeders' Association, at which sixty head of bred and open gilts will be offered at auction. All of the bred gilts to be entered will have been bred to prize winning boars in the state.

Fulgham & Son, of Visalia, have plans and specifications already for 25 pen farrowing barn for their Duroc-Jersey sows. Also a barn to house the Polled Hereford herd, which

CALIFORNIA

Hog Book

A Practical Treatise on Hog Raising in California

By W. S. Guilford

Director of Agriculture, Sacramento Valley Irrigation Company and Practical Swine Breeder

First Edition—1916

256 pages of text; 31 pages half-tone engravings besides line cuts. Cloth bound.

The author has had large personal experience in hog breeding, besides the opportunity of observing many plants in this and other States. He has brought together a wealth of practical and scientific information concerning the hog, its anatomy, the breeding, feeding, marketing, as well as diseases and remedies.

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IS A CALF WORTH 23 CENTS?

For 23 cents per animal you can insure your calves against loss from Blackleg by having them vaccinated with PURITY BLACKLEG AGGRESSIN (Germ-Free Vaccine made by the Kansas process). ONE TREATMENT immunizes calves for LIFE, and there is no danger of introducing blackleg into healthy herds. We also have PURITY ANTI-HOG CHOLERA SERUM, PURITY MIXED VACCINE for swine, and PURITY HEMORRHAGE SEPTICEMIA VACCINES for cattle and for sheep. For service that counts and does not end with selling, write, phone, or wire PURITY SERUM CO., J. L. Thatcher, Manager (Successor to Thatcher Serum Co.) Riverside, Calif. Sacramento, Calif.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

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DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

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JOHNSON'S DEFENDER JR.

Owned by GREENWOOD FARM, Live Oak, Cal.

Is California's greatest representative of Defenders, the greatest Duroc family. At the State Fair he was the smoothest boar shown, weighing 700 pounds at 17 months and carrying it on a perfect set of feet and legs. He won second in the strongest class of boars ever shown on the Coast and was a popular favorite. Three of his brothers won ribbons in the same class, showing the strength of this line of breeding.

Five Ribbons Won on Five Entries.

H. C. WITHEROW, Mgr.

LIVE OAK, Sutter Co., Cal.

they have started, including a few excellent females of very desirable type from the herds of J. A. Newell & Son, Kansas; H. J. Harte & Son, Missouri, and P. J. Yennie, Missouri. To breed to these heifers they have a senior yearling bull from the herd of D. O. Eddy of South Dakota. These herds of Durocs and Herefords will be heard from in the future as they are in a very desirable location, and have plenty of alfalfa and other feed.

Beef.

C. Harold Hopkins, of the Conaway Ranch, has some of the very best Shorthorns obtainable anywhere, and will select some more of the same class at the Chicago International.

The Mount Diablo Stock Farm have sold Easton & Ward, owners of the Blackhawk Stock Farm, their entire herd, Aberdeen-Angus heifers consisting of 55 head. The Mount Diablo people from now on will breed nothing but Polled Hereford cattle and Duroc-Jersey swine. Mr. Peterson, manager of the last named farm, will go east this winter to bring out several carloads of Herefords and Durocs.

Harvey Raymond of the Hawaiian Islands, who has been buying purebred Herefords in the central states, this week shipped from San Francisco 20 head of bulls and heifers to his ranch on the island of Maui. The stock is of Anxiety and Mischief breeding.

Sheep.

The farmer is between the devil and the deep sea as the unions are urging them to raise more grain and stock which would naturally bring less money, while on the other hand the unions want shorter hours and higher wages, which means higher costs of all factory products which the farmer buys.

The Klamath County Wool Growers' Association has been active in trying to prevent the importation and sale of Australian wool, but it seems that the only agency able to prevent this would be the war trade board, now a part of the State Department. As long as a state of war only exists technically, the State Department can not see its way clear to exercise any such authority.

Japan is about to make an effort to break into the sheep and wool growing game. Dr. Issa Tanimura of Tokio is now in this country investigating the business. According to Dr. Tanimura there are less than 4,000 sheep in all Japan, and the Doctor thinks that the climate and conditions of his country are similar to those of England, than which there are no better in the world for sheep growing of the mutton variety.

That young folks can win prizes with the animals they care for and feed is proven by the fact that Loraine Modlin, a 7-year old girl of New Castle, Indiana, cleaned up the boys and girls classes in two Indiana county fairs this year. She fed an Aberdeen-Angus calf and exhibited it at three county fairs, winning first at the New Castle and Wayne county fairs and second at the Madison county fair. The money won amounted to \$126. Competition was strong in all classes.

LIVESTOCK DIRECTORY.

Rate 3½ cents per word each issue.

SWINE.

Berkshires.

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The BOAR

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs.

Anchorage Farm, Orland, Calif.

BERKSHIRES—Fair Oaks Ranch, Willits, California

A SOW THAT FARROWS

10-11-15-17-11-10-9-10

Is worth her weight in gold, particularly so if she is royally bred. This is the record of Symboler Belle. I have a boar pig from her last litter that is a dandy. If you act quickly you can have him for \$75.00. Sandercock Land Co., 23 Montgomery Street, San Francisco, in charge of Natomas Land Sales.

REMEMBER—Berkshire barrows win over all breeds at 'Frisco Stock Show. We can ship you a boar that will produce that kind. Satisfaction assured, or money returned. Write today as they will move quick for the price. R. J. Merrill & Son, Morgan Hill, Cal.

WRITE FOR MY BERKSHIRE CATALOG, giving names, ages, breeding of service boars, bred gilts, specially selected trios. Frank B. Anderson, Sacramento, Cal.

GRAPEWILD FARM BERKSHIRE-Guernseys—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRES—Closing out entire herd, sows, gilts and boars. Best stock obtainable, priced very low. Wm. C. Laux, Morgan Hill, Cal.

LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write Mr. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes, Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

Poland-Chinas.

ELDERSLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our ½-ton Black Big Bone. Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

WILL YOU WANT THEM?—Sows, gilts and boars, bred to or sired by Matchless Big Bob, Lakeside Defender, Liberty Bond and Major Hadley Wonder. The offering will represent some of most noted blood lines East or West. Watch for further particulars. Lakeside Stock Farm. Geo. V. Beckman & Sons, Lodi, Cal.

J. H. COOK

LARGE TYPE POLAND-CHINAS—Fall boars by a great son of Caldwell's Big Bob; also spring boars by the Grand Champion King's Big Bone Leader and other noted sires. Satisfaction guaranteed.

PARADISE, CALIFORNIA.

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over, McCarty & Stark-weather, Route C, Box 384, Modesto, Cal.

BIG-TYPE POLAND CHINAS—Have sold my ranch and must reduce my herd before Xmas. Am offering one of my herd boars a 1,000-lb. boar, and a number of bred sows and gilts; also a number of June pigs of both sexes. Address W. S. Adams, Gridley, Calif.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LOVE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D., Box 180.

POLAND-CHINAS—Young boars ready for service; also a few gilts, sired by California Big Bone Bob and Ursus Jr., real 1,000-lb. boars. Prices and descriptions on application. Eugene Miner, Rt. 2, Box 105, Lodi, Calif.

TOHOQUA POLAND-CHINAS—Strictly big type. Junior and Grand Champion sow at Glenn County Fair. Young breeding stock to sell; bred right, grown right and priced right. Ferguson & McKaig, Orland, Cal.

J. F. McSWAIN, Breeder of Poland-China hogs. Herd headed by Big Model Fellow. Reserve grand champion 1919 State Fair. Boar for sale. R. 3, Merced, Calif.

THE PACIFIC HERD of big-type Polands. Herd headed by Big Model Fellow. Reserve grand champion 1919 State Fair. Boar for sale. R. 3, Merced, Calif.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

A FEW BOARS of May farrow. Grandsons of Big Bone Bob. R. B. & L. J. Montgomery, R. F. D., No. 1, Walnut Creek, Calif.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

10 SPRING BOARS—Tops from herd, will be sold at very low prices to close up partnership. Young and Clark, Lodi, Cal.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

POLAND-CHINAS—Bargains—Two March boars, large type. Will ship on approval. J. E. Thomas, Gilroy, Cal.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

POLAND-CHINAS—Young stock for sale. H. E. McMahon, Lemoore, California.

TWO SPECIALLY GOOD Poland-China boars, May 25th farrow. \$45.00 each. A few choice gilts, June 29th farrow—\$20.00 each. Edward A. Hall, Rt. 1 Box 39 Watsonville Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boar, the \$700 Grand Champion of California. Lee McCracken, Prop., Ripon, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

Duroc-Jerseys.

HORINE'S REGISTERED DUROC-JERSEYS—Now booking orders for spring pigs of either sex sired by my great junior herd boar, Crimson Sensation. Put Grand Champion blood in your herd at a very moderate price. To all bona fide farmers I am making a special proposition to place such stock as can be handled on easy payments. Nothing to sign! Write today for full information, including pedigrees, prices, photos, and money-back guarantee. No obligation whatever! Geo. L. Horine, Winton, Cal.

FOR SALE—About 40 hogs, all sizes, both sexes, Durocs. Durocs are offspring from Rucker and Queen is Right 1st. One boar 18 months from Rucker and Queen is Right 1st. Reference El Dorado Co. Duroc Association. Egbert Veerkamp, R. A. Box 113, Placerville, El Dorado Co., Cal.

FOR SALE—Two spring boars by 1918 Grand Champion of Missouri, High Orion (221329), dam by Pathfinder, a good one. One fall boar by Grand Model's Type (244719), dam Col. bred. Midvale Farms Corp., Ethanac, Cal.

RANCHO RUBIO DUROCS—Two boar pigs, four months old and weaned pigs, both sexes. Stock of Orion Cherry King Pathfinder and Golden Model breeding. Sold on "Money Back" guarantee. Elmer Lamb, Ceres, Calif.

DUROC-JERSEYS AT IRELAND—Sows sired by Cherry Volunteer 2nd and Reformer, bred to Ireland Joe Orion at public sale, January 28, 1920. Write for catalogue. 1219 Brockman Bldg., Los Angeles, California.

WE HAVE 100 YOUNG GILTS and boars, bred on the purple, which we are selling for about half their value. Money back if not satisfied. Derryfield Farm, Capital National Bank Bldg., Sacramento.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Winsor Ranch, Bonita, San Diego Co. Address R. K. Walker.

BIG-TYPE DUROCS—Herd headed by California Orion King. Am offering excellent young boars at right prices. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Pino Vista Ranch, Placerville, Cal. Address H. C. Baum.

DUROCS—MATURE BOAR—Bred by University Farm, Davis. (Solely on account of needing change of blood. Weanlings, either sex. H. E. Boudier, Napa.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

REGISTERED DUROC-JERSEYS—A few fine gilts for sale. Prices reasonable. Chambers Bros., Willow, Cal.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

BIG-TYPE DUROCS—Gilts and boars of Orion Giant breeding. Fairdale Farms, Paris, Calif.

REGISTERED DUROCS—All from prize-winning stock. W. F. Harkey, Gridley, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

Chester Whites.

BILLIKEN CHESTER WHITES—Entire herd for sale. Every animal is listed and priced for immediate movement. Herd boars; young service boars. Bred sows. Seven litters of fall pigs, by four different sires. Write for special price list. C. B. Cunningham, Mills, Cal.

Hampshires.

REGISTERED HAMPSHIRE—"Belted Beauties." Weaned pigs a specialty. Uneeda Hampshire Swine Farms, Gardena, Cal.

DAIRY CATTLE.

Jerseys.

SERVICE JERSEY BULL, bull calves, Financial King blood, Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Holsteins.

REGISTERED HOLSTEINS for sale. Seven bred cows, one Pontiac bull, 5 years old; also two heifer calves. Subject to registry. Wm. M. Little, Box 76, Snelling, Cal.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spires, Hilcrest Farms, Cucumbers, California.

A FEW YEARLING registered bulls by King Marco Alcantara 2nd, from good producing cows. H. M. Cross, Merced, Cal.

PAJO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. B. Freeman, R. B., Modesto, Cal.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

CREAMCUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A. Box 437, San Jose, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp., Importers and Breeders, Woodland, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

REGISTERED HOLSTEINS—Best blood production Leeman and Kilgore, Ripon, Cal.

J. W. BENOIT, Modesto, Calif.—Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians, Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

HOLSTEIN BULLS and bull calves from A. R. O. cows. C. A. Miller, Ripon, California.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal. R. 2.

Milking Shorthorns.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

DUAL-PURPOSE SHORTHORNS—registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara, or Lompoc, Calif., John Troup, Supt.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, California.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Likely, Modoc county, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minurn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

THE NEVADA HEREFORD RANCH, Inc. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

ANGORA GOATS for sale. 150 fine bred does at low price; also fine thorough Angora bucks and Persian rams. C. P. Bailey & Sons Co., San Jose, Cal.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet. Hanford, California.

CALIA GROVE FARM, MANTEFA, CALIF.—Breeders and importers of Hampshire sheep.

MISCELLANEOUS.

RUTTE CITY RANCH

SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale at the Ranch—all breeds—April 17, 1920. W. F. Dwyer and W. S. Guilford, Box F, Butte City, Glenn County, California.

HORSES FOR SALE—40 head of 3-and 4-year-old Percheron horses. Price from \$250 to \$300 for span, beautifully matched team of very kind disposition. S. L. Skaggs, four miles south of Madera, Cal.

Fresno's Second Poland-China Sale

The Fresno County Poland-China Breeders' Association second consignment sale was a success. Whether it was not just the right time, or what was the trouble, no one seems to know, but the sale was not as snappy as some earlier sales this fall. Charles Gatewood had the top of the sale in an excellent Blue Valley sow, Blue Valley Lady B, granddaughter of old Blue Valley. A. Buckland & Son's bred gilt, Ruby's Daughter, brought \$225.00, which was not what she is worth, and the successful bidders, Wasson & Sherwood of Sanger secured a bargain. A Kings county bred gilt, owned by Walter C. Ficklin, and bred to Fresno Evolution, was secured by the veteran breeders, M. & A. L. Bassett of Hanford. They also secured a bargain in that they will have some of the first of this great young boar's get. The sale was a success, but not as high prices were realized as many desired. Col. George W. Bell of Tulare cried the sale.

A. Buckland & Son, consignment, Fresno—Fresno's Best, H. Barkema, Fresno, boar, \$40; Lady Buster, J. W. Jones, Carruthers, sow, \$115; Littermate, J. W. Jones, Carruthers, sow, \$75; Buster R. Z. M. Dickey, Dinuba, boar, \$55; Ruby's Daughter, Wasson & Sherwood, Sanger, sow, \$225.

W. O. Ficklin, consignment, Fresno—Hadley's Beauty, M. & A. Bassett, Hanford, sow, \$165; Young Beauty, M. M. Dyer, Chowchilla, sow, \$60; Fresno Belle, J. A. Crawshaw, Hanford, sow, \$50; Wonder's Model, E. S. Myers, Riverdale, sow, \$32.50; Madera Giantess, C. E. Dack, Fresno, sow, \$55.

Thos. Caesar & Son, consignment, Reedley—Gertrude B, H. D. McCune, Lemoore, sow, \$75;

Model's Queen 2d, Tom Lobastalt, Kerman, sow, \$80; Elegant Maid, Joe Dolechal, Chowchilla, sow, \$92.50.

D. H. Forney, consignment, Fresno—Raisin City Sunshine, Z. M. Dickey, Dinuba, sow, \$45; Forney's Perfection, Les McCracken, Ripon, sow, \$80; Raisin City Queen, Les McCracken, Ripon, sow, \$80; Raisin City Bill, Tom Lobastalt, Kerman, boar, \$35.

Chas. Gatewood, consignment, Fresno—Blue Valley Lady B, J. H. Rogers, Chowchilla, sow, \$300; Fresno Leader, Mrs. Annie Donders, Fresno, boar, \$65; Black Bob, C. B. McNeil, \$105.

Ira L. Mason, consignment, Fowler—The Princess, Carl Carlson, Reedley, sow, \$40; Queen's Beauty, A. Noyes, Fresno, sow, \$40; Hadley Boy, Perry Beauchamp, Kerman, boar, \$35.

C. E. Dack, consignment, Fresno—Collie Boy, C. A. Slater, Tranquillity, boar, \$55; The Collegian, W. A. Snelson, Chowchilla, boar, \$35.

Vern Fullerton, consignment, Selma—Miss Lady Giantess, Z. M. Dickey, Dinuba, sow, \$55; Miss Lucerne 2d, Z. M. Dickey, Dinuba, sow, \$60.

Carl W. McCollister, consignment, Fresno—Isabel's Favorite, W. C. Ficklin, Fresno, sow, \$40; Valley Queen, J. W. Jones, Carruthers, sow, \$55.

E. R. Eichner, consignment, Selma—Peggie's Favorite, A. Buckland & Son, Fresno, sow, \$85; Jumbo Rosette, Thos. Caesar & Son, Reedley, sow, \$135.

E. S. Meyers, consignment, Riverdale—Viola, J. H. Rogers, Chowchilla, sow, \$125; Princess Mollie, A. Buckland & Son, Fresno, sow, \$70.

F. V. Covington, consignment, Laton—Laguna Lady Hadley, W. C. Ficklin, Fresno, sow, \$50; Laton's Orphan Jumbo, boar, \$35.

C. H. Myers, consignment, Laton—Big Chief Wonder, W. A. Snelson, Chowchilla, boar, \$25; Queen's Big Mike, Frank Dolechal, Chowchilla, boar, \$15.

J. W. Jones, consignment, Carruthers—P. E. C. H. Barkema, Fresno, sow, \$80.

L. A. Myers, consignment, Riverdale—Hadley's Choice, Jno. M. Bernstein, Hanford, sow, \$50.

G. W. Post, consignment, Laton—Princess Hadley, Frank Dolechal, Chowchilla, sow, \$85; Spring gilt, Perry Beauchamp, Kerman, sow, \$80.

Japanese whaling firms are endeavoring to create a market for whale meat as a substitute for beef. In 1918 there were 1,900 whale caught by five of the largest whaling companies in Japan.

TAMWORTHS

(The Bacon Hog)
Largest Herd in the State

DUROC-JERSEY'S

Mature Stock and Weanlings of both sexes.

Sure to please

SWINELAND FARM

W. O. Pearson, Prop., Woodland, Cal.

KEY HERD OF THE PACIFIC COAST



GRAND CHAMPION STATE FAIR, 1919

Duroc-Jerseys

The kind you have been wanting to get. The greatest profit-making hog. They make good everywhere. We deal fairly and our prices are always reasonable.

Let us know today what you want.

H. P. SLOCUM & SON

Willows,

California

DUROCS -- JERSEYS

MARCH GILTS OUT OF

GRAND GOLDEN MODEL

By the famous Boars—"Rivera Col. Cherry Chief" and "Educator."
Will breed to "Republic Orion King."

YEARLING RECORD HOLSTEIN CATTLE

GEORGE JR. REPUBLIC

R. A. CONDEE, Supt. of Agriculture.

CHINO, CALIF.

WINSO RANCH DUROCS



Address R. K. WALKER,

Home of

WINSOR'S GIANT ORION

We won at Los Angeles Live Stock Show

GRAND CHAMPION SOW
"Model Defender Lady"

And be sure you look up our other winnings

Bonita, San Diego, Co.

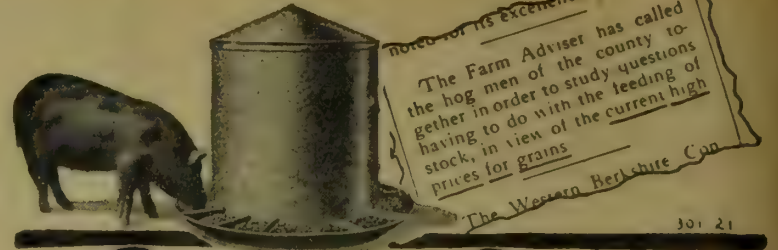
RANCHO DEL SOL DUROCS

ORION'S KING GANO, a wonderful grandson of Orion Cherry King and Col. Gano, and the greatest Duroc boar in the State, heads this select herd of sows.
Have some spring Boars at attractive prices. Young stock for sale.

DONALD H. GRAHAM

P. O. Box 177,

Lancaster, Cal.



CALCO feeders save costly grain

Grain at any price is too valuable to waste

The Calco Self-Feeder was developed—
to save your costly grain.

The Calco Self-Feeder is so constructed that it is impossible for the hogs to root the grain onto the ground—and grain saved is money saved.

Calco Self-Feeders add materially to your profits by saving expensive time and labor.

These Feeders are made of rust-resisting "Armco" Iron and Cast Iron. They are sanitary—easily cleaned—strong—durable and economical.

Your name and address written on the margin of this advertisement and mailed to us will bring folder and prices.

California Corrugated Culvert Company

LOS ANGELES
417 Leroy Street

BERKELEY
406 Parker Street

calco products

BIG BOAR BARGAINS

We are dissolving our partnership and we have a few spring boars, weighing 250 pounds, the tops of the season, sired by Big Bone Bob Jr. To close out quickly have priced them at \$50 to \$75. This is away below their value.

Write at once, or call and see them.

Young & Clark

LODI,

CALIFORNIA

Big-Type Poland-Chinas

Promote Pork Profits

With Better Poland-Chinas breeding

I have a few young boars by Joe's King just ready for service. They will make your spring crop of pigs profitable in spite of high price of feed and labor. They are the big type, with easy feeding and quick-maturing qualities. I have priced them very reasonably for a quick sale. Write at once for prices and particulars or call and see them.

WAUKEEN FARM

LES McCracken, Prop.

RIPON, CAL.

Every Hog on the Gardiner Ranch is Cholera Immune.

Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.



TOMMY TUCKER GARDINER'S KING'S COL. Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH

ROUTE 4, BOX 735,

SACRAMENTO, CAL.

POLAND-CHINA BREEDERS, ATTENTION!

We will spend 4 weeks in the corn belt of the Middle West this winter, visiting the most important Poland-China farms and auction sales. We have orders to purchase hogs for a number of breeders and would be pleased to receive a few more. We will act for you to the best of our ability and have your interests always foremost. Write us at once for terms.

W. T. DICE,

Box 374, Hanford, Calif.

Better the Breeding the Better It Pays

(Written for Pacific Rural Press.)

Considerable interest has been manifested by several parties in the breeding of the grand champion carlot of fat hogs at the California International Live Stock Show. This carlot were Berkshires, and were exhibited by the Napa State Hospital, of which Owen Duffy is business manager. We wrote Mr. Duffy about this matter, and give his letter verbatim below.

"Answering yours relative to a carload of Berkshires, exhibited at the Livestock Show, will say that in 1914, we purchased from G. A. Perkins, Perkins, Cal., three purebred Berkshires: Kentucky Duke 3rd (193889), Mistress of Roselawn (152041), Lady Deal 37th (194141). In 1916, we purchased from Mr. Carruthers, Mayfield's Best (223402), Mayfield Master 7th (219888). In 1917, we purchased from Grape Wild Farms, Escalon: Duke's Victor Belle 7th (199683), Leader's Combination Belle (238290). We also purchased from the Univer-

sity Farm, Davis: Star of Napa (242368) sired by Star Leader (212544); dam, California Artful Belle (212476)."

"The Boar, Star of Napa, is the sire of the hogs that won the prize. We purchased him when he was quite a young pig, and he has developed into a very fine individual. All of the above mentioned parties from whom I purchased boars and sows, are entitled to more or less credit for the very fine herd of hogs which we now have.

"We have not kept up the registration of all our purebreds for the reason that we have not been in a position to keep the purebreds separate from the grades, and we have a herd that varies in numbers from 350 to 600 head. We hope, however, in the near future to establish at one of the ranches owned by the institution, a herd of purebred Berkshires. We have found them a very satisfactory breed."

NOTED BREEDER BUYS NEW FARM.

Just one mile north of the village of Live Oak in Sutter county lies 190 acres of the finest land to be found in that region. One-half of the 190 acres is in alfalfa, that greatest of stock feeds, and the rest grain land. Irrigated with water from the "eternal snows of the Sierras," it is intended by Nature to be one of the finest stock farms anywhere in the world. All it needs is the master hand of some breeder of live stock to make it the Mecca of all those interested, from the newspaper man to the east-

Beef Cattle Specialist

For 30 years I have been devoting my entire time to purebred beef cattle. I know the kind of cattle California needs and where and how to buy. I make regular trips to the great producing centers and will buy on order. Best of references. Satisfaction assured. Correspondence invited.
G. M. DUNLAP, Hotel Land, Sacramento, Cal.

ern or western buyer with a bank roll. This farm is completely fenced and cross-fenced into convenient-sized fields, equipped with plenty of buildings, all wired for electric lights and power. The station Riviera on the Northern Electric is on the place and the State Highway borders the farm.

What more would a man like Wm. Carruthers, who has just bought this farm, want than a place like the above with his Shorthorns and Berkshires there to grow into greater perfection than ever before. Leasing the farm west of Live Oak to rice farmers he finally decided to keep his stock, in that country as price of land and other conditions are more favorable for the stock-raising business than even at Mayfield.

Investment in seedbed preparation yields compound interest in greater yields.

Paint is cheaper than new lumber.

BILLIKEN CHESTER WHITES ENTIRE HERD FOR SALE

EVERY ANIMAL LISTED AND PRICED

A real opportunity to secure some of this blood and type at extremely low prices.

HERD BOARS : YOUNG SERVICE BOARS

BRED SOWS : BRED GILTS

SEVEN LITTERS OF FALL PIGS READY TO WEAN.

One litter sired by Billiken.

One litter sired by Wildwood Boy.

Three litters sired by Bonnie Model.

Two litters sired by Big Joe Fancy.

WRITE FOR SPECIAL PRICE LIST.

C. B. CUNNINGHAM,

MILLS, CALIF.

ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, winner of 1st premium in two-year-old heifer class, and also awarded grand championship in both the State Fair and the Los Angeles Livestock Show in 1919; sire also of Ormondale Maid 2nd, winner of 2nd premium in the strongest junior yearling class ever shown at the California State Fair.

Every animal positively guaranteed.

Prices on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

ORMONDALE CO.

REDWOOD CITY, CAL.
R. D. No. 1

Brighton Farm Herd Shorthorns and Berkshires

We have a very fine yearling bull for sale sired by Sir Type and out of a Laurel Frantic cow. This is an ideal bull for a breeder of Dairy Cattle. Also some very choice cows and heifers.

H. L. & E. H. MURPHY,

6 miles east of Sacramento.

Perkins, Calif.

PUBLIC SALE

REGISTERED

50-SHORTHORNS-50

FROM HERD OF

W.C. SHORT

RENO,
NEVADA

—AT—

State Fair Grounds, Sacramento

THURSDAY, DECEMBER 11th, at 12:30 P. M.

For his initial offering, Mr. Short has selected a fine lot of deep red bulls, bred and open heifers ranging from 10 to 24 months of age, being the pick of a herd that is recognized as one of the oldest in the West, thoroughly acclimated to Western conditions, and improved by the use of high-class Scotch-topped bulls on chosen females that were maintained in the herd on account of their thick-meated and good milking qualities—the kind that raise their own calves, and raise good ones.

For grading up a herd on the farm or the range, better stock would be difficult to purchase. For the farmer desiring a few head of good quality Shorthorns at conservative values, a more attractive offering could not be found anywhere.

Every animal sold as a single lot is a guaranteed breeder and has been tuberculin tested.

THIS IS THE SHORTHORN OPPORTUNITY OF THE YEAR. DON'T MISS IT.

For Catalog and Further Particulars write

ORD. L. LEACHMAN, Auctioneer

1111 SEVENTH STREET,

SACRAMENTO, CAL.



Poultry and Rabbits for Profit

A VICTORY FOR STANDARD BRED POULTRY.

(By Russell F. Palmer, Professor American Poultry School, Kansas City, Mo.)

Perhaps no egg-laying contest has ever created such widespread international interest as did the 1919 American Egg Laying Contest, conducted by Professor T. E. Quisenberry on the Leavenworth, Kansas, farm of the American Poultry School. Professor Quisenberry is the veteran egg-laying contest manager of America. The American Egg-laying Contest for the past two years was made up entirely of Standard Bred fowls. To qualify they had to attain a score of 90 points or better when scored at the start of each contest by an American Poultry Association licensed judge. As a 90-point score is the "mark of merit" necessary for a fowl to become eligible to consideration for a first prize in any poultry exhibition judged by the Standard of Perfection, it is thus apparent that the records made here are of added value in proving the egg-laying qualities of Standard Bred fowls especially selected to meet the Standard qualifications.

Pullets from all sections of the American continent from different foreign countries were housed, yarded, fed, and cared for alike in every respect. During the full twelve months the greater portion gave practical demonstration of the fact that a good hen will lay if taken care of properly. Over thirty per cent of all pullets in this contest made yearly records of 200 eggs or more. Two pullets laid over 300 eggs. One, a S. C. White Leghorn, produced 306; the other, a White Orpington pullet, produced 303 eggs, which, beyond question, is a world's record for heavy-weight fowls.

Seven pullets produced from 250 to 300 eggs; thirty-nine pullets produced from 220 to 250 eggs. Think it over! Over forty pullets that would have won the grand prize at most laying contests during three of the past five years were forced to go satisfied with simply making a wonderful record.

Perhaps, the most remarkable records ever made in any laying contest in this country were those made by Pen No. 10, containing 5 S. C. White Leghorns from Washington, with 1319 eggs, and was followed very closely by Pen No. 5, containing 5 S. C. White Leghorns from Pennsylvania, which produced 1301 eggs.

A PROSPEROUS POULTRY ASSOCIATION.

The report of the Tulare Co-operative Poultry Association shows that the volume of business transacted for October was \$18,000. Four thousand dollars' worth of poultry was handled, \$7,000 worth of eggs and poultry feed and supplies aggregating \$7,000. This was an increase of \$1,000 over the same month a year ago.

SANTA CRUZ EGG-LAYING CONTEST ON.

Forty hens were started last Saturday in the egg-laying contest at Santa Cruz. The contest will last a year. All fowls will be fed, housed and handled alike by experts. In view of the present price of eggs, the California Farm Bureau aims to stimulate interest in production and to obtain statistical information on the subject. The eggs will become the property of the farm bureau.

SUCCESS DEPENDS ON THE LOCALITY.

From Keokuk, Iowa, W. Burton writes to the Pacific Rural Press as follows: "Doubtless you have heard of the 'Weeks system' of management intended to increase egg-production at the minimum expenditure of effort and designed to be followed by those whose plot of ground is of limited extent. It seems to me that this method might be followed with some promise of success in the cooler (mountain or coast) sections of California, but would fail

if put into practice in the warmer localities, where mercury frequently reaches a point of 100 degree or more. Crowding the hens in small space in a section subject to high temperature would appear to invite disease and insect pests. Am I not right? And what do you know of the 'Weeks system,' anyway, as a general proposition?"

SOLUTION TO FACILITATE PICKING FOWL.

To the Editor: We have some fine geese and we would like to dress them for market. Could you please give me some quick and clean way to dress, or pick them so that the down and small feathers will come off easy. Is there any dip or something to rub in?—G. L. T., Chowchilla, Cal.

Some pickers, mostly amateurs, use the following solution: Take one tablespoonful of powdered rosin and dissolve the same in one gallon of hot water. There will be a residue, as some particles of the rosin will refuse to dissolve. When this solution is prepared, after plucking off the coarser surface feathers, plunge the goose to be picked quickly in and out of the solution. The finer feathers and down will thus adhere tenaciously to the fingers and the work of picking can be more easily done. This method of picking, while easier, lessens the market value of the fowl. Professional pickers resort to no dip or solution, but pick straight from beginning to end with the bare fingers. This gives the best product for the market.

RABBIT BREEDERS' PETITION.

The rabbit breeders of the San Francisco Bay counties are circulating a petition requesting the Agricultural College of the State of California to establish and maintain a rabbit experimental department to carry on certain research work and solve certain problems.

This work is summarized as follows: To determine the best breeds for market purposes; the breeds best for fur and meat; what feeds, or combinations of feeds are the best for breeding stock, nursing does, fattening ration for market stock, etc., what method of feeding produces best results, one two or three feeds daily, and how many ounces of feed for each rabbit of different ages and different breeds; what is the best hutch system for the average family rabbitry; and which is the best system for the different sections of the State; what is the nutritive value of meat as compared with other meats; what value is there in rabbit manure as compared with other manures, how is it best prepared for use locally, also how best prepared for shipment and sale, and where can a market be found for it, and will the price be commensurate with the labor, etc., involved; what would the cost of feed be for the different breeds at the different ages, and how much per pound for meat produced would it cost for feed for market rabbits with 6, 7, 8, 10, and 12 to the litter, the idea being to determine what is the proper number of young to leave with the doe to reap the greatest profit per pound of feed consumed; the cause, how best to prevent or guard against and the best method to adopt, best medicines to use to effect a cure of the diseases rabbits are subject to; the cause of crooked feet, lop ear, wry tail, etc., what uses can be made of the offal, and where can a market be found for such by-products, and will the price be commensurate; will it be profitable to alter young male market rabbits, and how best to accomplish it, at what age, etc.

RABBITS DO NOT BREED.

To the Editor: Kindly tell me what is wrong with so many rabbits for the past few months. Several of my neighbors as well as myself are having the same trouble. We get no

young. I have a good buck, have also tried a neighbor's buck, and the fault lies in the does. One of the younger ones has a litter now almost two months old.—Mrs. R. C. P., Manteca.

Sterility among rabbits is usually attributable to the buck being allowed to become overfat when young. The vitality goes to fat rather than to procreative virility. Sometimes the crossing of certain breeds will produce a sterile variety—"mule" offspring they are called. Perhaps your does are of that kind.

DOUBLING UP WITH BABY CHICKS.

(Written for Pacific Rural Press.)

The main disadvantage in buying baby chicks, if a person is raising poultry only a small scale, is in caring for the chicks until they are at an age to care for themselves. If a person is fixed for it, or is willing to bother with them, it is different. At the same time, the purchase of baby chicks is a big convenience when it is desired to increase the farm flock quickly.

Here is a little stunt that can be worked nicely. Put in an order for a certain number of baby chicks to be delivered at a definite date. Three weeks before that date set as many hens as will be able to care for those baby chicks in addition to what they are able to hatch out, for a hen can usually look after twice as many chicks as she is able to hatch, or nearly that number. Of course, for the system to work well, it is necessary to have a proper supply of sitters at the right time, which does not always happen.

Introduce the artificially hatched babies to a hen just off the nest and the adoption will occur immediately, which it will not do if there is too much delay. Since a mother hen in proper surroundings can bring up chickens very successfully, this system is not only a labor-saver, but fine chickens are raised by it.

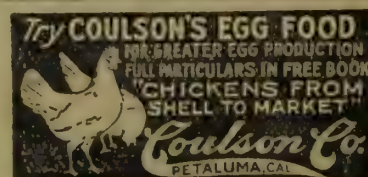
Warning: Do not try to overdo the thing, as the person did who tried it in this neighborhood. He bought twice as many chicks as the hens hatching could care for. The chickens were too crowded, piled on top of one another to keep warm, and he lost about half of those he bought. Moderation in this as in all things.

Poultry Notes.

I. N. Foss, manager of the Co-operative Poultry Association at Tulare, says that Los Angeles buyers recently invaded Tulare territory for turkeys, and offered prices for all the gobblers they could buy. The price for choice turkeys was 34 cents and southern buyers were said to be willing to take all they could get at the top prices. Foss states that the market is likely to advance and that in his opinion there will be no decided falling off in the Christmas demand.

According to the weekly report of the Poultry Division of the Canadian Department of Agriculture for October 14, 1919, Canadian shippers are exporting large quantities of eggs purchased in the United States, some going through Canadian ports and some through ports of this country. At the London market on October 20 English eggs brought 87 cents per dozen; Irish, 75 to 82 cents; Danish, 78 to 82 cents; Canadian, 2 to 70 cents; and American, 57 to 62 cents.

During the past month the McCullough Provision Co. at Tulare shipped 18,000 young tom turkeys to the Philippine Islands on a contract with the war department to supply the American troops in the Orient with their Thanksgiving birds. The contract has been divided between the company branches at San Jose, Petaluma and Tulare, but when the other cities could not secure the birds, Tulare provided the entire shipment.



Poultry Breeders' Directory

Rate 3½ cents per word each issue.

GIANT BRONZE TURKEYS—The Gold Nugget Strain continually prove their superiority by winning Gold Special Sweepstakes for best turkeys at the following great shows: Livestock Show, Los Angeles, Cal., October, 1919; Liberty Fair, Los Angeles, Cal., 1918; Southern California Fair, Riverside, Cal., 1918; Pacific Coast Exposition, Oakland, 1918; Texas State Fair, 1917; Los Angeles Show, 1917-18; California State Fair, 1917-18; Arizona State Fair, 1918. Each judge pronounced them the best in show, all breeds competing. An unequalled record. This year's awards all first prizes at the Washington State Fair, September, 1918, and the Oregon State Fair, 1919. Large turkeys can be raised at practically the same cost as small ones. Let me help you make more money. My stock will assure you of more meat when market time comes. Stock and eggs for sale. Circular J. Will Blackman, Originator Gold Nugget Strain, 607 E. Third St., Los Angeles, Cal.

JANUARY, FEBRUARY chicks are money-makers, if you are equipped to handle them right and can put good stock into your brooders. That's our part—supplying them. Well bred and hatched right. Why not buy where quality, service and economy are to your advantage? Our breeds—White, Brown and Buff Leghorns, B. I. Reds, Barred and White Rocks, Black Minorcas. Write us your needs. Circular free. Mission Hatchery, Box 17, Campbell, Cal.

MAHAJO FARM, P. O. Box 597, Sacramento, Calif., offers highest class, standard bred, breeding stock in White Leghorns, Light Brown Leghorns, Dark Brown Leghorns, White Plymouth Rocks. Prices: Leghorns—males, \$5.00; females, \$3.00. Rocks—males, \$7.50; females, \$3.00 and upwards.

BABY CHICKS—From my Single-comb White Leghorns, bred for heavy layers, which have been in the race for 12 years, and today is among the leaders. You don't go wrong by placing your order with me. Write for prices and terms. H. A. Schlotthauer, Exeter, California.

THOROUGHBRED S. C. White Leghorn chicks in 100 and 1000 lots from Hoganized and trapped stock. Order early for spring delivery. Inventors and Distributors of "Forbros" Separator and trapnet combined. Forster Brothers, 2918 Otis St., Berkeley, Cal.

LIGHT BRAHMAS—Large stock direct from the East. Cockerels, \$5.00 to \$10.00 each; pullets, \$5.00 to \$8.00, non-related. Golden Sebright and Black Cochins Bantams. Rouen Ducks. All prize stock. Emma V. Miller, R. D. 2, Box 534, Santa Cruz, Cal.

BABY CHICKS—Order now for 1920 and get what you want when you want them. White and Brown Leghorns, B. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for free circular. Stubbs Poultry Ranch and Hatchery, Box 87, Palo Alto.

ANDERSON'S PEEPERLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels \$5 and up; 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

"WATCH US GROW"—Baby chicks. Bookings orders now for January and February delivery. White and Brown Leghorns, B. I. Reds and Barred Rocks. Safe delivery guaranteed. Order early. E. W. Ohlen, Campbell, Cal.

S. C. RHODE ISLAND RED cockerels, February hatch, breeding pens. Hatching eggs. Improve your color and egg capacity. Also Rose-comb Reds. Wm. Larm, 3915 39th Ave., Fruitvale, Cal.

BREEDING COCKERELS—Barred and White Rocks, Orpingtons, Anconas, Black Minorcas, B. I. Reds, Buff, White and Brown Leghorns. Day-old chicks in season. Enoch Crews Seabright, Cal.

BABY CHIX—Hatched from our own stock in our hatchery. Hens are of S. C. White Leghorn Utility stock, bred for commercial laying. H. A. George, Petaluma, Cal., R. D. 2, No. 29.

HART'S BRONZE TURKEYS—Large, vigorous young stock of both sexes for sale; also year-old hens. Eggs in season by the setting or hundred. Albert M. Hart, Clements, Cal.

MAMMOTH BRONZE TURKEYS—Order now for immediate or future delivery. Choice young stock from prize winners. Prices reasonable. A. W. Ganger, Rt. 1, Doe Palco, Cal.

FOR SALE—Thoroughbred Buff Orpington cockerels, February hatch, from good laying strain. \$5.00 and \$7.50. Also Buff drake, \$5.00. Mrs. M. J. Lopez, Manteca, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Voden, Box 3, Los Gatos, Cal.

"ASTMAN'S BRED-TO-LAY" Hoganized and trapped Barred Plymouth Rocks. Eggs; cockerels. January chicks. Fairmead Poultry Farm, Fairmead, Cal.

BRONZE TURKEYS AND EGGS—Limited number of breeders. Eggs by settings, hundred or thousands. M. M. Reiman, Planada, Cal.

"GOLDCROFT" BUFF ORPINGTONS—Fine, well-developed cockerels; also cocks and hens. Prices reasonable. Samuel Abrams, Los Altos.

CHICKENS, DUCKS, GESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 645 W. Park St., Stockton, California. Stamps.

BUFF ORPINGTONS, BUFF DUCKS, ROUBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

MAMMOTH BRONZE TURKEYS, Embden Geese and Collie Dogs for herding purposes. John G. Mee, St. Helena, Cal.

WHITE LEGHORN BABY CHICKS—Ferris and Tanager strains. Circular free. Henry Tarratt, Corning, Cal.

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BOURBON RED TURKEYS—M. Geo. F. Smith, Hardwick, Cal.

When All the Water Is Used, Then What?

(Written for Pacific Rural Press by D. J. Whitney.)

"Where is all the water going to come from that is needed for irrigation?" People in irrigation districts with a fine water right may not worry much about this subject, but it is something for nearly everybody else to think about. Even in the big majority of irrigation districts ditch water frequently gets very scarce as summer advances, and ranchers there find the subject a good one to consider too. Their solution is usually simple. It is to put in pumping plants to help out in dry periods. Such plants will not use anything like as much as pumps where there is no ditch water, and seepage from canals and over irrigation will replace the underground water that the pumps remove. Pumping in those locations will always be easy and ranchers there are in luck.

In newly settled districts without ditch water the case is altered. The first irrigators may find water in easy pumping distance, but when more and more pumping is done supplies may almost give out. It is utterly impossible to take more water from the ground than goes into it from rainfall and from mountain streams. Inasmuch as the rainfall normally will only wet down a few feet in those parts that need irrigation, streams are the only supply of ground water, and whenever more water is pumped out than the streams pour in, something is due to bust somewhere.

How Things Go.

As it becomes difficult to get water from shallow wells and small lift pumps, everybody can lower wells and pumps and get more water—for the time being, but when all the water that is supplied by streams is taken out with an average lift in a district of say 50 feet, it is going to do no permanent good to lower pumps until the lift is 60 or 70 or 100 feet or 300 feet, even were such a thing commercially possible. The natural consequence when this system is tried is for persons with small capital, or in naturally poor locations, to give up their ranches, or to run on very short supplies, and then, of course, there will be more water for others. The natural tendency will be to eliminate irrigation on poor ranches or where water is too hard to get.

In many places poorly situated the water will exhaust supplies that are coming in from streams and will begin to draw upon water that has been standing deep underground for years, maybe for centuries, or at least water that is moving so slowly to the ocean that it has had time to be impregnated with alkali. Their wells then will be unfit for irrigation. Such cases frequently occur.

For example, last spring a well borer of this county put down a well over 200 feet without getting as much water as the land owner wanted, and was told to keep going. He kept going and got excellent water gravel at about 400 feet, but the water proved to be poisoned with alkali. The only thing possible in such a place is to fill up the well with clay until the alkali water is blocked off and to irrigate with limited supplies above. When, after a series of dry years or increased pumping on other ranches, the good water in such a well gives out, the rancher will be out of luck. He can use the little he has and pray for rain.

What Shall We Do About It?

What has been said is simply that there is a limit to the amount of water that can be pumped, and when that limit is reached, heavier pumping means greater expense and, for the district at large, no more water. The Sacramento Valley has far more than enough stream flow to irrigate every acre of good land in it. On most of the rest of the state where irrigation is needed the problem of water should be watched, and the rapid development of new land will make watching very necessary.

The first and most sensible proposition is to see that as little water runs to waste into the ocean as is neces-

sary. Every gallon that is put into irrigation ditches will either be spread on fields and be absorbed by plants or evaporated into the air, or it will sink into the ground and keep up the underground water supply for pumping plants.

Underground Storage of Water.

Seepage water in districts where much pumping is done is not lost, it simply is pumped a second time. A proper diversion and storage of mountain water would not only straighten out the irrigation problem, but it would overcome the great expense and loss from floods on the lower Sacramento and San Joaquin rivers.

Not far from this ranch of the writer there is a small, private irrigation ditch, providing only a partial supply for the large ranch where most of it is used. That ditch is kept full of water all the year. When the water is not used on the ranch it is turned into a dry stream bed, and a heavy flow completely disappears in less than half a mile, unless heavy rains come on. Since the owner of the ditch has several large pumps, the water that sinks through the sand gives a supply to those pumps during the summer; thus the ditch water brings the water level nearer the surface, helps the rancher's wells and makes the power used less than it otherwise would be. Also it helps the neighbors who pump. That it actually does this is seen by the fact that whenever heavy rains fill that dry creek the water rises so quickly in the well on the writer's ranch and in all nearby wells, that pumps have to be lifted quickly or they will be flooded. A year when there is some winter flow in that dry creek is a good one for irrigation; when the rains do not bring the water very far down it, the water level is low.

More Economical Use of Water.

This little illustration of how ditch water emptied into the ground makes pumping easier, illustrates what is needed in the state as a whole. The more stream water used in irrigation, the better for ranchers with pumping plants. On the other side of the proposition, the more pumps that are used near and in irrigation districts, the less danger of water rising close to the surface and spoiling land. An abundance of pumping plants near irrigation districts will nearly solve the drainage problem. What has thus far been said relates to general matters. For the individual several things can be done.

Make the available water do as much good as possible. It has been shown, for example, that the more water used on alfalfa, the more alfalfa grown, but a plentiful supply will give far more alfalfa when used on two acres than on one acre. In other words, rather than scant supplies may enable a man to get fair enough crops, even if he could use more to advantage. This depends partly upon what he grows. The more water a man has, the more he will use, whether he needs particularly or not. He will also be careless about irrigation if he has a surplus. Consequently scant water will result in greater care in irrigation, less waste by leaks and indifference, better tillage and better ranch management.

Protection Against Seepage.

Open ditches are an extravagance and a nuisance. In this district the almost universal system is underground cement pipe, which is expensive, but a big saver of water and a great saver of labor in irrigation. In many soils it takes twice as long to irrigate a piece of land if an open ditch is used as if a pipe line is installed. This seepage loss helps the other pumping plants but it is wasteful for the individual irrigating, and the seepage water robs him of plant food. It is better for everybody if no more water is pumped than is needed.

Selection of Crops.

This is an extremely interesting subject and one very much overlooked. Alfalfa, for example, takes

an immense amount of water. Also, gophers revel in it and in irrigation small streams pour wastefully away, and there is little that can be done against it. Two acres, people here estimate, of fruit can be grown with the water used on one acre of alfalfa. Since fruit pays better than alfalfa, alfalfa in good fruit districts is doomed for the down grade.

The same principle can be used on other crops. It is natural for a man to figure how to make his water do the most good, so he may select milo maize instead of Indian corn, when either will grow well provided water is sufficient, and so with other things.

As to fruit crops this principle has two angles. There may be lots of water as a rule, and not very much if a series of dry years comes. In the case of two fruits needing equal amounts of water, the planter should select the crop that can live through a dry spell and reject the one that could not. For example, an orange grove that would have to go away with only two irrigations would be in a bad way. An olive orchard in the same place that needed plenty of water to set good crops could survive a year with no irrigation at all and not suffer much. Consequently, when there is doubt about the regularity of a water supply, something that could endure an occasional drouth should be selected.

Figs in this respect are comparable with olives, but another principle can be put to them. They can stand drouth and they can also fruit well with very little irrigation. The writer has planted a fig orchard, not on account of small moisture demands, but on other merits and has investigated the fig business closely. It seems certain that figs will produce good crops on very little water; and in areas where the land supply is far in excess of the water supply, twice the area of fig orchard could be successfully handled on a definite amount of water. This would depend upon the winter rainfall. The same principle can be used with certain other fruits.

Conserve the water supply, see that all natural flow is saved; prevent waste, and in case the supply is still likely to be deficient, select the crops that will do best on least water.

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Of a work that is nobly done,
For Truth has unfolded this Perfect Day

Whose radiance shall never pass
For we've come, step by step, o'er the Living Way

To our Home here in Heaven at last.

—A. R. M.

THE REAL MARY.

Quite early one morning Thelma's mother said to her, "If you'll be just as good as gold all day, I will take you to see little Mary this afternoon."

"I'm afraid I can't be all good, Mamma," said Thelma, "but I'll be some good."

Thelma was not quite four years old, and had not played with many little girls, and when Mamma said she should be taken to see "Mary," she instantly thought of the Mary in her picture-book, who was dressed in a beautiful pink dress, and wore a great white hat with floating ribbons.

The picture-book Mary wandered over green fields, and after her strayed a snow-white lamb led by a blue ribbon. This was the Mary that Thelma expected to see; and she was so good that, when nap-time came, Mamma told her that she had been "as good as gold," and should surely be taken to see Mary.

"And the lamb?" asked Thelma, drowsily; but Mamma did not hear.

Thelma waked from her nap with her blue eyes as bright as stars and her cheeks like roses; and, when she was dressed in the whitest of white dresses and the bluest of blue sashes, she danced about, singing: "I'm going to see Ma-wy; I'm going to see Ma-wy!"

Thelma and Mamma walked and walked along the pleasant country road, and at last they came to a large white house.

"This is Mary's house," said Mamma; and Thelma squeezed her mother's hand, and shivered all over for joy.

They were taken into a room that seemed to be full of sunshine and green growing things. There was an aquarium near a bright window, and beside it stood a little girl, feeding the fish. Long yellow curls fell about her rosy face, and she wore a red dress and a white ruffled apron.

"That is Ma-wy's sister," thought little Thelma to herself; but just then her mother led her forward, and said, "This is Mary."

A sob rose in Thelma's throat; but the strange little girl smiled so sweetly that she said to herself, "P'raps she doesn't wear her pink dress 'cept when she's having her picture taken."

So she ran forward and took Mary's hand, and looked up into her face, and said, "Won't you show me your lamb?"

"I haven't any lamb," said Mary, wonderingly; and then poor Thelma could bear no more. She lay down with her face against the floor, and cried and cried.

Her mother and Mary's mother and Mary, all gathered around her to find out what could be the matter; but it was a long time before she was able to tell them.

At last she told them, sobbing:—

"It isn't the weal Mawwy. Mawwy's dress is pink, and the lamb goes evwywhere that Mawwy goes."

Then they all knew.

But after a while little Thelma grew quite happy, looking at the gold and silver fish as they darted through the clear water and nibbled Mary's fingers or ate the food she gave them; and, when the time came to go, she kissed Mary, and said: "Good-by, Carline! I'm going to call you Carline, after my dolly."

After Thelma and her mother had walked quite out of sight, Mary said to her mother, "I don't like to be called Carline, and I wish I could have a lamb!"

Her mother laughed, and said, "So you could be the weal Mary?"

Time and time again, in the early morning, Mary had heard the sheep passing the house on their way to the town. She had listened to their bleating and the patter of their soft feet without thinking much about them; but now, remembering little Thelma, the next time that she was awakened by the shouts of the drivers and the hundreds of pattering steps, she jumped right out of bed, and ran to peep through the blinds.

The sun had not risen yet, and everything was gray,—the sky, the road, the sheep, and the clouds of dust, which almost hid the shouting men who drove the great flock.

As Mary stood there looking out, she saw a lamb that limped painfully along, sometimes hopping just a little way on only three feet. "Oh, the poor thing!" she cried softly; and, just as though it heard her, the lame lamb turned from the flock unseen, and dropped in a little heap behind some bushes.

Mary waited until the sheep and men were but a cloud of dust in the distance. Then down she ran in her nightgown, and sped quickly across the green lawn out where the lamb was lying.

It looked at her with piteous eyes, and tried to rise; and she petted and coaxed it. And presently it was strong enough to hobble by her side up to the porch, where she made it a bed of rugs and cushions. And, finally, she fell asleep by the side of the lamb, with her hand on its soft warm back.

When Mary's mother looked into her little girl's room that morning, she found shoes and stockings and a little gown and petticoat, but no Mary. So she hastened down the stairs; and there she saw the open door, and went out. There on the porch among some rugs, warm in the sunlight, lay—what? Two heads were raised at once, and Mamma looked into her little girl's eyes and a lamb's eyes.

"O Mamma! Mamma! mayn't I keep it?" cried Mary; and the lamb softly bleated, "Ma-ma! Ma-ma!"

Mamma was astonished, and then she laughed, and said the lamb certainly might stay a little while.

It was a very busy day at Mary's house, for the new-comer had to be washed and be fed, and be combed and be brushed, and be adorned with gay ribbons; and the lame foot was to be made well and strong. The day was full of joy, besides; for Mary's father found the drivers who had passed that morning, and they said Mary was welcome to keep the little lame lamb.

One breezy day the postman brought Thelma this little letter:—

"Dear Thelma:—Will you come to play with me this afternoon?"

THE REAL MARY.

So, when Thelma had had her after-dinner nap, and her eyes had grown as bright as stars and her cheeks like roses, and she was dressed in the whitest of white dresses and the bluest of blue sashes, she and her mother set out to walk along the pleasant country road again. By and by they came to the large white house where they had been before.

"That's Carline's house," said Thelma.

"Mary is in the meadow," said Mary's mother, smiling at Thelma as

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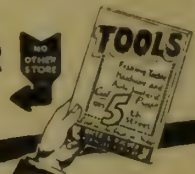
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He opened the door. "Just walk down yonder little path until you come to the stream. Jump across the water and look over the wall, and you will see her."

Thelma walked down the little path, jumped across the tiny silver brook, and peeped over the wall. And what did she see?

There came the real Mary running across the green meadows to meet her,—the very Mary of the picture-book, with strapped shoes, and a pink dress, and a large white hat with ribbons floating in the wind. She had a blue ribbon in her hand, and the blue ribbon was tied around the neck of a now-white lamb that skipped and jumped along after her.

"You darling little Thelma!" said Mary; and she helped Thelma over the wall, and let her pet the lamb, and read him by the blue ribbon, and feed him with sweet red clover-tops.

What a happy time they had! They jumped and ran and played just as lambs and little girls like to; and when they grew hungry, Mary brought out a basket that had been hidden among the bushes, and spread their tea on a white cloth on the grass. They had tiny sandwiches,—"just crowds of them," Thelma said,—and delicious little cakes, and bottles of

milk to pour into the doll-cups from which they drank; and the lamb lay beside them as they ate, and would have a taste of everything.

When it was time to go, Thelma kissed Mary and the lamb twenty times apiece, and said, "I shan't call you Car'line, never no more; for you are the real Ma-wy."

CHARTREUSE OF BEEF AND MACARONI.

Simmer $\frac{1}{2}$ pound ground round steak slowly with 1 tablespoon finely chopped onions, 1 tablespoon finely chopped green peppers, salt and pepper to taste and 2 cups of stock, for 20 minutes. Cook a package of macaroni in 2 quarts of boiling water to which 2 teaspoons salt have been added. Boil until tender and drain. Grease the baking mold and lid and line mold with macaroni to an inch thickness; then mix $\frac{1}{4}$ cup bread crumbs and meat and put in center of mold within an inch from the top. Use remainder of macaroni to fill mold, cover and steam 40 minutes; slice and serve with spiced tomato sauce.

CATSUP FROM CANNED TOMATOES.

This recipe enables one to make up a small quantity of catsup at any time. Place in a granite saucepan one quart can of tomatoes and add three-quarters of a teaspoonful of salt, half an onion grated, two tablespoonsful of brown sugar, one-quarter of a teaspoonful of ground cloves, half a teaspoon of paprika, half a teaspoonful of cinnamon, three sprigs of parsley, half a cupful of vinegar and two stalks of chopped celery. Let all simmer until quite thick, press through a coarse sieve, reheat and seal as for ordinary catsup. A slice from a clove or garlic may be added, if desired.

CROUTONS.

Many people prefer croutons rather than crackers with soup. They are very appetizing and easily prepared. Take bread that is old enough to toast nicely, cut into medium slices, butter lightly, cut into strips or squares and place in a quick oven to toast. Some prefer them of stale bread cut into cubes or squares, then dropped into hot fat and browned. Lift them from the fat with a skimmer, drain, add to soup and serve.

CHEESE BALLS FOR SALAD.

Add one tablespoon melted butter to one cup of cream cheese, two tablespoons of cream, a pinch of pepper; cream together and add one cup of chopped nuts or part nuts and olives. Roll into balls with the butter paddles and serve on or with the salad. Half an English walnut meat on each side is attractive or the balls may be rolled in finely chopped parsley leaves.

Housekeepers wishing to economize these days should serve navy beans, as they are now as cheap as they were in 1915.

Milk toast is only skimmilk and stale bread, both of them left-overs, but it makes a good dish for breakfast, luncheon, or supper, for children.

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THANKS-GIVING.

Think of the difference between now and last year—what a wonderful lot we have to be thankful for. Can you also give thanks for riddance of fuel problems, or is it the same old expensive and mussy fuel? Think how happy mother would be, how much more she would have to be grateful for, if the old fuel problem were forever eliminated.

That turkey is going to be good, but how much better it could be if baked or roasted by an even heat that never varied for a moment. Get the same stove ready, for good clean gas—the holidays and cold weather. You will wonder how you ever got along the old way. You will never go back to wood or coal again. Write for our Circular. Let us tell you how to make the change quickly and without much expense.

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Market Comment

A Poulterer's Dream.

A Petaluma prophet predicts that eggs will be selling for \$2 a dozen before the winter is over. S. S. Knight, the prophet in question, is president of the Poultry Keepers' Association, and perhaps his position has something to do with his optimism. However, notwithstanding the prevailing high market price of eggs, the average here in the Association profits its owner only 75c this year, as against \$1.35 last—presumably due to the high cost of feed, labor, and incidentals. The report of the U. S. Bureau of Markets that there are more eggs in storage now than this time last year, would seem to militate against the realization of the sensational rise prophesied—desirable as that may be from the egg-raiser's point of view.

Oakland a Wool Center.

The largest woolen mill west of New England will be in operation in Oakland by next May, according to information reaching the Oakland Chamber of Commerce today. The Federal Wool Manufacturing Company, which has just been incorporated, will begin at once erecting a mammoth plant at East Fourteenth street and Fifty-sixth avenue, adjacent to new packing plant of Libby, McNeil & Libby. The plans for the plant call for an outlay of \$1,800,000. The site comprises 23 acres. One thousand workers will be employed, of whom seventy-five per cent will be women.

A Declaration of Faith.

"We believe that our prices are justified by the facts and we know that raisins are today the cheapest fruit in the world. We believe that we can satisfy the federal trade commission that we are right." Thus declared Wylie M. Giffen, president of the California Associated Raisin Co. on leaving for Washington to attend the government investigation of alleged high price-fixing. We don't recall that any one instituted a price-fixing investigation when raisins were grown and sold at a loss to the grower.

Has Nothing on San Francisco.

An item in the "Weekly Crop Notes," a Government circular, says: "In a central Ohio city, the first live Thanksgiving turkey sold this week for \$9.00—live weight, 20 pounds, price 45 cents a pound." This writer was today asked 65 cents a pound for a turkey in a retail store in this city. It looked to be worth every cent of it—but it is still in the store.

Whisky Down—Raisins Up.

An authority in the raisin world, E. L. Chaddock, president of Chaddock & Co., independent raisin packers, testified the other day before the Federal Trade Commission that one cause of the high price of raisins and their scarcity in the Eastern market was the enforcement of prohibition.

Wide Range in Fruit Prices.

On account of the irregularity in the quality of the offerings during the past week, there has been a very wide range in prices in all fruit markets. There were occasional high sales on sound stock, but the average of the market was below the offerings of the week previous.

Its Effect on Sugar Beets.

The Government has announced its intention of fixing a flat general price of 12 cents a pound for sugar. The establishment of a flat rate would operate as an automatic minimum to raise the price of all beet sugar produced in this country.

Hay Season Good.

Most of the hay crop in the Livermore section has been shipped or is in dealers' hands. The past season was an unusually good one for producers.

Beans Showing Life.

At Modesto the late bean crop is moving fairly well. Small whites are commanding 6 and pinks 7 cents per pound.

Alfalfa Seed 35c.

Alfalfa seed is not only high but scarce this early in the season. Dealers are betting around 35c for good seed.

THE MARKET REPORTS

SAN FRANCISCO

San Francisco, November 26, 1919.

BARLEY.

The same conditions prevailed in the barley market this week as last and the grain was firm on the demand for feedstuffs.

Feed \$3.40 @ 3.50

Shipping \$3.45 @ 3.55

OATS.

Oats have not responded to the strength of barley and the feed description is unchanged. An increased demand for seed oats gave strength to that variety and sales were made at higher prices.

Red seed, per cwt. \$3.85 @ 3.90

Black for seed Nominal

Black for seed \$3.25 @ 3.50

Re-cleaned Red or Black for seed Nominal

CORN.

There were no changes in the market for corn this week. The local demand continues at low ebb and the difficulty of shipping either by land or sea is holding back this grain.

California \$3.60 @ 3.70

Egyptian, choice \$3.30 @ 3.40

HAY.

Receipts of hay for the past week were 874 tons compared with 1616 the previous week. These receipts were divided about equally between rail and water arrivals, but all the rail receipts were for Government account. In other words the car situation has not cleared up in the least and little hope is held out by railroad officials of an improvement. Naturally this causes an unsatisfactory condition in the hay trade, for although sales can be effected deliveries cannot be made. Owing to these transportation difficulties, as well as the continued dry weather, the market is stronger with an upward tendency. Demand from country districts has been especially good and considerable hay as well as alfalfa is moving to interior points from sections fortunate enough to secure an occasional car.

Special Livestock Market Report

San Francisco, November 26, 1919.

CATTLE—There is little change to report in the live cattle market during the past week. Prices are stiffening somewhat, though quotations are unchanged. The slight decrease in arrivals is offset by the falling off in consumption due to disturbed labor conditions. There is an insistent demand for prime steers. Calves are easy.

Steers, No. 1, 1000-1200 lbs. 10½ @ 11c

do, No. 1, 1200-1400 lbs. 10 @ 10½c

do, 2nd quality 8½ @ 9c

do, thin 8½ @ 7½c

Cows and Heifers, No. 1 7 @ 9c

do, 2nd quality 7 @ 7½c

do, thin 4½ @ 6c

Bulls and Stags, good 5½ @ 6½c

do, Fair 4½ @ 5½c

do, Thin 3½ @ 4½c

Calves, lightweight 11c

do, medium 10c

do, heavy 8 @ 9c

SHEEP—Mutton sheep and lambs have been in good supply, and the retail demand for good cuts is satisfactory. Prices hold, and the trend is toward a strengthening of the market a little later.

Lambs, yearling 10c

do, milk 12 @ 12½c

Sheep, wethers 9 @ 9½c

do, ewes 6½ @ 7c

HOGS—Killers have no trouble in filling their requirements, but absorb all that are offered—especially of the hard and well-finished kind. The price market is firm, but unchanged as to quotations.

Hogs, hard, grain-fed, 100 to 150 lbs. 15½c

do, 150 to 225 lbs. 16c

do, 225 to 300 lbs. 15½c

do, 300 to 400 14½c

Los Angeles, November 25, 1919.

CATTLE—Steers steady and demand very good for them. Cows continue slow sale and weak. Prices unchanged.

Per cwt. f. o. b. Los Angeles:

Beef steers, 1000 @ 1100 lbs. \$9.50 @ 11.00

Prime cows and heifers \$8.00 @ 9.00

Good cows and heifers \$7.50 @ 8.00

Canners \$5.00 @ 5.50

HOGS—Hogs in light supply, but fair demand with prices steady.

Per cwt. f. o. b. Los Angeles:

Heavy averages 275 @ 350 lbs. \$11.00 @ 12.50

Light \$14.00 @ 16.00

Heavy averages 225 @ 275 lbs. \$13.00 @ 14.00

1919 DECIDUOUS FRUIT SEASON A RECORD.

The 1919 deciduous fruit season has closed, after having established new high records for deciduous fruit shipped from California. This applies to amount of fruit shipped as well as prices. Figures compiled by the California Fruit Distributors show that 29,636 carloads of deciduous fruit have been shipped from Superior-California points to the East this year, as compared with 25,124 carloads shipped during 1918. The 1918 shipments set a new record for amount of fruit shipped. The shipments of 1919, as compared with those of last year follow:

Cherries	335	351
Apricots	419½	433½
Peaches	2,773½	2,662
Plums	2,918½	2,389½
Pears	4,246	4,447
Grapes	18,894½	14,750½
Miscellaneous	49	60½
Total	29,636	25,124

The markets in the East are holding up very well as regards prices. There was a slight reduction in the price paid for Emperor grapes.

No. 1 Wheat, or Wheat & Oat \$20.00 @ 24.00
No. 2 Wheat, or Wheat & Oat \$19.00 @ 21.00
Choice Tame Oat Hay \$22.00 @ 25.00
Wild Oat Hay \$18.00 @ 25.00
Barley Hay \$18.00 @ 22.00
No. 1 Alfalfa Hay \$20.00 @ 25.00
Stock Hay \$15.00 @ 18.00
No. 1 Barley Straw, per bale50 @ .80

FEEDSTUFFS.

Roller oats and rolled barley were strong at advanced prices as the demand for all the feedstuffs continued owing to the lack of rain. Locally, there is very little demand.

Roller Oats \$24.00 @ 25.00

Roller Barley \$20.00 @ 25.00

Cracked Corn \$20.00 @ 25.00

Alfalfa Products \$38.00 @ 45.00

POTATOES, ONIONS, ETC.

Prices for potatoes held firm this week, notwithstanding the fact that they are not moving well. This, however, is wholly due to the holiday season and has nothing to do with actual conditions except momentarily. As a consequence the lack of demand this week has not affected the firmness of the market. Onions also are quiet so far as movement is concerned, but firm regarding price. The general vegetable market has been brisk this week on the holiday demand. Celery is in excellent demand and sells from \$5 to \$6 per crate. Lettuce was somewhat scarce this week and advanced about a dollar per crate. There are few, if any, cucumbers except the hothouse variety now on the market and the latter advanced in price on a good demand.

String Beans, lb. 12 @ 17½c

Peas, lb. 15 @ 30c

Carrots, per sack 75c @ \$1.00

Celery, crate \$5.00 @ 6.00

Cucumbers, box Nominal

do, Hothouse \$2.00 @ 3.00

Lettuce, per crate \$1.75 @ 2.25

Tomatoes, Stone 60c @ 1.25

Hubbard Squash, sack \$1.25 @ 1.50

Pumpkins, sack 75c @ 1.00

Rough docked 20 lbs. piggy sows 40 lbs. and stags, 40 per cent.

SHEEP—Lambs in good demand. On ewes and wethers the sale is slow. No change in prices.

Prime wethers \$8.50 @ 9.50

Yearlings \$8.50 @ 9.50

Prime ewes \$8.00 @ 8.50

Lambs \$12.50 @ 13.50

Portland, Ore., November 25, 1919.

CATTLE—Strong; receipts, 95. Steers, best, \$9.50 @ 10.50; good to choice, \$9 @ 9.50; medium to good, \$8 @ 9; fair to good, \$7 @ 8; common to fair, \$5.50 @ 6.50; good to choice, cows and heifers, \$8 @ 9; medium to good, \$5.50 @ 6.50; fair to medium, \$4 @ 5.50; canners, \$5.50 @ 6.50; bulls, \$5 @ 7; prime light calves, \$12.50 @ 14; heavy calves, \$7 @ 12.50; stockers and feeders, \$8 @ 9.25.

HOGS—Lower; receipts, 328; prime mixed, \$15.50 @ 16; medium, \$14.50 @ 15.50; rough heavies, \$13.50 @ 12.50; valley, \$10.50 @ 11.50.

SHEEP—Firm; receipts, 105; Eastern lambs, \$11.50 @ 12.50; valley, \$10.50 @ 11.50; feeders, \$9 @ 10; yearlings, \$8.50 @ 9.50; wethers, \$7.50 @ 8.50; ewes, \$5 @ 7.

EASTERN.

Chicago, November 25, 1919.

HOGS—Receipts, 71,000; estimated tomorrow, 25,000; lower. Top, \$13.70; bulk, \$12.85 @ 13.35; heavy, \$12.85 @ 13.35; medium, \$12.85 @ 13.35; light, \$12.80 @ 13.25; light light, \$12.50 @ 13.15; heavy packing sows, smooth, \$12 @ 12.50; packing sows rough, \$11.50 @ 12; pigs, \$12.25 @ 12.75.

CATTLE—Receipts, 17,000; estimated tomorrow, 16,000. Beef steers: Medium and heavyweight, choice and prime, \$18.25 @ 20.40; medium and good, \$11 @ 18.25; common, \$9 @ 11; lightweight, good and choice, \$14 @ 19.75; common and medium, \$7.75 @ 14. Butcher cattle: Heifers, \$6.50 @ 15; cows, \$6.40 @ 13.50. Canners and cutters, \$5.35 @ 6.40. Veal calves, \$16 @ 17.25. Feeder steers, \$7.25 @ 13. Stocker steers, \$6 @ 10.75. Western range steers, \$7.25 @ 15; cows and heifers, \$6.25 @ 12.50.

SHEEP—Receipts, 22,000; estimated tomorrow, 15,000; firm. Lambs, \$12.75 @ 14.85. Culls and common, \$8.75 @ 12.50; ewes, medium, good and choice, \$7 @ 8.50; culls and common, \$3 @ 6.75. Breeding, \$8.50 @ 11.25.

Potatoes, River, cwt. \$2.75 @ 3.00
do, Oregon Gem, cwt. \$3.25 @ 3.50
do, Oregon Burbank, cwt. \$3.00 @ 3.25
do, Idaho Gem, cwt. \$3.25 @ 3.50
do, Sweet, new, lb. 5½c
Onions, Brown, sack \$1.00 @ 1.25
do, Yellow, sack \$3.25 @ 3.75
do, Green, Alameda Nominal
Garlic, lb. 20½ @ 22c

BEANS.

An excellent demand for beans coming from all over the country has put more strength in the bean market than it has had for some time. Many of the orders now coming in are for future delivery, as the eastern buyers evidently look for decidedly higher prices after the first of the year, and they want to have a good stock on hand at the present low quotations for California beans. Prices were advanced on several varieties because of these transactions and further advances will be made if the demand continues.

Vanety Old crop New crop
Borers \$7.00 @ 7.25 \$8.50 @ 9.00
Blancs \$5.75 @ 6.00 6.15 @ 6.25
Crabtree \$6.00 @ 6.25 7.25 @ 7.50
Pinks \$5.50 @ 5.75 6.15 @ 6.40
Red Mexican \$6.00 @ 6.25 6.75 @ 6.75
Tepary \$2.50 @ 2.75
Gardner 0.50 @ 1.00
Lima Whites \$5.25 @ 5.50 6.10 @ 6.25
Small Whites \$6.00 @ 6.25 6.15 @ 6.25
Limas \$4.50
do, Baby 13.00

POULTRY.

Turkeys made a sensational advance on Monday and Tuesday of this week on small receipts and a breaking down of the determination of buyers not to pay more than 45 cents for the Thanksgiving bird. Live turkeys advanced in sympathy with the dressed birds, but the demand was not large for them. For about a week buyers held out for 45 cents as the top for turkeys dressed, but Monday's receipts showed a scarcity the agreement, if there was one, was broken, and buyers began to bid against one another. In all other respects the poultry market is dead with few sales of any description. Nominally quotations are the same as last week.

Broilers, 1½ lbs. under 36 @ 40c
do, 2 to 3 lbs. 32 @ 36c
Fries, 2 to 3 lbs. 32 @ 36c
Hens, extra, per lb. 34 @ 35c
do, Leghorns 30 @ 32c
Smooth young roosters, per lb. (3 lbs. and over) 30 @ 32c
Old Roosters, colored, per lb. 32c
Turkeys, dressed, young spring, lb. 50 @ 53c
do, live 40 @ 45c
Geese, young, per lb. 28 @ 30c
do, old, per lb. 26 @ 28c
Squabs, per lb. 60 @ 65c
Ducks, young 28 @ 30c
do, old, per lb. 25 @ 27c
Belgian hares 16 @ 20c
Jack Rabbits \$1.50 @ 3.50

BUTTER.

The butter market continues quiet with a firm undertone that immediately "takes up the slack" if any tendency to sell below the market appears. Like last week the extreme fluctuation was only a half-cent. But this week it was a half-cent up while last week it was down from the opening and the close.

Thu. Fri. Sat. Mon. Tu. Wed.
Extra 64 64½ 64½ 64½ 64

EGGS.

Eggs continue to furnish the sensations of the Dairy Exchange. Extras advanced to the highest price on record in the local market. Quotations below are the prices with the commission deducted and represent the price paid the growers. The retailers paid 9½c, cents for his extra eggs today, and this is 1½c above the high price reached during the earlier part of the month. This increase in price is due to local conditions apparently as eastern quotations today are not materially changed. With eggs at 9½c to the retailer, the dollar egg is again in sight for the consuming public. Pullets and undersized advanced in price in sympathy with extras, each touching the record price of the year. A peculiar thing about the market is that, notwithstanding the fact that extras are at the highest point on record in this market, extra pullets are still 5 cents lower than the high of last November and a cent lower than the high of January of this year. A shipment of 1160 cases of selected extras from Petaluma to New York is recorded on November 21.

Thu. Fri. Sat. Mon. Tu. Wed.
Extras 80½ 80 79 81 84
Dirties, No. 1 65 64½ 65½ 67½ 69½
Ex. pullets 65 64½ 65½ 67½ 69½
Undersized 61 61 61 63 65

CHEESE.

The cheese market is very quiet with practically no trading except in flats, which are a half-cent weaker. There seems to be some inclination to keep stocks moving which has had the effect of stabilizing the market. California Flats, fancy 31½c
do, Firsts 27c
Y. A., Fancy 34c
Oregon Triple 30½c
do, Y. A. 34c

FRESH FRUITS.

Fresh fruits moved well this week owing to the approach of the holiday. Apples are in steady demand, but the special demand this week was for grapes. Figs are getting scarce and will soon be off the market. Strawberries are arriving, a few cases each day, and will probably continue on the market until the first rains.

Apples, Jonathan, Oregon \$2.50 @ 3.00
do, Spitzenberg, Oregon \$2.00 @ 3.00
do, Bellflower Nominal
do, Pippins, Calif. \$2.25 @ 2.50
do, Oregon, other \$2.50 @ 3.00
Quinces \$1.00 @ 1.50
Pears \$1.50 @ 3.00
Strawberries \$18.00 @ 20.00
Raspberries None
Grapes \$2.00 @ 2.50
Figs None

CITRUS FRUITS.

A good demand developed during the week for citrus fruits, but it has not equalled the expectations and was not enough to sustain prices. While there are no changes in lemon prices the price of both descriptions of oranges was lower and grapefruit also were cheaper. Mandarins are now on the market.

Table with 2 columns: Item and Price. Items include oranges, Valencia, do, Navel, lemons, fancy, do, choice, do, standard, grapefruit, and lemons, box.

DRIED FRUITS.

The market for dried fruits is steady. Practically all is now out of first hands, and a ready market for some time is predicted.

HONEY.

There is a constantly growing inquiry for honey in this market, owing to the sugar situation, and if honey prices are not advanced it is predicted that the sales in this market will develop. Prices were not changed this week and honey was strong at these figures.

RICE.

Rice showed some strength this week and 3 Siam Usual was advanced to \$10.60 for November and December delivery. The same description is quoted at \$11.00 for delivery in January and February.

HIDES.

The hide market is very quiet, though there is some little inquiry for country hides of the better grades. Quotations run about as follows:

Table with 2 columns: Item and Price. Items include Wet Salted Hides, Steer hides, Cow hides, Hides (15 to 30 lbs.), California (under 15 lbs.), Bull hides, Horse Hides, Wet Salted, Large, Medium, Small, Colts, and Ponies.

PELTS.

Long Wool, 9 to 12 mos. growth \$2.50 and up Medium Wool, 6 to 9 mos. \$1.50 to 2.50 Short Wool, 3 to 6 mos. \$1.00 to 1.50 Shearings, good, 1 to 3 mos. .25 to .75c

WOOL.

There is little movement in the wool market locally. In the Eastern markets there is a strong demand for fine wools, with some reaching out for the lower grades.

LOS ANGELES

Los Angeles, Nov. 25, 1919.

BUTTER.

Butter shows an advance of 1c over last week's prices. The market reports a very good demand. Receipts considerably higher than those of a week ago. For the week, 312,500 lbs.

Table with 2 columns: Item and Price. Items include Fresh, California extra creamery, do, prime first, do, first.

EGGS.

Fresh extras advance 2c. Case counts decline 1c while pullets remain the same. This market reports a good demand. Receipts are lighter than last week. For the week, 392 cases.

Table with 2 columns: Item and Price. Items include Fresh ranch, extras, do, case count, do, pullets.

POULTRY.

Turkeys are in very good demand for the

SUMMARY OF COLD STORAGE HOLDING DAIRY PRODUCTS AND EGGS.

The following is a tabulated summary of cold storage holdings of dairy products and eggs on the dates mentioned, and a comparison with holdings for the same period a year ago. It is compiled by the Bureau of Markets, U. S. Department of Agriculture.

Table with 5 columns: Commodity, Nov. 1, 1919, Nov. 1, 1918, Oct. 1, 1919, Oct. 1, 1918. Items include Creamery Butter, P. S. Butter, American Cheese, Swiss Cheese, Brick & Munster, Limburger, Cottage, etc., Cream & Neufchatel, Cheese, other, Eggs, case, and Eggs, frozen.

Thanksgiving trade. Heavy hens are also selling very well. On all others the sale is reported to be slow at quotations, which are the same as last week.

Table with 2 columns: Item and Price. Items include Broilers, 1 to 1 1/2 lbs., Broilers, 1 1/2 to 1 3/4 lbs., Friers, 2 to 3 lbs., Hens, Roosters (soft bone), 3 lbs. and up, Stags and old roosters, per lb., Turkeys, Ducks, and Geese.

FRUITS.

This market reports all choice to fancy in good demand. The tone of the market is firm. Receipts fair.

Table with 2 columns: Item and Price. Items include Grapes, Malaga, lb., do, Cornichon, lb., Pears, Bartlett, lb., Japanese Persimmons, lb., Apples—Bellfleurs, 4 tier, do, Jonathan, packed box, do, Red Permain, packed box, do, White Permain, packed box, do, Yellow Newtown Pippins, pld box, Spitzburg, packed box, and Quinces, lb.

VEGETABLES.

Offerings in this market are of fair quality, but receipts light. Prices holding firm for all choice to fancy stocks. Poor stuff hard to move.

Table with 2 columns: Item and Price. Items include Potatoes, Northern Burbanks, do, Idaho Russets, cwt., Sweet Potatoes, Onions, Stockton, yellows, cwt., do, White Globe, cwt., Cabbage, per 100 lbs., Lettuce, crate, Rhubarb, per 30-lb. box, Summer Squash, lug, Peas, per lb., Kentucky Wonders, String Beans, Green, Tomatoes, lug box, Lima Beans, local, lb., Cucumbers, local, lug box, Peppers, Bell, lb., Casabas, lb., Celery, crate, and Cauliflower, crate.

BEANS.

This market is still very dull, but prices remain unchanged since last week.

Table with 2 columns: Item and Price. Items include Limas, per cwt., Large white, per cwt., Small white, per cwt., Blackeyes, per cwt., Tepary, per cwt., and Pink, per cwt.

HAY.

Receipts in this market very light. Alfalfa quoted \$1.00 a ton higher. Grain hay firm. The demand is fair.

WEEKLY EGG AVERAGES.

Table with 5 columns: Ending, 1918, 1919, 1918, 1919. Rows for each month from Jan to Dec.

WEEKLY BUTTER AVERAGES.

Table with 5 columns: Week, 1918, 1919, 1918, 1919. Rows for each month from Jan to Dec.

Classified Advertisements

MISCELLANEOUS.

MAKE YOUR OLD ROOF NEW SUPERCOTE & PROTEX THE LEAK-PROOF TWINS

Absolutely guaranteed to stop all leaks in one application. Do it yourself. No need of an expert. Mail inquiries solicited. E. L. HUBBARD, Factory Agent, 175 Grand Ave., Oakland, Lakeside 2632.

FOR SALE—Sampson Tractor with John Deere 3-bottom power lift plow; distillate and oil wagon—all bought new by me and used but a short time, can be bought together or separate at a bargain. Owner, Fred H. Bente, 333 College Ave., Santa Rosa.

FOR SALE—California Wonder Corn for seed. A new white dent. Has averaged as high as six good ears per stalk or over 300 bushels per acre. Also fifty tons of ensilage. A great money maker. Order now. Price 35c per pound. James McKee, Riverside, Cal.

CORY'S THORNLESS MAMMOTH BLACKBERRY—large berry, small seed; ripens early. The kind you have been looking for. Good, strong plants now ready. Write for descriptive price list. Wm. Mortenson, R. A. Box 209, Lodi, Cal.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weisbaum Pipe Works, 160 Eleventh street, San Francisco.

WANTED—Position as manager of ranch. 20 years' practical experience. 10 years in San Joaquin valley. Can drive and repair trucks, tractors and autos. Address 454, 20th St., Richmond.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

\$2,000 HOLT "30" FOR SALE—in good condition; tracks almost new; and a five-Disk Moline plow. Address: J. M. Nelson, 16 N. First Street, San Jose, Calif.

HOLT 30-CATERPILLAR—new tracks, engine recently overhauled. 5 disc plow, 8-ft. double disc harrow. A bargain. \$2,000. Fair Oaks Ranch, Willets.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

BURBANK'S Thornless Blackberry plants. Price reasonable. Orders taken for spring delivery. Variety Farm, Clovis, Cal.

SUDAN — We want to buy Sudan grass seed. Send us samples. Bomberger Seed Co., Modesto, Cal.

WANTED—Used 6-ft. Double Disk in A-1 condition. 142 R. B. Alum Rock Ave., San Jose.

COUNTRY LANDS.

\$2,500 DOWN SECURES 220 A. Missouri Farm with 5 horses, 3 cows, bull, hogs, 150 poultry, machinery, convenient R. R. city high school, etc. Tillage is productive loam soil; raises big crops; 40-cow, sheep and hog pastures; woven wire-fenced; estimated 3,000 cords wood, million feet oak timber. New house, two barns, one new one, other buildings. \$6545 gets everything; \$2500 down, balance easy terms. Full details page 88, Strout's Fall Catalog Farm Bargains 23 States; copy free. STROUT FARM AGENCY, 531 AF, N. Y. Life Bldg., Kansas City, Mo.

FOR SALE—Choice 1919 crop alfalfa seed. Also 1919 crop black amber, Sorghum seed. R. D. Westfall, Grower, Colusa, Cal.

FOR SALE—40 acres, alfalfa ranch; good, new, seven-room house, big barn. L. Skadsheim, Winton, Merced Co., Cal.

樓字寫工接 CHINESE HELP Cooks, Porters, Farm Hands, General Housework ONG FOON, 1 Brenham Place, San Francisco TELEPHONES: KEARNY 3941, CHINA 190

Second Thousand

ANSWERED QUESTIONS

In California Agriculture

A Sequel to "One Thousand Questions in California

Agriculture Answered"

BY EDWARD J. WICKSON

Editor Pacific Rural Press

First Edition—1916

256 PAGES, TEXT ONLY. CLOTH BOUND.

This book is made up from a selected list of questions asked by farmers and answered in the columns of the Pacific Rural Press. Divided into nine parts, covering Fruit Growing; Vegetable Growing; Grain and Forage Crops; Soils, Fertilizers and Irrigation; Live Stock and Dairy; Feeding Animals; Diseases of Animals; Poultry Keeping; Pests and Diseases of Plants.

PACIFIC RURAL PRESS

525 Market St., San Francisco.

ALWAYS
RELIABLE

Gombault's CAUSTIC BALSAM

SURE IN
RESULTS

THE ACCEPTED VETERINARY AND HUMAN REMEDY

A RELIABLE, safe and active blister and counter irritant--is used successfully by the very best stockmen everywhere. The very fact that it is both "reliable and safe" for anyone to use is of particular interest especially to those who are not veterinarians or within reach of one; and when you consider that many of the veterinary surgeons are buying and using it, you can well believe it is a valuable and reliable veterinary and household remedy.

NOT ONLY SEE WHAT OTHERS SAY, BUT SATISFY YOURSELF BY TRYING IT

CAUSTIC BALSAM AS A HUMAN REMEDY IS Penetrating — Soothing — Healing

It is generally true that an external remedy that is good for the animal is also good for the human body, and Gombault's Caustic Balsam is no exception to this rule. In fact, we sincerely believe that there is no liniment or external remedy on the market that is as good or as safe and reliable to apply to the human body as Caustic Balsam. We can safely recommend it in all cases where an external application could benefit. It is also cheaper according to cost because it requires very little and that little is effective.

A Safe and Reliable Germ Killer

Caustic Balsam, applied at once to any bruise or flesh wound, as soon as it stops bleeding and is thoroughly washed, will prevent blood poison and cause it to heal at once with scarcely any soreness. Persistent, thorough use will cure many old or chronic ailments, and it can always be used on any case that requires an external application, with perfect safety, and good results.

Veterinary surgeons use Caustic Balsam. Many recommend it. Why? Because it is a safe remedy for their customers to use and it brings satisfactory results.

Never Failed To Do Its Work

I am in the saw mill business and keep from twenty to thirty head of stock all the time. I have been using your Gombault's Caustic Balsam for the last ten years and I have tried it for every known lameness and it has never failed to do the work yet. I have cured swellings and never take them from the wagon. I have tried it on oxen's necks with good results. Hoping this will be some benefit to some stock owner.

Clarence J. Henley, Maplesville, Ala.

Information on special cases freely given. The accepted Human and Veterinary Remedy of the World.

Sure Cure For Rattle Snake Bites

Have used Gombault's Caustic Balsam for years and wouldn't be without it. It will not only do what is claimed for it, but it is also a sure cure for rattle snake bites, if taken in time. We have saved two horses and one cow with it. Thought you might want to put this in your list of cures, as so many use Caustic Balsam. It might save them a horse or cow some time if they knew about it.

S. H. Felt, Hartford, Michigan

Caustic Balsam will absolutely remove all poisonous secretions and create a healthy action.

Caustic Balsam Does More Than Claimed for it.

Enclosed please find draft for which send me one dozen bottles of Gombault's Caustic Balsam. I have been using your Caustic Balsam for four or five years and it does more than you claim for it. A neighbor, Mr. Seegar, had a horse with a bad case of swellings. He could not sell the animal for \$25.00. I advised him to use your Caustic Balsam and he did so, curing the horse, and has since refused \$100.00 for her. My niece had her knee badly injured by falling from a wagon. The doctors failed to effect a cure and she began using Caustic Balsam. She is now practically well. I have also known it to cure neuralgia and stop tooth-ache. It is one of the finest medicines for man and beast. H. D. Sweazy, Beecher City, Ill.

Does Away With Firing TO WHOM IT MAY CONCERN:-

I have made many fine cures with Gombault's Caustic Balsam. I have cured bowed tendons, capped hocks, lints, ringbone, sidebone, shoe boil, quitters, poll-eyil, fistula of withers and many other long standing cases. It is either a mild blister or a fine counter irritant; does away with firing.

E. L. Seltzer, Shelltown, Md.

Caustic Balsam Does More Than Guaranteed

I have used Caustic Balsam for the last seven years and found it just as it was recommended, and even more, because it will cure where other medicine fails and I can prove it. I can certainly recommend it.

J. T. Sullivan, Chebanse, Ill.

Twenty Years Success With Caustic Balsam

After using Gombault's Caustic Balsam for twenty years I can say it has never failed to do all you recommend it to do. While it seems high to one that has never tried it, once a customer always one. I have used it for twenty years and use no other but it. W.A. McCauley, Malone, Tex.

Good For Any Cut or Bruise

I recommend your Caustic Balsam for any kind of rusty nail or barb wire cut and has also cured bad cases of blood poisoning. I am a veterinarian and surgeon and I recommend to any man this Caustic Balsam as a cure of what I said.

F. Max Scheibe, V.S., Dulce, N. Mex

CAREFUL FARMERS

USE CAUSTIC BALSAM

A Safe and Reliable Anticeptic

Do you turn your horses out for the winter? If so, we want to call your attention to a very important matter. Horses which have been used steadily at work, either on the farm or road, have quite likely had some strains whereby lameness or enlargements have been caused. Or perhaps new life is needed to be infused into their legs. Gombault's Caustic Balsam, applied as per directions, just as you are turning the horses out, will be of great benefit; and this is the time when it can be used very successfully. One great advantage in using this remedy is that after it is applied it needs no care or attention, but does its work well and at a time when the horse is having a rest. Of course, it can be used with equal success while horses are in the stable, but many people in turning their horse's out would use Caustic Balsam if they were reminded of it, and this article is given as a reminder.

Found Nothing That Equals Caustic Balsam

Kindly permit me to express my deep appreciation of Gombault's Caustic Balsam. I have cured sprains, ringbone, strained tendons, swellings, poll-eyil with it in fine shape and do not see how a better liniment could be manufactured. I have used many things for removing pulls from horses but have never found any that would equal Caustic Balsam. I also had a cow that had lump jaw. I used Caustic Balsam and cured it.

John H. Wallgren, Logan, Kansas

Bunches on horses or any other livestock are unsightly.

Caustic Balsam Prevents Blood Poison

We have used Caustic Balsam for several years and have found it to be unequalled for horses or people. My husband ran a rusty nail in his hand and blood poison set in. We used two applications of Caustic Balsam and the swelling and fever left his hand and arm and it healed up without any more bother. It is also as efficient for snake bites and we would not think of being without it.

L. H. Globe, Forest Grove, Mont.

Caustic Balsam is good for that sore feeling after baseball or football games.

A Splendid Human Remedy

I think your Caustic Balsam a splendid human remedy. We use it for cuts, burns, sores, swellings, sore throat and lameness and find it very beneficial. We expect to keep it on hand ready for any emergency.

Mrs. Robt. B. Newton, Columbus, Miss.

The world's greatest and surest veterinary and human remedy. Has imitators, but no competitors.

Worth Its Weight In Gold

I have used Gombault's Caustic Balsam for my own horses and for others, and it has never failed yet. My little girl had rheumatism for a long time. Nothing did her any good until we used Caustic Balsam and she is all right. My wife had throat trouble and used Caustic Balsam with great results. It is worth its weight in gold.

Dr. Ira Le Dunlap, V.S., Rochester, Pa.

Gombault's Caustic Balsam As a Liniment for the Human Body has no Equal

A Liniment that benefits; it kills pain. A home remedy for the Human Family

ALL TESTS prove the wonderful efficiency of Gombault's Caustic Balsam in relieving human ailments, such as Rheumatism, Neuralgia, Sprains, Sore Throat, Sore Lungs, Chest Cold, Backache, Lumbago, Diphtheria, all Stiff Joints. It is penetrating, soothing and healing, and for Old Sores, Bruises or Wounds, Felons, External Tumors, Cancers, Boils, Corns or Bunions Caustic Balsam has no equal. It removes the soreness and strengthens the muscles—in fact aids all troubles where an external application is necessary. We would distinctly say to all who buy it that it does not contain a particle of poisonous substance, and therefore no harm can possibly result from its use.

THIS GREAT REMEDY literally works wonders! It removes bunches on horses and other livestock, thereby increasing the value of the animal fully 50 percent. A successful treatment for Curb, Splint, Sweney, Capped Hock, Strained Tendons, Founder, Windpuffs, all Skin Diseases or Parasites, Thrush, Diphtheria, Pink Eye, and Lameness from Spavin, Ringbone, and other Bony Tumors; also all obstructions in circulation, and imparts new life and vigor. It is a peerless remedy for all Throat and Bronchial Troubles.

WHY! Because Caustic Balsam can be applied by anyone with safety, will do its work well and in no way injure the horse, while other blisters need daily attention and care and then are liable to leave a blemish.

If you have a lame or unsound horse, YOU CAN WELL AFFORD TO TRY A REMEDY THAT IS SO HIGHLY RECOMMENDED. Information on special cases freely given on request.

It is FAR SUPERIOR, MORE ECONOMICAL, and a PERFECTLY SAFE, RELIABLE and PROMPT Remedy to use as compared with any other remedy used for like purposes.

The demand is produced strictly by its merits.

**IT SUPERSEDES ALL CAUTERY OR FIRING
IMPOSSIBLE TO PRODUCE ANY SCAR OR BLEMISH
IT IS THE SAFEST AND BEST BLISTER**



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The Lawrence-Williams Co.
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U.S. & CANADA. CLEVELAND, O.

Gombault's Caustic Balsam

MAY HAVE IMITATORS, BUT HAS NO COMPETITORS

PRICE \$1.75 PER BOTTLE AT ALL DRUGGISTS
OR SENT BY PARCEL POST.

THE LAWRENCE-WILLIAMS CO.
1013 Oregon Avenue, Cleveland, Ohio



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U.S. & CANADA. CLEVELAND, O.

THE PACIFIC RURAL PRESS

SAN FRANCISCO

DECEMBER 6, 1919.

LOS ANGELES

Sulphates Increased Alfalfa 1,000%

Written for Pacific Rural Press by R. E. Hodges.



ALFALFA YIELDS have been increased fifty to one thousand per cent by use of small quantities of sulphur fertilizers in careful experiments of the Oregon Agricultural College, covering eight years on various ranches, including a great variety of soils.

These experiments had been under way three years when Prof. F. C. Reimer wrote an article on the subject for the Pacific Rural Press, issue of June 27, 1914. They have been continued to the present and their results have lately been published.

Curiously, they have conclusively proved a fact in fertilization which had been overlooked in scientific investigations of all history previous to a decade ago. We have been told by practically all the authorities that we need worry about only three plant foods in practicing fertilization.

Sulphur Necessary but Deficient.

Plants require ten different elements, but only three were considered in practice and in experimental work. Nitrogen, phosphorus, and potash are the three. The most available form of phosphorus is superphosphate; but superphosphate gave remarkable results where other forms of phosphorus did not. Superphosphate is about one-eighth sulphur. Sulphate of potash gave results where other forms of potash did not. This fertilizer is about one-fifth sulphur. Sulphate of ammonia gave results where other forms of nitrogen did not. This is about one-fourth sulphur. Gypsum gave as good results as any of the combinations of sulphur with the recognized fertilizer elements. Gypsum contains none of the three fertilizer elements, but is about one-sixth sulphur. Flowers of sulphur gave nearly as good results for an average of four years as the other forms of sulphur. This is 100 per cent sulphur, but must be changed into a sulphate combination in the soil before plants can use it.

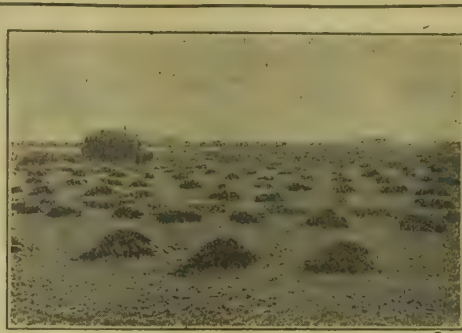
Uniformly in the many experiments with alfalfa on many varieties of soil, the application of common fertilizer elements increased the yield very little, while almost as uniformly the application of materials containing sulphur gave remarkable increases in yield, in color, in quality, and in freedom from weeds. The practical question then became, Which form is cheapest and how much actual sulphur is economical?

Sulphur 100 Pounds per Acre.

Most of the sulphur fertilizers were used in the experiment in an amount which would supply 100 pounds of sulphur per acre. In several cases, however, more was used. With 300 pounds per acre and with 600 pounds per acre, there was not enough increase over the yield from the 100-pound applications in the average of four years' crops to pay for the extra sulphur. With 600 pounds the tonnage for four years was considerably less; for this was applied as flowers of sulphur, which had to change into sulphuric acid before it became an available sulphate. The sulphuric acid was harmful in these quantities, though the California Experiment Station has shown that sulphuric acid is a benefit on alkali land if properly applied.

Sulphur Increases Roots and Tops.

The various sulphur fertilizers had a very stimulative effect on the alfalfa root systems, increasing their growth and the number of nodules. This enabled them to take up greater quantities of other plant foods, mois-



ture, and atmospheric nitrogen. This made the top growth heavier and stronger in protein. It smothered the weeds, which grew abundantly in the plots fertilized with other elements.

Alfalfa hay from sulphur-fertilized plots contained .049 per cent to 0.1 per cent more sulphur, and 0.93 per cent to 1.89 per cent more protein than that from check plots. The greatest difference noted was on loam soil, where the sulphur-fertilized alfalfa contained 15.7 per cent protein.

One check plot produced hay containing only 2.54 pounds of sulphur per ton. It yielded at the rate of 2,160 pounds per acre. A fertilized plot produced hay containing 3.34 pounds of sulphur per ton. It yielded at the rate of 10,020 pounds of hay per acre; and this hay was all alfalfa, while with the smaller yield a large proportion of it was weeds.

Soil Analyses Proved Nothing.

The soils used in the experiments were analyzed. The analyses gave data which were surprising when compared with results of fertilization. One soil with .038 per cent sulphur in the surface soil and .025 per cent in the subsoil gave remarkable increase when fertilized with sulphates; while another of practically the same chemical composition gave no response to sulphur fertilization. This is considered due to difference in physical character of the soils which permitted the sulphur in one to become available faster than in the other.

Various Forms of Sulphur.

The various forms of sulphur which have produced such striking results were flowers of sulphur, superphosphate, iron sulphate, sulphate of ammonia, sulphate of potash, sulphate of magnesium, sodium sulphate, and calcium sulphate (gypsum). Some of these, such as sodium sulphate, would be objectionable on account of the residue left after the sulphate is used. Several are altogether too expensive. Some, such as superphosphate, and sulphate of ammonia, are highly desirable if phosphate, or nitrogen, are needed in the soil. These elements were already plentiful in the Oregon soils used, but they are deficient in a great many soils. In such deficient soils, the extra cost of these forms is justified.

Calcium is also plentiful in the Oregon soils; but is not so everywhere, and may well be supplied in the form of gypsum or lime. Gypsum is probably the cheapest form of sulphate fertilizer; though the sulphur in it probably costs more than the fertilizer grade of flowers of sulphur. Its greater availability, its harmlessness, and the other advantages of gypsum combine to make this product probably the most desirable fertilizer for alfalfa unless phosphorus, nitrogen, or potash are deficient.

Our California Experiment Station also emphasizes the fact that soil analyses do not furnish a safe basis for plunging in fertilizers. Our recommendation would be to try three or four forms on acre sections of a uniform field—say, superphosphate on one, gypsum on another, sulphate of ammonia on another. The chances are that sulphate of potash will not be worth its cost in most cases. Those who want to get the benefit of increased crops on a reasonably safe bet the first year may well spread gypsum up to 600 pounds per acre on a considerable acreage this fall. It will supply about 100 pounds of sulphur. If the land leaches badly, spread shortly before growing season.



Which stack would you rather grow from the same acreage? Sulphate fertilizers, including pure sulphur and gypsum, have increased alfalfa crops sensationally where sulphur was too scarce in the soil.

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E. J. WICKSON - Editor
R. E. HODGES - Assistant Editor
THOS. F. McCONNELL - Livestock
H. E. PASTOR - Poultry

EDITORIAL

NEW UNIVERSITY PRESIDENT.

ON TUESDAY of this week Col. David P. Barrows was chosen President of the University of California, to fill a vacancy caused by the retirement of President Wheeler in July last. The new incumbent of the presidency is eminently qualified by natural endowments, training, experience and notable attainments in scholarship and in public affairs for the important duties entrusted to him. During the last 24 years he has been connected with the University (except when abroad on national duties), first as graduate student and afterward as instructor, and has honored himself in the eyes of his faculty associates by his excellent instructional and executive work, his unswerving devotion to his duties, and by his services to the public, which grew out of his university research and his instructional experience. The choice of Col. Barrows to the presidency, therefore, meets the desires of his academic associates and of Californians generally, who have reason to look forward to a long, active and successful career for him in his new position. He is but 46 years of age, possessed of abounding health—a man to whom vigorous action of both mind and body seems a continuous pleasure. The University is indeed fortunate to have such a man at the head of its executive affairs.

From our particular point of view we are especially gratified with the selection of Col. Barrows, because all his attainments as a scholar, teacher and publicist are imposed upon a background of California rural life in which his youth was passed. He knows the State and the agriculture of the State—the latter in all the breadth and depth of its diversity and the needs and requirements thereof—and his participation in the agricultural leadership of the University will be of direct benefit and incalculable value to our greatest and most expansive industry.

SOME WEATHER!

Nature, celestial aviator par excellence, has dropped some meteorological bombs on the garden spot of the western hemisphere since our last issue—and it will take quite a run of our normal salubrity to expurgate them from memory. It is true, of course, that they were not TNT bombs, such as fell on the Rocky Mountain and eastward fragments of the country, breaking up nearly everything but the coal strike and paralyzing all business but politics. Our weather drives were of the kind ordained from the beginning for shorn lambs, but according to our depth of fleece and degree of endurance, they surely did lambast us sore. Whether they were gales carrying sand to "frost" the windshields of automobiles which persisted in facing them on our valley highways, or whether they were gentle zephyrs dropping snowflakes like feathers on our mountains, they were quite enough of their several kinds, and we are not wishing for more blizzards to hit other parts of the country that we may be stroked by the soft sides of them. As we write after about a week of their visitation,

we have to conclude that these weather-samples have not been so valuable for the amount of wetness they have brought as for the disposition which they betoken on the part of the firmament above not to float over us in everlasting summer, but to get busy in throwing down the stuff which makes crops. On Tuesday the weather-pranks are still playing and the Weather Bureau sees in them assurance of a real rain which we hope will come, not alone for the water it will throw down, but also for the spirit it will lift up from the pessimism of the unmantled weather prophets, which prescribes that if rains do not come very early they will not come at all until Christmas. We doubt if such a view is justified by the facts and, if it be in most cases, we are probably in for an exception this year, as the disturbances of the week indicate. Besides, those who like the prophecies of the sun-spotters and planetary-conjugators can find assurance in their utterances that December this year will be a month of storms which will live in history, and we shall be in luck if we are not all drowned by Christmastide. Therefore, agriculturally speaking, it is up to all farmers to get in their tools and seeds just as fast as the soil allows, with full confidence that all who survive the December storms of this year will live happily ever afterward.

SAN DIEGO ARRIVES!

It is perhaps not kind to suspect San Diego of causing all the aerial disturbances of the last week, and yet that seems a more reasonable assumption than to credit it to sunspots and planets which do not care a whoop for California development. For San Diego has really arrived as the western terminus for a straight-away eastward railway, and cannot be blamed even for stirring up the skies in her celebration thereof. It is nearly sixty years since San Diego began to believe that her natural harbor and salubrity would surely connect her up with a direct line of overland railway, and though she has had many disappointments during all the time she has lived amid the wreckage of financiers and realty promoters, San Diego has never lost faith that her peerless bay and climate would finally put her on the world-map of population and great trade-routes. The experience of San Diego gives the lie to the old declaration that hope deferred maketh the heart sick, for she has lived a stout-hearted and generous struggle from her first dreams to the day of their realization. And yet cruel fate, which has tried her sore, flung a parting defiance in her smiling face; for this is the record of San Diego's last Thanksgiving as an unattached community:

SAN DIEGO, November 27.—What is said to have been one of the heaviest snowfalls ever recorded in the mountain section of San Diego County covered that territory today, making unusual Thanksgiving weather for many resorts. General Manager Pontius of the San Diego and Arizona Railway, whose formal opening will be celebrated next Monday, announced tonight that snow from five to seven inches deep lay on the tracks of the road in the mountains between San Diego and Imperial counties. This, he added, was not a serious matter so far as railway operation is concerned and can interfere in no way with the opening. He said, however, that from reports sent to him this snowfall was unprecedented and was still falling tonight.

And so San Diego, naturally beautiful, capable, confident, was led to her world-marriage in a snow storm! Snowflakes nestled among the orange blossoms in her fragrant tresses; arctic blasts tugged at her silken robe and a premonitory pneumatic chill pierced her abounding bosom. But even the fact will not be so grievous as the use which rival resorts in our sunny south will make of the fact. San Diego must be brave and remember that

They who ascend to mountain tops will find

Their loftiest peaks most wrapt in clouds and snow;

So they who conquer or subdue mankind

Must look down on the hate of those below.

Had San Diego been content to live forever in her embowered beauty; had she been content to linger always in her sunny outlook upon quiet waters with no restless ambition to figure largely in the world beyond, neither snow nor blast could have reached her in the sweetness of her idleness. But when San Diego scaled the eastward mountain bar-

rier of her encirclement, she had to face the trials of all those who essay to climb. But San Diego's most severe affliction was her last. Henceforward forever she will shine as a gem of purest ray serene in one of the world's great circles!

THE MEANING OF IT.

We probably owe an apology to sturdy old Saint James, who gave his name to our southmost city and county, for feminizing his attributes in such a shameful way, but it is almost irresistible when one is filled with worshipful admiration for a city, a river, a tree, an air-plane or a race horse, to rise to terms of the feminine, and so we "let her go Gallagher." And lest it be taken that we share in any gibe at San Diego and her snowstorm, we desire to say that the realization of San Diego's old ambition for directly eastward connection by rail and her lack of satisfaction of being sidled into by a spur of an overland line, have resulted in a great thing for the whole state. The short-line opening to sea water in San Diego bay will be of incalculable advantage to the great Imperial Valley and its environs along the Colorado River. No one can yet estimate the amount and variety of products which the extreme southeast of California will pour into the courses of world-trade. To limit them to roundabout railing or to carry them to harbors insecure or unopen to all kinds of shipping, is unfair to the whole Colorado river region. Therefore we are very hopeful that Mr. Pontius will pilot his trains through the mountains which lie between sun-kissed San Diego and sun-burned Fort Yuma, and never again have a snowstorm to cover his rails. The opening of the new line, if we count straight, gives California six straight east and west cuts by overland railways, and now if there is possible a short line overland which can cut into the Humboldt Bay region we hope engineers and promoters will give attention to it.

WORTH-WHILE AMERICANIZATION.

An American girl has just started a good job of Americanization which should not pass unnoted. We hear a lot about the duty of Americanizing the foreigners who have come to us, and we believe it is a true and necessary public policy which should be earnestly promoted. But for dash and picturesqueness no Americanization to save European raff from destroying us with anarchy can compare with the achievement by which Lady Astor, daughter of our State of Virginia, became the first woman-member of the British House of Commons, and was welcomed thereto by great cheering by those who thus became her political peers. For Nancy Lady Astor was not born to her berth, but was elected to it on the basis of personal worth and patriotic deeds, by the electorate to which her sex was recently admitted, and she became the first woman qualified to write M. P. after her name. The event is colossal when one seriously considers it in its significance in the ennoblement of woman to their just sphere, and it is strikingly picturesque in its other bearings. From the state which bears a name which is a tribute to that most distinguished Englishwoman, Queen Elizabeth, there returns to England in the third century afterward a Virginia girl to take honorable place in the great, popular legislative branch of the British government. Is not this a great stride in Americanization? It occurs to us that John Bull is the biggest game in the whole jungle of Americanization. He has high place in the world, he has property which gives stability and purpose, he knows how to behave humanely and he is held to be the greatest devotee to fair-play in the world. What a great start is that toward Americanization! We feel this whole matter so keenly and we see in it such an opportunity for world renovation, that we must cry out across continents and oceans: "Go in, Nancy; we will hold your bonnet!"

And there is another thing about it all which is hardly less picturesque in another way. Nancy Astor is a commoner, destined perhaps to become one of the few "great commoners." To emulate her success or even to sit beside her in the House of Commons, her husband can never attain. By becoming his father's successor to an earldom he can never again become a commoner like his wife, and he can never vote supplies upon which the

future of the nation will depend. Be gentle with him, Nancy, for the sake of old times. It is really not his fault; he was born that way and they say he is a pretty good sort.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Barley or Melilotus.

To the Editor: I have about 9 acres which had a crop of barley this last year, but the land is not leveled for irrigation. The land runs together after rain, but does not crack open as adobe. Would you advise me to sow all or part of this land to sweet clover (*Melilotus alba*) as pasture for cows and turkeys. It is very dry now and "old timers" say "no rain till Christmas." Would it be well to sow before the rain or after? Should land be plowed, or seed just cultivated in?—O. P. D., Orland.

The clover would be good for the land and help to cure its cement-like action as well as add to the richness of it, but we are not sure that it will please you as a feed-crop. Cows do not take readily to it unless their appetites are pretty well sharpened. We cannot answer for turkeys, but presume it would be a good change from mullein. It is a good deal of a question as to whether you wish to serve yourself or your land first and for your immediate use perhaps a green-feeding crop of barley or rye would be a better way to serve both yourself and the land—for the pasturing would help the latter considerably and help carry your stock. Sweet clover should be sown early to start while the land is still warm. We would not wait until after the rains, but plow to get in all the seed mentioned and to get more water into the land also.

For Apricot Troubles.

To the Editor: Please give the best time to spray apricot trees and name of best spray for scale and moss on old apricot trees. Is there any spray that will help to destroy brown rot, and when to spray? What is the cause of buds being killed on apricot and cherry trees? Some cherry limbs do not have any fruit buds or growth buds for two feet.—H. A. F., Mountain View.

The large lecanium scales which usually infest apricot trees are best treated with a distillate spray applied earlier in the fall, but they may also be considerably reduced by lime-sulphur, applied as soon as you conveniently can after this date—after getting your pruning done. Lime-sulphur will also kill the moss and will clean the bark of spores of brown rot, if you prune off all the "mummied" fruits which may now be sticking on. Brown rot causes death of many buds and twigs, although there is a bud-blight caused by other fungi. The best you can do for all these is lime-sulphur wash, shot on hard with a force sprayer which will drive the spray through the moss and into all crevices.

Corn Stubble Land.

To the Editor: I have some corn stalks on land that I want to plow. Can I plow satisfactorily without getting rid of the stalks first? They are rather short. If I have to get rid of them, what is the best way to do it? Will running a disc harrow over them do the work satisfactorily, or should I cut them and haul them off?—H. G. M., Paso Robles.

It depends something on the land and the use you plan to make of it. If the land is heavy and you can plant late and have plenty of rain, you can roll down, disk and plow under the rubbish. If your land is light and to be early sown, you had better roll and rake into windrows and burn before plowing—getting off all you can, for the trash will dry out the land too much. Why did you not let the stock go at the problem a month or two ago?

Alligator Pears.

To the Editor: In what States do alligator pears grow, and on what kind of trees? I am under the impression that the trees are similar to any other pear tree. Why are they called alligator pears?—Subscriber, Novato.

The avocado grows in Florida and California. It seems to be about as hardy as the orange. The tree is an evergreen with rather thick leaves and may attain a height of fifty feet or more. It looks nothing like a pear tree and the fruit is no kind of a pear. It was perhaps called "alligator pear" because alligators may eat them in Florida, or because some varieties are dark-green and dam-

dismal looking when mature and some varieties are somewhat pear-shaped. We do not know how the name started, but it ought to be stopped.

Value of a Leasehold.

To the Editor: A has a lease on B's ranch for 5 years. B wishes to sell his property. What redress, if any, has A? What can he require B to pay him for his time and expense in moving on B's place? The lease has 4 more years to go.—F. B., Loomis.

If A has a properly drawn lease without reservations, which gives B no permission to terminate it (except upon the basis of A's delinquency or transgression of the terms of it), B cannot sell the property except as subject to the lease given to A. If B desires to regain the right to give immediate possession to a purchaser he must buy back A's lease at whatever terms they may agree upon. If A has not complied with every condition incumbent upon him, B can sue him off the place. If A's position is impregnable he can compel B to pay him reasonably for releasing the property. The amount depends upon how much the right to possession and use can be reasonably estimated to be worth.

Figs and Prunes.

To the Editor: How shall I plant shoots from chopped-down fig trees next spring; also is it advisable to cut back 5-year-old prunes, which did not bear, but made too tall limbs, some 9 to 10 feet high?—L. E. B., Lower Lake.

We take it you ask how to grow fig trees from shoots grown from stumps of old trees. Such shoots are apt to be of rank, soft growth and not well suited for rooting. However, take the smaller shoots which seem to be hardest or best-matured wood. If you have none such, take the bases of the larger shoots with the hard attachment to the old wood below and up to a joint above—pieces about eight or ten inches long. Take these after the leaves have all fallen and put them in a box or bed of sand in a warm place and keep moist but not wet. This will heal or callus the ends and perhaps start small rootlets. When in this condition plant out—after the soil becomes warm and the danger of being soaked in cold water from winter rains is over.

Do not cut back the prune branches, but remove some of them entirely if they crowd or run across each other. They should bear in the coming season.

Cow Peas on Summer Fallow.

To the Editor: If I work my summer-fallow well and sow cow peas on it about the 15th of April and pasture it off, will I get a larger crop than if I did not plant anything on my summer-fallow and kept it well worked during the summer? I have been told that I would lose no moisture if I sowed cow peas as above mentioned. Is that so?—Subscriber, Contra Costa.

It is not so. If you allow cow peas to drink up the moisture which you are storing by summer-fallowing, how can you let it go and keep it also? But if your summer-fallowing is not primarily to save moisture (for there are other reasons for doing it), and if your land is moistened otherwise, or if the following rainfall is all that a large crop requires, you may get more grain after pasturing cow peas on the land than you would from a bare fallow. Results depend on conditions.

Faint but Pursuing.

To the Editor: The medicine which you prescribed for my horse did him no good. Can you give me some information about my bees?—R. L., Sonoma.

We have to acknowledge that the trust and forbearance of our readers are our greatest resources. Common people would have written: "Your medicine did my horse no good; I would not trust you to doctor a bee"—but not so with our selected constituency. They believe in probing the mass of our ignorance until they find something we do actually know. We did the best we could for the bees by mail and sincerely hope our confiding subscriber did not get stung again.

About Cherries.

To the Editor: What is the difference between the Royal Ann and Napoleon Bigarreau cherries? Also, which is the better root for cherries—mazzard or mahaleb?—J. C. B., Beaumont.

There is no difference. For a good depth of soil and continuously adequate moisture, with drainage to prevent accumulation of water, the mazzard

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is preferable. Where there may be less favorable soil and moisture conditions the mahaleb is held to be more hardy against such adversity.

Upland Rice.

To the Editor: Has upland rice ever been grown in California. A number of years I saw it growing in Southern Georgia. It was well filled and looked to be a fine crop. I believe in Japan they grow it some for feed. Any information you can give will be interesting, I believe, to many.—D. P. P., Modesto.

Upland rice has been agitated in this country for half a century within our memory, and has never scored any commercial significance. Perhaps in our revolutions we may come to dry rice, but so far all the rice that counts is of the wet habit of growth.

Feeding Frosted Beans.

To the Editor: Kindly tell me whether pink beans that have been frosted (some ripe, some green) will hurt milch cows, if beans and straw are all fed together. If it will, what is the food value of beans thrashed out for hog feed?—F. M. B., Hanford.

There is nothing poisonous about beans and bean straw which have gone through a frost. The action of the frost is, however, such that the juices are spent and the material is less acceptable to stock and perhaps less digestible than when dried without frosting. In the latter case some trouble might be apprehended from feeding too much frosted fodder of any kind. The digestive disease known as murrain is sometimes traced to confining stock to such fodder, which they will not usually take too much of if they have also other feed. Beans are very nutritious and comparable as to contents with alfalfa hay. They should, however, be crushed and soaked and not fed alone nor in too great quantities.

The satisfactory adjustment of the mill strike in New England has given strength to the cotton market. Work has been resumed in many mills.

CALIFORNIA WEATHER RECORD

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending December 1, 1919.

Stations—	Rainfall			Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest	Lowest
Eureka	1.24	4.80	9.90	54	34
Red Bluff .....	.32	1.38	5.74	70	30
Sacramento .....	.28	1.00	3.70	70	34
San Francisco .....	.46	1.12	4.17	63	38
San Jose .....	.16	.73	3.25	66	34
Fresno .....	.04	.62	2.06	68	30
San Luis Obispo .....	.14	.68	3.57	64	26
Los Angeles .....	.46	2.31	2.38	62	36
San Diego .....	.28	1.73	1.38	62	38
Winnemucca .....	.78	2.03	1.97	48	—2
Reno .....	.26	1.11	2.24	60	6
Tonopah .....	.30	1.26	2.96	56	4

Winter Protection from Summer Injury

A group of troubles that can be remedied next summer—act now.

(Written for Pacific Rural Press by W. T. Horne, Univ. of California.)

The past year has seen much loss of fruit trees from troubles which are due to climate and not to some insect or fungus against which the fruit growers can act directly. The methods of studying climatic injury have not been simplified as have some other phases of plant pathology. Nevertheless, certain diseases are known to be due to climate and something is known of the conditions within the plant which make them possible and some measures for reducing the danger can be taken.

Sour Sap Preventable.

Sour sap, meaning certain sudden dying of trees or branches in spring, is a result of cold shock on trees in exceedingly active new growth. Protecting the trees against high temperatures within the trunk and branches and so avoiding the stimulation to excessively active growth early in spring is the main preventive measure. A good coat of whitewash will reflect a considerable part of the heat from the sun on bright winter days and prevent much of the rise in temperature within the limbs and twigs which starts growth unseasonably. The rest period is thus preserved for a longer time without interruption. A tree properly nourished and coming normally into its winter rest period in the fall will be less liable to injury than one weakened by lack or excess of water, red spiders, injudicious late summer pruning, or other cause.

Water-logging of the soil at any season may cause symptoms like sour sap. Whitewash is not recommended in this case.

Winter Die-back.

Winter die-back in walnuts, figs many other trees, affecting especially young and vigorous plants growing under very favorable conditions is a drying out of imperfectly ripened wood under conditions of exposure to low temperature and excessive atmospheric drying. Lack of soil moisture in winter may accentuate the trouble. Many young walnut trees have been observed to lose their leaves by freezing and not by natural ripening this fall. The ends of the shoots and their buds are not fully matured, that is, they have not accumulated a proper store of reserve plant food, and with leaves gone no more can be elaborated this fall. This is shown by a soft green succulent texture and much flattened or angular outline as opposed to a stiff woody texture, round

outline and brown color. What these trees need to bring them through as well as possible is adequate moisture in the soil and protection against excessive atmospheric drying and against warming up by the winter sun. A good coat of whitewash is the most practical measure for protecting the top. Where the immaturity is noticeable clipping off the most immature parts of the shoots will doubtless be beneficial by reducing evaporation.

Trunk Injury.

In recent years many young, vigorous trees have shown serious injury to the trunks, especially at the surface of the soil. Trees up to several years of age may be affected, but it is especially the younger ones which are liable to suffer. The inner bark and wood in the vicinity of the cambium are affected and often the tree is girdled. Early in the season nothing is visible unless the trunk is cut into. Oranges, prunes and various trees have suffered and often under most favorable conditions in the best lands. The injuries do not become apparent until the following summer, when the trees suddenly fall and the most intelligent and observant growers have suspected fungus or other infectious diseases. More or less gummosis may accompany the trouble and probably there is often complications with various infections. Low temperature affecting trees which are imperfectly ripened because of excess vigor is the cause of this trouble. The conditions when discovered should be treated by cleaning the wounds and disinfecting with Bordeaux paste, but much may be done in the way of prevention by coating the trees in winter with whitewash and protecting the crowns either with loose earth or by wrapping with cornstalks or similar material to prevent warming up by the winter sun. When frost danger is completely over the coverings should be removed, since they may harbor pests or by the moisture occasion brown rot or other infections.

Frozen Roots on Nursery Trees.

Every year many nursery trees come to the Agricultural College—some before, some long after setting—which have had the roots dried or frozen, or both. When the bark of the roots is cut into it is found to be rather dry and has dead brown specks or spots. Such trees fail to grow and become a source of serious loss. Professor J. C. Whitten has given us un-

published data showing that the roots of even hardy trees are very tender to cold and are easily injured by even slight freezing. The roots of all nursery stock should be protected from drying and from the slightest frost. It appears that there is danger of injury, both by cold and drying, where the digger is run under the trees and they are allowed to stand before lifting.

Many trees from nursery shipments show a dark, water logged condition in the sapwood, the bark being normal. Such a condition has been traced in many cases to winter flooding or other water injury in the nursery often combined with freezing. Such trees should not be sold as first class, but if they are set under favorable conditions and get a good start they will often make good trees.

Deciduous nursery trees have sometimes been infected with the brown rot fungus of citrus fruits or a very similar one when heeled in a wet situation, causing the bark to rot. Nursery stock on receipt by the orchardist, or at latest on planting, should be whitewashed and given most careful attention to prevent freezing of roots or drying.

Black heart of apricots appears from study by approved pathological methods to be caused by a fungus. However, since only young and succulent trees are affected, winter injury may be a pre-disposing condition and winter whitewashing should help to prevent this.

Protect Young Trees from Frost.

Certain plants, like young citrus trees, avocados, or young figs in very frosty localities, may not be sufficiently protected by whitewashing, and should have covers of burlap, cornstalks, tules or some other convenient material with the soil mounded up about the crowns of the trees. Some plants, like tomatoes, gradually lose vitality and die in a continuous low temperature without actual freezing.

An excellent discussion of these topics is given in Bulletin 218 of the California Agricultural Experiment Station, by R. E. Smith and E. H. Smith, and in Bulletin 231, pp. 372-373, fig. 90. These bulletins are not now available for distribution from the University, but should be accessible in public libraries and many private libraries. In Bulletin 218, pages 1051-1052 treat obscure freezing, 1053-1055 winter sunburn and peculiar effects

of disturbing the rest period, 1067-1069 die-back and other injuries from winter drouth and cold, 1069-1071 and 1074 effects of excessive soil water in winter and drouth in summer, 1065 and 1098 sour sap, 1155 pear black leaf, 1177 die-back of young walnut trees. California Experiment Station Circular 204 discusses sour sap, etc., briefly.

Whitewash is Most Valuable.

Measures for preventing winter injury consist then in securing as favorable moisture conditions in the soil as possible with irrigation or provisions for drainage where needed, and in whitewashing the trees in early winter. Carefully conducted experiments by Dr. J. C. Whitten, now Professor of Pomology, University of California, have shown that a good coat of whitewash reflects the heat of the sun from the limb or twig instead of allowing it to be absorbed, so that a twig that is not whitewashed warms up much more than one which is well coated. This rise in temperature greatly accelerates evaporation from the twig, causing it to dry out. It also tends to break the rest period, causing a slight growth prematurely. This invisible starting to growth greatly weakens the resistance of the buds and tree generally. A whitewashed branch may not be visibly different from another in spring, but actually may be in much better condition, as shown by resistance to winter injury and subsequent success in setting and maturing a crop.

A good whitewash should stick until spring. Bodies, main limbs, and as far as practicable the whole tree should be covered for most complete results. The following formula is suggested:

Quick-lime 5 pounds
Salt ½ pound
Sulfur ¼ pound

Slake the lime slowly with water and add the salt and sulfur while it is boiling. Add enough more water to make a good wash. This is good for whitewashing the bodies of trees in the fall.

This whitewash should also have considerable fungicidal value and help in preventing certain serious winter infections. It may be applied with a brush or strained and applied with a sprayer. We have no intimation that whitewashing can ever injure a tree in any way or in the least measure.

Do Hay Prices Force Dairymen to Quit?

(Written for the Pacific Rural Press by Prof. F. W. Woll.)

The question has been raised how much a dairyman can afford to pay for alfalfa hay and continue in the dairy business. There are many factors that have a bearing on this question, and a full discussion of them would take up considerable space; in fact, it involves the entire subject of dairy economics. A brief mention of the main factors may, however, suffice and will be of interest to many subscribers.

The returns that a dairyman secures from his herd depends more on the kind of cows he has than on any other single factor. He may have cows that will average less than half a pound of butterfat a day, or such as produce one or one and one-half pounds or more per day for the entire lactation period. Cows do not begin to differ as much in the amount of feed they eat as in their production, since the latter is determined by the feed eaten over and above maintenance requirements for repair of body tissues and the continued exercise of vital functions. About one-half of the feed eaten by dairy cows goes to provide energy for body maintenance; the other half is used for the elaboration of milk, and

stands in direct proportion to the amount of the milk secretion. An average dairy cow will eat about 25 to 30 lbs. of alfalfa hay per day, depending on the quality of the hay and its water content; 25 lbs. is a good average figure, and she will produce on this feed about three-fourths of a pound of butterfat. In other words, it takes approximately 33 lbs. of alfalfa hay of average quality to make a pound of butterfat in the case of such cows, and a ton of alfalfa will therefore produce somewhere around 60 lbs. of butterfat. Hence, if this is worth 75c a pound, a ton of hay will bring an income of \$45 as marketed through the cow. Under ordinary California conditions the feed is the largest item in the cost of milk production, amounting to at least 50 per cent on the average. Other items, in the order of their importance, are labor, depreciation of cows, bulls and equipment, taxes, insurance and interest on investment; veterinary services and medicines, etc. Fifty per cent of \$45 is \$22.50, so that the contention of some dairymen that they cannot make money on their cows by feeding alfalfa hay worth \$20 a ton is not correct, even if they keep only

cows of a medium production, which no man has any business to do if he can help it, least of all when he has to buy his hay. If he raises his own alfalfa, he receives the difference between the cost of production and the market price on the hay by feeding it on the ranch, so that even if he is not making much money on his cows, he is ahead the profit made on growing the hay.

But an average production of three-fourths of a pound of butterfat per day per cow, or say 200 pounds for the year, is unsatisfactory under modern conditions of dairying; it can be raised by gradually eliminating the low producing cows in the herd that do not yield any net profit for the feed and care bestowed on them, and by feeding the good cows according to their production, giving each about a pound of grain feed for every five pounds of milk produced, in addition to the hay. Additional grain feeding will cause a direct increase in production of from 12 to 20 per cent in case of good dairy cows fed alfalfa only. It will also cause an increased milk flow during the balance of the lactation period after grain is no longer fed, and will put the cows in a

good body condition, which is of advantage both as regards the milk production during the following lactation period and the size and thriftiness of the calves dropped.

By eliminating unprofitable cows, by feeding those retained in the herd some grain, and by grading up the herd through the use of a pure-bred bull of a family of good producers, the dairy farmer will be able to gradually increase the returns from his herd. If this has been improved so that the cows average a pound of butterfat for each day in the year, they will bring in 75c for the amount of hay eaten daily, which will not be far from 30 lbs. With such cows a ton of hay will produce about 67 lbs. of butterfat, worth at present prices \$50.25; one-half of this, or \$25.13 is to be charged to the feed, thus yielding a profit of \$5.13 per ton of hay eaten, if this is worth \$20 a ton. A dairyman keeping good cows will therefore have no occasion to worry about high feed prices. The latter are accompanied by high prices for milk and butterfat, and if he fails to make any money on his cows, it is because he has not done what he can do to improve the herd.

MOTORIZE THE FARM



AFTER doing much of the market hauling of thirty-two farmers around Eden Prairie, Minnesota, with a motor truck on Goodyear Cord Pneumatic Truck Tires, Mr. C. P. Page states: "I would not use solid tires again under any consideration. Hills, mud and storms don't stop the big, tractive Goodyear Cords. Their cushioning is saving truck repairs and depreciation. They also are saving gasoline and oil. I now haul more milk and other loads in less time, find the work far easier, and note that the pneumatics save our roads. Several people have adopted them as a result of my experience with Goodyear Cords."

THE experience described above affords an excellent example of what pneumatic truck tires are accomplishing for farmers. Every limitation hitherto placed on the farm use of motor trucks by solid tires has been removed with the perfected pneumatic tire. For this reason, Goodyear's pioneer work in developing cord pneumatic truck tires has been extremely opportune; it has led to the more extensive use of

farm trucks during a serious scarcity of farm labor. Now, farmers are finding it extremely advantageous to employ Goodyear-Cord-equipped trucks with other time-saving motor units and, thus, to motorize their work quite completely. Special information concerning the use of pneumatic-tired trucks on farms may be obtained from the Goodyear Tire & Rubber Company at Akron, Ohio.



GOODYEAR

MADE IN U.S.A.

Irrigation Prevented Orange Freezing

(Written for Pacific Rural Press by D. J. Whitney.)

This is a tale with a moral that ran off at a very surprising angle. Cold weather is approaching. Frosts threaten fruits, so I decided to investigate a little and find just how much an orange grower might save by having orchard heaters and a good supply of crude oil ready for any winter freezes.

John Doe and Richard Roe are the names of two friends, each of whom own Valencia groves. Doe did not smudge during some very cold nights and I understood that his fruit had been very badly hit. Roe did smudge and his fruit was saved. That contrast seemed an excellent one. So I went to Doe. "Jack," says I, "gimme the details upon how much money you lost by not smudging last winter."

"Didn't lose a cent," he said. "Dick Roe spent \$4,000 in fuel and labor on his Valencias, to say nothing about expense of equipment, and I got a dollar more a box for my fruit than he did."

Ouch! That was all wrong, so an explanation was demanded. Doe simply took advantage of his irrigating plant and the cold-combatting influence of well water to overcome the frost. (The extra dollar a box was a streak of luck depending upon a break of the market and had no reference to the merits of the fruits.) This is the way he did it.

He had all his orchard furrowed out and ran his pump long enough to get the water all set so that a very small stream would trickle down each furrow without flooding things too much in about 15 hours' run. Then he shut it off and all he had to do was to start the pump in order to get action. Then he watched the weather and the forecast very carefully and whenever a freeze seemed probable he went out about four in the afternoon, started the pump, attended to anything that needed attention, and at bed-time crawled under the blankets and let it freeze if it could. Meanwhile Roe waited for his alarm, and when it rang crawled out from his warm blankets, went out into the chilly night, directed a gang of men, breathed a lot of oil soot, footed a big bill and—saved his crop. Practically everybody who relied on neither water nor oil, but stayed under their blankets and

let it freeze, lost their Valencias, unless they were in a very favorable location, so Roe actually saved a lot of money by his smudging. Also he was on the safe side. His oranges came through untouched. Doe's oranges were on the ragged edge of disaster, for the large majority were hit some, but they were saved just enough by the water to make a recovery into marketable fruit. For a while in spring he was doubtful if he would get anything from them. He just barely got by, but persons in like locations who gave their fruit no protection were absolutely knocked out by it, and the crops on many Valencia orchards went for nothing but low grade fertilizer.

The theory is this in irrigation against frost. Well water in the vicinity is naturally at a temperature of about 72 degrees, winter or summer. It will give off a mist when coming in contact with the cold air. 1. It takes lots of cold to make that mist come from the water. 2. It takes lots of cold to lower the temperature of both mist and other water down to freezing temperature. 3. An immense amount of cold is used up to make that water turn to ice (or frost), and it is difficult for the air above that water to get much colder than the water. Since it takes several degrees below freezing to affect an orange, small trickles of water all through an orchard provide a great protection. It would not, it must be understood, protect against a very serious freeze, particularly when the air is moving. However, smudging also is difficult then.

Doubtless, having the ground well supplied with moisture enabled the tree to build up touched fruits quicker than they would recover where the ground was dry. The system unfortunately cannot be operated successfully in connection with smudging, as wet ground would prevent the travel necessary in filling and lighting the pots.

For those who intend to try this plan of frost protection, Roe particularly emphasizes the necessity of starting the water before dark when frost threatens. If a person waits till the frost comes, he will wait too long.

Prune Tree Fifty Years Old

(Written for Pacific Rural Press by Leon Thomas, Gilroy.)

The question has been asked very often by those who are about to purchase a prune orchard and who are not familiar with prune growing, how long will a prune tree bear or how long will a prune orchard live? The writer has always answered these questions by saying: A prune tree will live indefinitely with good care. I contend that the life of a fruit tree is longer than the life of man. I am basing my judgment on a prune tree on my father's ranch which is 50 years old.

A hard-shelled almond was planted fifty years ago by my uncle, C. R. Thomas, now a fruit grower of this section. When the tree was several years old it was grafted about 5 feet from the ground. At that time they did not know what a French prune

was, but called it a poor man's plum. The reason for this was on account of the fruit being so sweet.

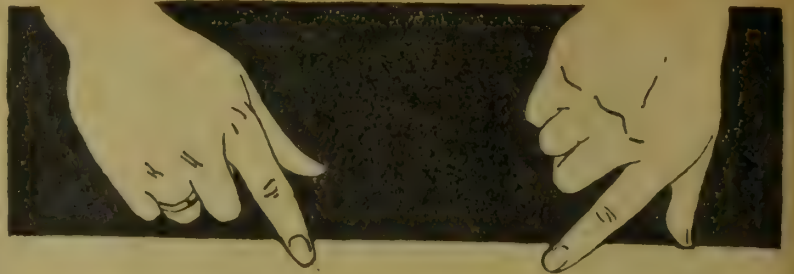
This old (poor man's plum) tree today is 5 feet in circumference one foot from the ground. It is very close to 30 feet high—bears regularly and never has been bothered with borers. Last year it produced 400 pounds of green prunes, which were picked by myself and family. The tree is in perfect health and was so heavily loaded that two limbs broke from it.

This story is not intended to boost our ranch as it is not for sale, nor is it a bragging contest, but merely to enlighten those who are anxious to know that their orchard will not die shortly after they purchase it, provided they give the trees the chance they are entitled to.

Gophers Killing Plum Trees

According to W. C. Jacobsen, Superintendent of Rodent Control of the State Department of Agriculture, a large acreage of alfalfa and a great many fruit trees in some of the Reclamation districts in northern Yolo county have suffered seriously from the depredations of pocket gophers. Grain lands have been literally honeycombed by the surface burrows of this pest, and since the grain has been removed and the stubble burned the gophers are making severe inroads into alfalfa fields and young orchards. On 300 acres of plum trees over 200 young trees could be readily lifted out of the ground, the tap roots having been cut off within a few inches of the

surface. An alfalfa field which has had a good stand for the past two years has been so invaded as to have only one-third of the crop as was the case before the invasion of this rodent pest. Methods and means of control are quite difficult because of the nature of the soil. However, arrangements have been made to flood a large area and drown as many as possible before proceeding with poisoning and trapping. County Horticultural Commissioner Gould, of Yolo County, in company with Mr. Jacobsen, made the tour of inspection and reports that his commission will lend every effort and assistance to the land owners in the vicinity of this gopher outbreak.

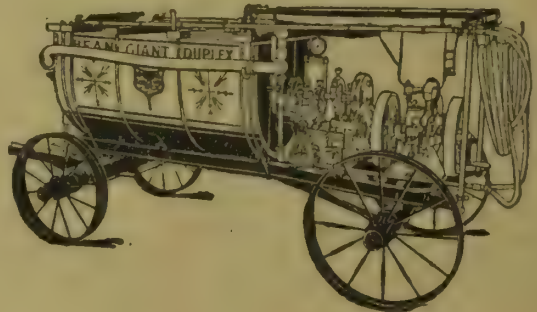


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Sprays for Prunes and Peaches

To the Editor: Is it necessary to spray French prune trees; and if so, when and with what? My prune trees dropped their leaves early in the fall and later in the fall sprouted again and some of them blossomed. Some of the trees in spring get leaves but make no great growth. They stay small all summer and their edges become brown. Which spray is best on a peach tree in fall and spring? Is bluestone and lime all right, and if so, which is the best mixture?—P. K. G., Dinuba.

It is our opinion that no spray will help the trouble which you mention. The chances are that the trees do not have enough water through the summer. People frequently think they are irrigating heavily, but when they dig down after an irrigation they find that the water has not penetrated very deep. The reason your trees sprouted this fall was the rain we had, as near as we can guess.

Occasionally the shot-hole fungus works on prune trees, deadening the buds so that they either do not come out in the spring at all, or make very

narrow, sickly leaves. Generally such buds can be easily pulled off, and you can see a stringy, syrupy substance as you pull them off. The spray for this disease is Bordeaux Mixture (bluestone 5 lbs., lime 5 lbs., and water 50 gallons). Dissolve the bluestone by putting it in a bag and hanging it just under the surface of a barrel of water containing 25 gallons. Slake quicklime separately, and mix these solutions in equal quantities whenever you are ready to spray. For the shot-hole fungus your first spray should have been applied not later than November, but since we have had no rains, the chances are that you will still be in time.

If the fruit trees have scales or moss, the best spray will be commercial crude oil emulsion, applied as soon as you get the trees pruned, the sooner the better. On peach trees shot-hole fungus is called peach blight, and it requires the same treatment mentioned for prunes. In both cases a spray of commercial lime sulphur should be applied in the spring just as the buds are breaking.

Do Not Pick Green-Colored Oranges

To the Editor: I am very much interested in the excellent article in Pacific Rural Press, November 8, on orange maturity test; but am sorry for one statement you have made there, as it is liable to lead some growers astray. There is a great deal of valuable information in this article, but the statement under the heading, "Mature Poorly After Picking," near the bottom of the second column is a mistake, and any grower who follows the procedure outlined there will surely come to grief. You state "the orange-grower who picks too green merely has his fruit shoved to one side until it gets ripe enough to qualify for packing. This it will do with some delay. Both color and sugar will develop when the fruit is off the trees and it will become a valuable product." This is positively contrary

to the law. You will note by referring to Section 9 of the amended orange law, that the oranges must have attained at least 25 per cent yellow, or orange color, before picking. It is not necessary that they test 8 to 1 at the time of picking, but must reach this test before packing, but if picked before the 25 per cent color is attained, they are a dead loss and must be destroyed.

They may be picked and shipped upon attaining a 70 per cent color, regardless of the test so far as the fresh fruit law is concerned, but the exchange will not allow fruit which does not show an 8 to 1 test, regardless of color, to be shipped as Sunkist.—Chas. F. Collins, Tulare County Horticultural Commissioner.

The statement referred to was meant to apply strictly to the sugar

test, though it does not seem to. Under the heading, "When to Pick," it will be seen that picking, even for a test, was to be delayed until sufficient color had developed, then if a person was fooled about ripeness in relation to the sugar test he would still have valuable fruit. Color is a thing that can be known while the fruit is on

the tree. The sugar test is determined after the fruit is off. Mr. Collins' statement makes very plain the important fact that picking of fruit too green in color will not be permitted, but that picking fruit too "green" in interior development can be permitted, if shipment is delayed until ripeness develops.—D. J. W.

Grading Walnuts

To the Editor: How are walnuts graded? What is meant in the quoted prices by the term "budded"? Why do not the Franquettes appear in the quoted prices?—J. H. Y., Meridian.

Walnuts, as commercially shipped, are graded through a screen with square holes, measuring one and one-thirty-second inches square. The so-called No. 1, sold by the California Walnut Growers' Association, are the nuts which do not pass through this screen, and the No. 2's are those which pass through. Budded varieties are graded through a similar screen with holes measuring one and three-sixteenth inches square. The Diamond Brand Buds do not pass through, and the Golden State Buds are those which fall through.

Practically the entire planting of walnuts in California in recent years has been one of several budded varieties. These varieties are the Pla-

centia Perfection, the Eureka, Franquettes, Earhardt, Mayettes, and several others, which are grafted or budded onto black walnut roots in order to secure a more uniform production than is possible on planting seedlings. Practically all of the Franquettes producing nuts of commercial value are grafted upon black walnut roots.

This variety is in many cases sold on sample because the quality varies so widely when produced in different sections of the State, under varying climatic and soil conditions. There is not a heavy enough production of this variety as yet to warrant handling on a regular commercial basis, as the trade in many parts of the country is not familiar with it. However, the price on Franquettes, if of good size and containing light-colored, plump meats, is as high as any of the other varieties produced today.



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"Bill sold me this place cheap—he couldn't make it pay. Labor was scarce, and the job of clearing out this old orchard without five men to help looked too big for him.

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Agricultural Department

510 First National Bank Building, Berkeley, Cal.

California Bee Buzzings

UTAH BEES ENDANGER CALIFORNIA.

The shipments of bees has commenced to arrive from other states, a carload of 600 having recently arrived from Utah, in the Corona district. It takes a great deal of effort for the beekeepers of the State to extend a glad hand to these shippers at a time like this when there has been practically no honey flow since June, the bees having become weak and so badly in need of feed that disease spreads through them like wildfire. It is almost impossible to say that anyone in the State has an apiary of bees entirely free from disease, and the time has come when it is absolutely impossible to clean up all disease in an apiary and keep it clean when there are apiaries with more or less disease all around you.

It is possible for any man to clean up his apiary so that the best bee-inspector in the State could not find a trace of foul brood, but this does not mean that there is no source of further contagion nearby.

There are hundreds of apiaries in this State that are reported free of disease by inspectors, that if left alone and without any other source of contagion for a year would show signs of disease in 50 per cent of the colonies. What protection has a beekeeper who is trying to keep his apiary free of disease when the law allows an outside bee keeper from another State to bring in his bees and place them right down beside him. Apparently the newcomer's bees may be clean but all practical beekeepers know that an apiary can be cleaned up for inspection.

Beekeepers owe a great deal to the efforts of our county bee-inspectors, but none knows better than they how futile his efforts are when apiaries are a half and a quarter mile apart.

The California beekeepers realize this and do not attempt to overstock a range, but keep their apiaries at least a couple of miles apart and further, according to the range. They know they cannot exist in the State without this protection. The wandering beekeepers do not intend to remain. They merely wish the cream of the early honey flow to build up their bees and they are then off to another State to obtain the honey flow there which they can gather because they were able to strengthen and increase their bees from the orange blossom honey flow in California. They do not care how crowded the range is in California, for it is not important for them to make a large surplus of honey here for that can be gathered in another State. It is absolutely essential, however, for the local beekeeper, as his very livelihood depends upon it. The honey industry in California means over a million dollars a year to the State, so it is time now for the State to take up this problem while the bee industry is still struggling for existence. — C. G. Standeford, Los Angeles.

PREPARING BEES FOR WINTER.

"Anything worth doing at all is worth doing well" may be particularly applied to the bee industry. The perfect colony goes into winter free from disease, with a strong, vigorous queen, ample stores, strong in young bees, a contracted entrance, and no super room, if possible. This will assure you a minimum of winter loss and a colony that will attain results.

A weak, starving colony, to the commercial apiarist, does not justify feeding. Two or three such colonies, however, may be united upon a well-fed colony of 25 to 60 lbs. of winter stores, depending upon the locality. One good, vigorous colony is worth three mediocre ones during a honey flow, and that is more than you may expect if you carry three weak colonies through winter on what you should have given one. So select your best queens, feed them well, kill the

queens in the others, transfer them to supers and set them over your selected ones with one thickness of newspaper between. Three days later you may shake the bees out of the super combs and remove them. All brood should have been removed from the upper colonies and inserted in the brood nest before uniting.

All feed that has been scorched will kill any colony to which it is fed through dysentery. Thin syrup and out-door feeding both excite brood rearing, which is too expensive to even consider at this time, but especially desirable for spring manipulation.

From each colony remove the combs you expect to fill with syrup and stack them tightly in the house away from robbers. Using a can with a row of fine holes punched from the inside out, fill your combs on both sides over a tub of thick syrup, hang in supers, and feed in the evening to prevent wholesale robbing. Feed what you will at one feeding and you will attain better results with considerable less consumption. Sulphur all dry combs and stack them away from mice, watching them once a month for moth. — G. C. Carpenter.

IMPERIAL VALLEY BEEKEEPERS MEET.

The Annual Meeting of the Imperial Valley Honey Producers' Co-operative Exchange was held in El Centro, on Monday, November 5. Charles B. Justice, General Manager of the California Honey Producers' Co-operative Exchange, gave an address which covered all angles of the business for the past year. He freely stated where mistakes had been made as well as successes. His talk was straight from the shoulder and made so much clear that the workings of the Exchange received many words of praise. Every member present expressed himself as being perfectly satisfied with the first year's work. All agreed to stand up and be stronger for the Exchange the coming year.

The members brought their wives and families with them, so that a delightful picnic luncheon was had in the Park. Each family had provided a big basket of good things to eat. Surely this meeting will lead to many gatherings of the members and their families as well as to a closer friendship and mutual good will.

The following directors and officers were elected: Wm. Gunterman, President; Wm. Moores, Vice-President; C. P. Dandy, Secretary-Manager; W. J. Hill and Wm. Hilderbrandt, Directors. Our members are a strong lot for co-operation and this Local Exchange will be one of the strong links in the California Honey Producers' Co-operative Exchange in the future. — C. P. Dandy, El Centro.

HORTICULTURAL JOTTINGS.

Watsonville district ships 1955 cars of apples to date, with prospect of 1000 more.

On September 26, 8,771 boxes of apples were exported from New York to South America.

Emperor grape shipping will be finished by the time this note appears. An early frost hit the grapes.

A Watsonville apple packer is in trouble for packing inferior apples under the "California Fancy" label.

Sacramento and Butte counties are both reported to have shipped the first carload of oranges east this year—November 7.

Production of Spanish Almeria grapes, which compete with our Emperors, is estimated not to exceed 44,000,000 pounds as against a normal crop over 52,000,000 pounds.

The charge of injurious price setting preferred against the California Associated Raisin Co. is to be argued in Washington November 20. President Wylie M. Giffen, A. E. Sunderland, and F. H. Wilson have gone to testify.



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Our Catalogue lists and describes everything we grow—hundreds of tried varieties. Gives many useful hints on planting, pruning, irrigation and other important details connected with successful fruit growing. This Catalogue will be found interesting to both the beginner and the professional horticulturist. It is sent free on request.

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PLANT NOW Growers making \$1000
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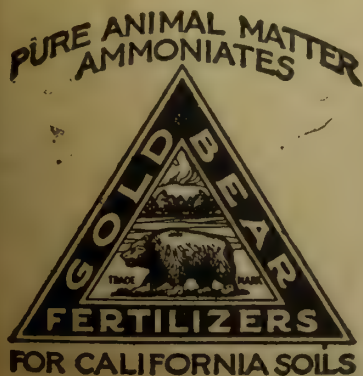
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AVOCADOS IN THE SAN JOAQUIN.

(Written for Pacific Rural Press.)

As a tropical fruit, originating in a moist, warm climate, it seems questionable how profitable, horticulturally and commercially, avocados will be in the hot, dry climate of interior California. Their popularity in Southern California is rivaled north of the Tehachapi by only an occasional garden tree and a very few small commercial plantings. One of the best of these is on the ranch of C. Ed. Meyers, several miles above Lemon Cove, in the foothills of Tulare county, in a section admirable for citrus and other tender fruits wherever the ground is level enough for orchards.

His trees are all Harmons, with the exception of one Ganter and four or five other varieties, which are of too recent planting to prove their merits. The older trees were set out five years ago last April and have flourished exceedingly, averaging approximately 25 feet from the ground and having a very large spread. The Ganter has had more water than the others and it is thought for that cause has set more fruit. It had more than 150 fruits in 1918 and something over 200 this year, though this season no accurate count was kept. Consequently the combination of fine growth and early bearing, since a good crop the fourth year is surprising, makes Mr. Meyers feel very optimistic. All of the crop is arranged for by a San Francisco physician for diabetes patients.

Avocados for Diabetes.

It is claimed that this fruit is excellent for that disease. A visitor once wanted to purchase some fruit, but none was ripe, so he secured a lot of leaves, explaining that tea made from them was prescribed when fruit was unavailable.

In this section these two varieties are safe from frost injury to the fruit, the bloom coming when spring frosts are about over, and the Harmons being harvested in September and the Ganters in October. Mr. Meyers states that the bloom is exceedingly heavy and apparently abundant irrigation is needed to make them stick. On the other hand, some dooryard trees on a Lemon Cove ranch, several years older and a third of the size of the Meyer trees, apparently from scanty irrigation, seem to set fruit quite well. Frequent irrigation seems to be needed to make growth, as is indicated by a number of dooryard trees in the valley.

Highly Ornamental.

Avocados can be highly commended for a garden at least. Their beautiful appearance and large growth commends them for shade trees by one's house.

The success of the seedling tree at Visalia, referred to in the Rural Press recently, and the serious injury of other trees in a supposedly frostless location in Fresno county, indicates that frost resistance is largely a matter of variety.

POLLENIZER FOR IXL ALMONDS.

To the Editor: Kindly advise me as to what is the best pollenizer for the IXL almond. My orchard is planted to Texas, IXL, Drake, and Nonpareil in rotation. The IXL is a shy bearer and I am told that I should graft in with either the Ne Plus Ultra or the Peerless. Which one would you prefer and would every fifth tree in a row be sufficient?—C. J., Arbuckle.

Ne Plus Ultra should furnish proper pollen for IXL; and it is next highest in market value. If you graft into the tops of your IXL's you will have some difficulty separating varieties. That might serve as an emergency measure to get pollenizing blossoms quickly; but you will probably find more permanent satisfaction in filling empty spaces with Ne Plus or working over an occasional entire tree. A good sized branch in every fifth tree should do the work, but it will be done better if you can have a few stands of bees among the trees. Don't depend on neighbor's bees unless they are close and plentiful.

[This is one of a series]

The Longer You Wait The Tougher They Get -

This applies to scale and mealy bug,
The eggs of aphids and red spider.

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Give them a rest,
Free from pests and production;
Watch them respond in the Spring,
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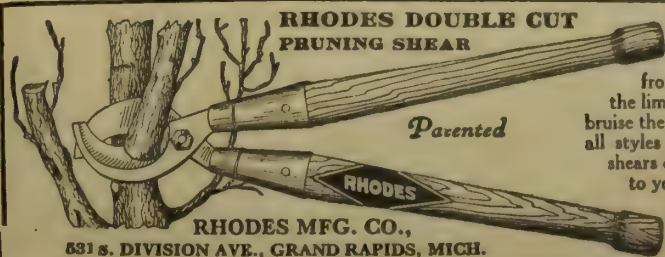
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Our Corn Better than Eastern

(Written for Pacific Rural Press by G. R. McLeod of the Sperry Flour Co.)

Field corn raised in California this year will probably total in the neighborhood of 50,000 tons.

We figure that there is approximately 35,000 acres planted in different parts of the State and that the yield will be considerably over a ton to the acre.

Consumption of corn in California is based largely on the price in comparison with other feeds.

The 1918 crop is estimated at about 35,000 tons and the largest part of

how much, as most of the Eastern corn went into the Los Angeles markets. Most of the corn brought in originated in Kansas, Nebraska and the eastern portion of Colorado.

From a milling point of view California corn is better than Eastern corn. The variety of corn that has produced the best crops here is a cross between a Flint and a Dent. The milling yield on this variety is excellent, the color is good and the flavor equal to any Eastern-corn ob-



California Indian corn has increased rapidly in popularity as a money crop. When properly cured it is preferred by the millers. It cures better when bound and shocked as is shown in the upper picture than when it is left standing as it grew. The lower picture is a characteristic scene on the levee in San Joaquin county. The cribs have just been emptied through a tractor-operated corn sheller, leaving great piles of cobs.

this was consumed at home. In addition to this there was considerable corn shipped in from the Eastern States. It is hard to estimate just

tainable. We believe it is a matter of variety rather than climate.

Most of the corn arriving from the East is of the Dent variety and carries a heavier percentage of germ and bran than the local corn. The only difference between the California and Eastern corn, in a laboratory test, is the higher percentage of fat in the Eastern corn. This would probably be desirable if the corn was handled by people who manufacture corn oil, corn sugar, etc., but it would not be desirable from a milling standpoint either for corn meal or hominy.

Moisture Content Important.

Laboratory examination of corn consists principally in determination of its moisture content. However, other factors enter into the valuation of corn which may be considered in this writing.

California corn contains all the way from 10 to 30 per cent moisture, depending upon seasonal conditions and time of harvesting, condition of storage and time of storage.

We recently tested some corn purchased at Stockton which had 10 per cent moisture. It is doubtful whether any Eastern corn ever gets as low as 10 per cent. As a matter of fact, a majority of the Eastern corn has about 16 per cent moisture. At the present time we are able to purchase considerable corn with less than 15 per cent moisture raised around Stockton.

This moisture content is quite an important factor, as upon it depends the keeping quality of the corn. If the moisture is too high, it will heat and spoil in storage. However, we have by use of the corn driers been able to reduce the moisture content to 13 or 14 per cent, at which figure corn will keep indefinitely.

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Perhaps the most valuable characteristic of California corn is its phys-

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Any height you desire

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NITRATE OF SODA
and acid phosphate at 320 lbs.
of each per acre, yielded at the
rate of 411 boxes of high quality
fruit. A plot alongside, fertilized
without Nitrate, gave a rate of
yield of only 322 boxes per
acre of inferior fruit. This difference
of rate of yield of 89
boxes per acre shows an increase
in value of produce
equivalent to \$324.85.

100 lbs. of Nitrate of Soda in this
case added a rate of profit to the
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HORTICULTURAL JOTTINGS.

The Nova Scotia apple crop is about 2,000,000 bushels this year.

Tulare orange shipments began about the middle of November.

A leave of absence has been granted F. T. Bioletti, Professor of Viticulture at the State University, to take effect June 30, 1919.

Gilroy has again lived up to her reputation for producing big prunes by grading out nearly half of her crop of 60's or larger.

The Sylmar olive orchard of the San Fernando Valley is the largest in the world, and this year has the largest crop in its history.

Orange picking is progressing rapidly in the Tulare district. The crop of Washington navels is turning out better than anticipated early in the season.

The Fresno Chamber of Commerce, besides maintaining exhibits in San Francisco, and Los Angeles, plans for the installation of a dried fruit exhibit in New York City.

Southern California's walnut crop this season will total 50,000,000 pounds, and is valued at more than \$15,000,000, according to the estimate of the secretary of the California Walnut Growers' Association.

Frank Gehring, secretary of the Tulare Board of Trade, has been notified by the National Orange Show of San Bernardino, that he has been appointed one of the judges in the show to be staged there next February.

The United States Government, through the U. S. reclamation service, will sell 6,000 acres of what is claimed to be frostless citrus fruit lands at Yuma, Arizona, on December 10.

More new members had joined the California Prune and Apricot Growers, Inc., in the three months preceding their present drive than in any other three months since the Association was organized, according to Dr. F. M. Coleman.

Horticultural Commissioner Alley reports the squirrel extermination campaign now on in San Luis Obispo County as very successful. Many ranges will support double the number of stock when the rodents are killed.

The Standard Chemical Co. of Emeryville Station, Oakland, has changed its name to the "East Bay Chemical Co.," with headquarters and factory at the same location. They manufacture the same assortment of spray materials as heretofore.

Lodi growers received more than \$9,000,000 for the grape crop of 1919. This includes Tokays and all other varieties of table grapes, wine grapes and strippings shipped East up to and including November 8, and the wine grapes and strippings crushed by local wineries.

The question of lifting the embargo on the importation of apples into Australia has been carefully considered by that Government, but in view of the large stocks held at present in Aus-

tralia, it has been decided not to permit importations of apples this year.

The California Prune and Apricot Growers' Association, through its secretary, have purchased a site at Visalia for the erection of a prune packing plant at an initial cost of \$75,000.

Tulare County has added in the past year 1800 acres to her prune area.

Reports from Butte County state that the orange crop this season will exceed that of last year by a considerable margin. The crop appears materially heavier where a cover crop was grown, or where weeds and grass were allowed to remain unmolested after the spring plowing.

More than 2,000 orange trees on the Drescher ranch near Oroville have been girdled by field mice and will die, County Horticultural Commissioner Earl Mills said recently. This establishes a record in northern California for the ravages of these rodents.

A "baby lemon," cross between a lemon and a grapefruit and twenty-two inches in circumference, is now on display at the Fresno County Chamber of Commerce. The fruit weighs between three and four pounds, and is said to combine the best qualities of both fruits and to have a distinctive flavor.

Monterey County is to be the location of a new 1500-acre fruit orchard. Near Kings City the land acquired by Ventura capitalists has been placed under irrigation and beans produced, preparatory to getting the ground in shape for a great orchard enterprise. We learn that a stock company has raised money largely in the east to finance the proposition.

M. A. Rex of the Bureau of Chemistry, United States Department of Agriculture, is now stationed in Lindsay for the continuation of experiments which the government is conducting in connection with orange maturity standards. These experiments, which have been in progress for a number of years, have produced much valuable information for the growers. One result of these experiments is the 8-to-1 standard of maturity.

A phenomenal yield of pears from his six-year-old trees was obtained again this year by W. A. Caldwell of Camino, El Dorado County. The yield is attributed by Caldwell to the pruning system used. From 710 Bartlett pear trees a yield of 2,100 boxes is reported, while 364 boxes of Winter Nelis pears were secured from 95 trees. One tree produced nine boxes of Winter Nelis pears, while the prize Bartlett yield from one tree was a little over eight boxes.

In fining a Japanese, F. Fukui, \$25.00 for selling apples that did not conform to the State Standardization Law, Judge Thos. R. Dougherty delivered the following timely advice to the culprit: "A second offense will mean heavy punishment!" The honorable courts of Alameda and San Diego already have adopted what promises to be a potent weapon in cases of flagrant violation of the standardization law, and when "repeaters" are haled to the bar of justice, the fines imposed in preceding cases are "doubled."

Apple production in eastern superior California has reached the greatest degree of efficiency in history this season, particularly in the mountain sections. Men who are representing the producers in the shipment of the fruit report that the increase in apple prices in 1918, coupled with the strong demand for the product, led the growers in mountain sections to cultivate apple orchards, and to prune and spray them thoroughly for the first time in many years, which has resulted in very heavy shipments this year, and the growers are so well satisfied with the increased production brought about by the care of last year, that cultivation, pruning and spraying are to be done even more thoroughly in preparation for next season. Orchards which were practically abandoned are netting good profits as a result of care.

CALIFORNIA

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32x3 1/2	...	7.00	36x4 1/2	...	11.50
31x4	...	8.00	36x5	...	12.50
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California Bean Growers' Association

The California Bean Growers' Association was organized in February, 1918, under the laws of the State of California:

"To promote, foster and encourage the business of raising any and all varieties of beans; to aid in the marketing and distribution of beans, grown by its members."

It is a non-stock, non-profit organization, its expenses being met by a small charge per ton on each year's crop as grown by the members, who, under their crop agreement, which constitutes a membership, are required to turn over to be handled by the Association through its selling departments.

Its Directors are:

Northern Division.

J. V. Mendenhall, San Francisco; S. E. Meister, Sacramento; Fred W. Kiessel, Sacramento; Peter Cook, Rio Vista; Cline Bull, Marysville; J. W. Halpin, Atwater; Dal Smith, Meridian; Lincoln White, Sacramento; Emery Oliver, Sacramento; J. H. Glide, Sacramento; R. L. Morehead, Sutter City; R. H. Fraser, Modesto; W. K. Brown, Colusa; I. L. Borden, San Francisco; J. M. Bigger, Stockton.

Southern Division.

C. K. Hardenbrook, Salinas; N. D. Hall, Lompoc; H. R. Nicholson, Santa Maria; W. H. Cooper, Lompoc; C. L. Presker, Santa Maria, Antone Souza, Guadalupe.

The Association, which is now nearly two years old, is steadily increasing in membership and at the present time has nearly 1700 members. Since its organization it has handled approximately 1,500,000 bags of beans of every variety, except Limas, grown in California, and is now marketing one-half of the bean crop of the State.

During 1918, at the request of the government, the bean growers of California planted a much larger acreage than usual. This resulted in an abnormal crop, and with the sudden termination of the war, and the early rains, caused considerable damage, leaving the bean market in a very unsettled condition. This resulted in an unusual "carry-over" from the 1918 crop of choice beans of all varieties. These, however, are now being marketed at satisfactory prices. Figures thus far obtained would indicate that the production of beans by members of the Association, and which will be handled by it, will amount to between 700,000 and 800,000 bags, while the entire yield of all growers in the State shows that the 1919 crop will run about 60 per cent of the normal yield.

The Association has accomplished much in the economical and profitable

handling of the bean crop of the State and toward reducing the ultimate cost to the consumer, through the elimination of the speculator and unnecessary selling and marketing agencies. This has been brought about by excellent connections in the large eastern centers of distribution, and the legitimate buyers are beginning to look to the Association for its stocks.

Working for a Protective Tariff.

Through the efforts of the California Bean Growers' Association the question of a protective tariff on Asiatic beans has been brought before the Ways and Means Committee of Congress, at Washington, D. C., and the indications are that it will be reported out with favorable recommendations. The Association has been given the support of the various bean-growing interests of other States and the committee is now in Washington watching the outcome of its efforts.

That the association method of handling crops is the only satisfactory, economical and profitable one for the grower has been proved beyond question. Today the majority of the citrus, walnut, almond, vegetable and other farm and orchard products are marketed by associations whose growth, through right methods, has been remarkable, as well as profitable to their members. While the California Bean Growers' Association is one of the youngest of the associations it is already showing a vigorous growth and will soon take its rightful place, representing the second largest crop produced in the State of California and approximately 50 per cent of the beans grown in the United States.

One of the outstanding benefits to the members is the fact that through financial arrangements, he does not have to wait until his crop is sold at any price that may be offered by the speculator, but immediately upon threshing and placing in the warehouse an advance of 50 per cent at not to exceed 6 per cent interest charges is made by the Association at the average market price. According to statement of the Federal Reserve Banks the average agricultural loan interest is 8 per cent. With the association method "red tape" is eliminated which is not true of the usual loan on crops and the grower gets prompt action and financial assistance when he most needs it.

Those bean growers who are not members of the Association will do well to look into the California Bean Growers' Association and participate in its benefits.—California Bean Growers' Journal.

Baart Not for Alfalfa Land

To the Editor: I have land that was in alfalfa for several years, but the last two years have grown barley and followed it with beans. Barley made 20 to 32 sacks per acre. Do you think I can make more out of wheat, and how much per acre should I drill on well prepared land. Does Baart wheat ripen as early as barley?—J. M. A., Marysville.

The only place we have found in this state where Baart wheat has been tried and found wanting was a community where the soil is rich and deep and well supplied with moisture. The criticism was that it went to straw and failed to make as much

grain as Little Club, presumably from an excess of nitrogen in the soil. For this reason we hesitate to recommend Baart for your location where the soil is well supplied with nitrogen from alfalfa and beans. It ripens practically as early as barley. Where wheat makes a fair crop we believe it will make more money than barley. Eighty pounds of Baart seed per acre, or 90 pounds for other varieties.

The exportable surpluses of Algerian wheat and barley are to be purchased for the French army at \$3.15 per bushel for wheat at the dock and \$1.77 for barley.

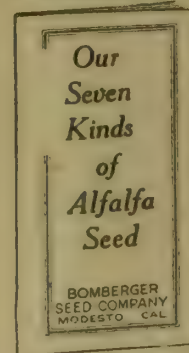
SPERRY WHEAT YIELDS TWICE AS MUCH AS CLUB.

When W. D. Cardwell put in his grain for the present year he procured a quantity of Sperry No. 1 (Bunyip) for a try-out. It was well recommended and he bought enough seed for fifty acres. He had that sowed in the center of 800 acres, the 750 acres remaining being seeded with what Mr. Cardwell designates as Club wheat. None of it is irrigated land, and all was prepared alike. As he had planted the Sperry No. 1 as an experiment and for comparison, he took great care to check up the results.

When the wheat was harvested Mr. Cardwell found that the fifty acres produced 459 sacks, average weight 143 lbs. per sack of wheat that weighed 61½ lbs. to the bushel.

The yield per acre was almost exactly double that harvested from the remainder of the 800 acres, and Mr. Cardwell was so well pleased that he intends to keep all of the Sperry wheat for seed.

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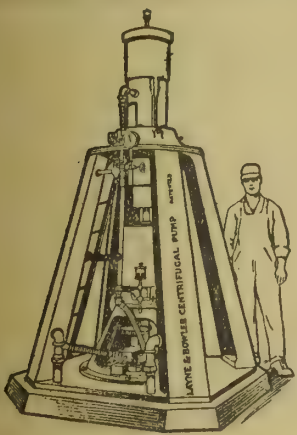
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AGRICULTURAL POINTERS.

Kern County for Cotton.

A plant of Egyptian cotton containing 100 mature balls grown in Kern County this season has been on exhibit in one of the San Francisco banks for some time. It came from a field of 22 acres planted by W. E. Vaughan on June 9 and following days. It has not yet been picked, but the yield is estimated over a bale per acre. Last year 5,100 pounds of seed cotton from three acres of Egyptian planted May 10 yielded 1,700 pounds of lint, a gratifying percentage. This was left on the stalks until February. Much of it opened in January when the reservoir froze over. Frost seems needed to make leaves drop and bolls open. This cotton was sold in March at 46 cents per pound.

The 1919 crop was grown on black land, flooded before planting and irrigated by flooding after it was up. The best plants were in two rows alongside a rice field. Seepage kept the soil muddy on these two rows through the cultivation period. Mr. Vaughan was told to thin the plants to 20 inches apart. This he did. When they were two feet tall he tried to thin some of them to 40 inches apart. That is where he got the most bolls per plant.

Egyptian bolls have proved too sharp for pickers fingers, consequently Durango cotton will be grown next year on 640 acres if that much can be prepared in time.

Potatoes for Tule Land.

To the Editor: I am working up some raw tule land this fall. The soil is a perfect mat of roots filled with a light adobe sediment that is very rich and easily subirrigated. I want to plant potatoes. What is your opinion as to whether early or late planting will be in most demand next year? What variety of early potatoes would you suggest for my conditions? How could I get in touch with someone who could sell me seed selected in the fall for production and quality?—C. T., Rio Vista.

You are to be congratulated in your resolve to use field selected seed. Communicate with W. V. Shear, State Department of Agriculture. His work is largely field inspection of potatoes grown for seed. British Queen and Early Rose are the commonest early varieties. Owing to the considerably short potato crop this year throughout the United States, we would expect early potatoes to be in greater demand than usual next season.

Peas and Lentils in Salinas Valley.

About 5,500 sacks of commercial peas, averaging 115 pounds per sack, were stored this season in the Mitchell-Silliman warehouse at Salinas; and about 3,000 sacks were stored at Castroville. About 1,400 sacks of seed peas, mostly grown for California seedsmen to ship East, were also grown in the valley and stored here. Most of the lentils used in the United States come from Chili, but the lower Salinas Valley this year produced and stored over 600 sacks. These are considered of better quality than imports from Chili.

Keep Seed Wheat Clean.

The milling quality of much wheat in the Middle West is seriously reduced by the presence of certain inseparable weed seeds, which injure the color, odor, and taste of flour made from it. Early Bart wheat, so widely introduced in California last year, was carefully re-cleaned at the mills. This year most farmers will plant their own seed or buy from neighbors. It is most important that this seed be thoroughly re-cleaned before planting each year. Otherwise it will "run out."

Let's Raise More Egyptian Cotton.

Egypt exported 537,507,615 pounds of cotton of the 1918-19 crop and on September 1 had 43,878,885 pounds on hand. England took more than half of the exports, but U. S. took 71,284,153 pounds. Looks like some room for increase of Egyptian cotton in California and Arizona.

Alfalfa Seed 600 Pounds per Acre.

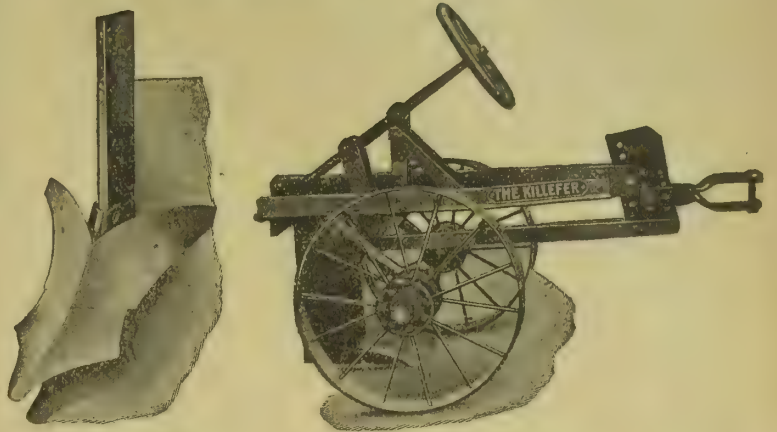
Alfalfa yielded about 600 pounds of seed per acre for L. V. Richardson of



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the Byron district in Contra Costa county, who produced about seven tons and sold for about 26 cents per pound. Since he sold, the price has advanced considerably.

Hay Storage \$1.50 per Ton.

That the rate of \$1.50 per ton now prevailing in the Sacramento Valley for hay storage is a fair charge is held by the State Railroad Commission in refusing a Woodland warehouseman permission to raise his rates to \$2.

Grape Growers have organized to find market for wine-grape raisins and products in the Far East and Europe.

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Farm Owners' and Operators' Association

From the report of J. J. McDonald, chairman of the Santa Clara Unit of the Farm Owners' and Operators' National Association, we take the following: "Every member of the organization should feel proud of the work accomplished wherever a unit has been organized, for reports from the various counties spell service to the best interests of the grower. Every member should consider himself a committee of one to advance the organization, both in efficiency and membership. The retiring trustees did good work this year, but they could not have accomplished the good they did without loyal support from individual members, and the newly elected trustees will need the loyal support and enthusiasm of every member.

"One of the means used by our unit to serve its members is the farm labor bureau, with headquarters in the Chamber of Commerce rooms. Since July 22 of this year this bureau has sent out 1046 workers in response to requests for help to harvest the crops. No record was kept of the number of workers sent out during the five weeks of the telephone strike. It is safe to estimate the number at not less than 500. The bureau has exercised its right as a private bureau to discriminate against disturbers and other undesirable applicants for work.

If at any time an unsatisfactory worker is supplied, the bureau would be glad to have such case reported, as it is not always possible to judge a worker until he is tried out. Many of the workers have expressed their appreciation of the bureau and they have good words for the orchardists.

Your chairman has talked with several of the cannery people, and also packers, having in view the matter of establishing conjointly with them a labor bureau for next year on a larger and better scale. We realize that it is just as important that the canneries be supplied with the very best held as it the rancher. This is a very important matter that will be awaiting the action of the new board of trustees and their chairman.

Housing for Harvest Workers.

Another means of assistance which our unit expects to put into operation next year is the establishment of properly supervised community accommodations for housing and feeding our young people who are eager to help harvest the crops. The plan was tried in some districts this season in a limited way and was found to be a feasible plan. It is cheaper and better in every way than the old practice where each grower provided accommodations, or, failing to provide suitable sleeping accommodations and board, had his help fail to appear for work some morning because they could find employment elsewhere, where they could be fed and comfortably housed. The matter of high school boy cantonments is one that has met with great enthusiasm by newspapers, merchants and boards of education in San Francisco and Oakland, as well as in our own San Jose, and it seems to me that if the operations of the Farm Owners' and Operators' National Association for the year 1920 could bring about this one great solution of the problem of seasonable help it would be a good year's work. The problem can be solved by the united efforts of all growers, but without that united effort the problem is too large.

"Immediately upon taking office the new board will be expected to see what can be done to interest the state government in the conservation of water. During the winter months, as you all know, good rainfall is running continually out to sea and something must be done to conserve part of this water, at least. Wells are being deepened and every year the question of water is getting more serious.

"That the growers approve of the activities of the Farm Owners' and Operators' Association is evidenced by the number of new members who are constantly being added to the already substantial membership which the association enjoys. To November 1st, membership fees in the sum of \$1,556.30 had been paid into the association treasury, and contributions aggregating \$812.00 had been made by friends of the organization toward the expense of its farm labor bureau."

AGRICULTURAL NOTES.

Wild ducks this year got most of the \$70,000 rice crop of the Sutter Basin, doing most of the damage at night.

This year's wheat crop is estimated as being the largest in the history of Bulgaria and worth \$250,000,000.

Approximately 2,000 bushels of wheat will be harvested this year in the district adjacent to Fairbanks, Alaska.

A thousand jars of sweet potatoes represents the crop handled this year by the Merced-Stanislaus Sweet Potato Association.

The State Board of Health, in cooperation with the United States Public Health Service, will extend its campaign for the eradication of ground squirrels to a group of six California counties. Work will be done in San Benito, Monterey, Santa Cruz, Santa Clara, Stanislaus and Merced counties, according to Dr. W.

H. Kellogg, secretary of the State Board of Health.

The season's rice crop of Yolo County is valued at \$2,500,000, according to an estimate of directors of the Globe Mill at Woodland.

Manila has been put upon rice rations. It is estimated that it may be necessary to keep up the ration system until the end of the year.

Thousands of bushels of potatoes in this vicinity will be frozen in the ground this fall because of the farmers' inability to secure hands to dig them.

Two trains bearing American-made farm machinery are now touring Mexico demonstrating modern methods of

agriculture. The tour is being conducted under the supervision of the government.

A great deal of land around Tracy and also in Stanislaus County is being leveled for alfalfa planting. All sorts of soiling crops will also be grown in those sections next season, owing to dairy needs.

A \$70,000 mustard mill is planned by Lompoc growers. It is reported that the mustard mill, which is to be the first unit of a larger mill, will handle the 55,000-bag crop of mustard that Lompoc ranchers expect to grow next year. Growers in Lompoc have agreed to reduce the acreage planted to beans next year and to increase the mustard acreage.



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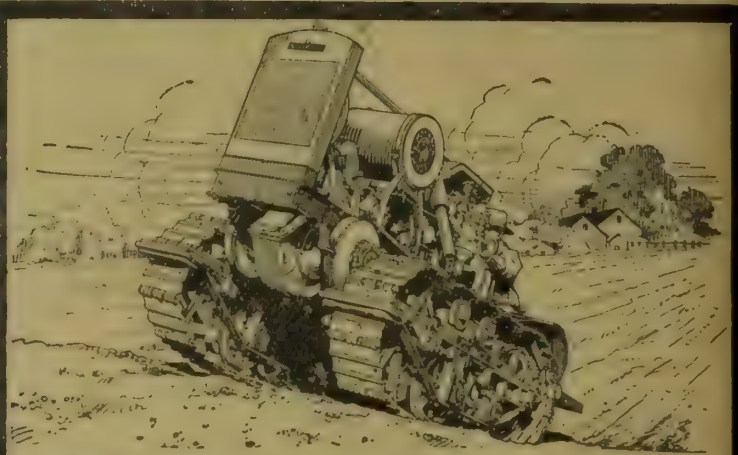


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is absolute proof that the big, powerful motor has all its power properly applied to give the maximum of traction. That's what counts—the relentless grip on the ground of the MONARCH track. It makes light of hills, grades and loads.

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The MONARCH 16-9 is the logical tractor for the average size farm. It has a long track which allows it to develop its fullest traction, a rating of 16 H. P. on the belt pulley, 9 H. P. on the drawbar; powerful enough to pull two plows under any condition or three plows when the soil conditions are favorable; turns in its own length and will work where horses cannot go; it is completely spring mounted, easy to operate and does not tire the operator; it has a belt pulley of the proper size located on the side of the machine. There are three speeds, 1½, 2½ and 3½ M. P. H. with a governor which regulates the motor speed at all times.

Do not confuse MONARCH Tractors with the so-called "track-laying" types. The track on the MONARCH is made of wear resisting manganese steel. We guarantee to duplicate for MONARCH Tractors any written warranty put out by any other responsible tractor manufacturer.

MONARCH Tractors are made in the following sizes:
16-9 H. P., 12-02 and 30-18 H. P.

Write for literature on MONARCH Tractors. We will also be glad to send you our "Performance Booklet."

GENERAL TRACTORS, Incorporated

217 Old Colony Bldg., Chicago

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Alfalfa Association \$5,000,000 Business

(Written for Pacific Rural Press by Manager Geo. Emery.)

Like other food products of California, the production of alfalfa and milo maize has reached mammoth proportions. The vast acreage devoted to these two crops, the economic value of the product and the far reaching markets that are opening are little understood. But if the activities of a state-wide co-operative association known as Alfalfa Growers of California continue (and the service the association is rendering will make certain of continuance and growth) then the real value of California-grown alfalfa and alfalfa products and milo maize, will be known and used wherever such feeds are needed and transportation conditions will permit.

The Association is organized to put modern factory efficiency into the production of these products, and modern merchandizing methods back of their distribution and sale. Already a great volume of business is assured—nearly 2,000 growers, owning approximately 60,000 acres of alfalfa and maize, have combined themselves into this non-profit association, rendering all the services of distribution and sale of members' products on an at-cost basis. The volume of business for the coming twelve months, already assured, is upwards of \$5,000,000.

How is this done? By adding to factory system and merchandizing methods the strength of combination and a democratic organization. It is growing rapidly because its purposes are beneficent, it will survive every attack and prosper because it is democratic, it will earn and enjoy public confidence and esteem because it renders a great service resulting in greater efficiency, wide savings, elimination of speculation and useless profits, and widest distribution of standardized products, all of which inevitably redounds to the good of the two greatest classes—the producers and the consumers.

The purpose is to deliver each producer's crop to the best buyer at the right time and at the least expense. Sounds very simple, but the process involves many activities, and a splendid correlation of all, from seed to sale. It involves improvement of farming methods, lessening costs, increasing yields, developing cost systems to the end that each district knows exactly its factory efficiency and rating; it involves storing, grading, standardizing, distribution and sale of a vast tonnage; it involves a close analysis of each exporting district and conclusion as to the importing district which can best utilize the excess; it involves research and propaganda to open up new districts for both production and consumption, to develop and foster new uses, and, in short, by precept and example demonstrates the true economic position of these two food crops in the political economy of the nation and the world.

These great results cannot be reached under competitive private concern methods of handling and distribution. Only the producer is interested in standardizing his product and establishing it in its true position. The interests of the speculator is best served by keeping both producer and consumer in ignorance of real values, real accounting, and the mysterious machinery of private distribution. Under Association practice the grower will know, not guess. He is learning that the producers combined constitute a powerful machine capable of anything and everything that private interests can accomplish, and, because its efforts are co-operative, non-profit making, and non-competitive it can accomplish infinitely more, and with this strange and wonderful difference—the advantage gained in efficiency, economies, better grading and better distribution, are all to the benefit of those who need the advantage—the producer and the consumer.

It can be accepted as axiomatic that for every food product there is a willing buyer at some time and some place and at a fair price. The prob-

lem is scientific distribution, and under the Association plan that science is in the process of demonstration.

This sort of constructive co-operative work will spell the doom of those two arch fiends besetting the unorganized producers—Demon Glut and Fiend Famine.

PERMANENT STATE FAIR.

An all-the-year-round exposition at the State Fair grounds is the project launched for the commendable purpose of using the State's great investment there all the time instead of a few weeks each year. At a meeting of the California State Fair Exhibitors' Association, recently, E. Franklin, a State Fair director, pointed out that approximately 100,000 tourists and visitors had stopped in Sacramento the past summer. It is easy to see that all sections of the State would benefit by having a concentration point to which prospective settlers could come, and get a birds-eye view of the entire States' products with information where each industry is already thriving. The Exhibitors' Association called upon the State Agricultural Society, Chambers of Commerce, Boards of Supervisors, and others to write in urging the next Legislature to appropriate funds for the purpose.

There has been considerable activity in the poultry export trade. Local dealer have been shipping heavily to Honolulu, mixed large grades making the bulk of shipments that total about 100 dozen a week. The chickens are shipped alive to supply a market demand, mostly from Chinese, who practically control the retail market trade in the island port. Turkeys have not been moving to Hawaii extensively yet.

Picking of cotton on the Tagus ranch, north of Tulare, is about finished. From the 860 acres there will be at least 1,000 bales. This is the first big acreage of cotton to be grown in Tulare County, and the ranch owners are so well pleased that they are planning to install their own gin on the ranch.

The Santa Cruz County Farm Bureau is reported to have asked permission to appropriate water from various creeks to irrigate 12,000 acres.



Did you ever "ride the swells" in a sailboat? Then you know the sensation of gliding along with no bumps or jolts or side jerks. That's the way you ride when you have Float a Ford Shock Absorbers on your Ford. Every road is a boulevard—no bumps, no side jolts.



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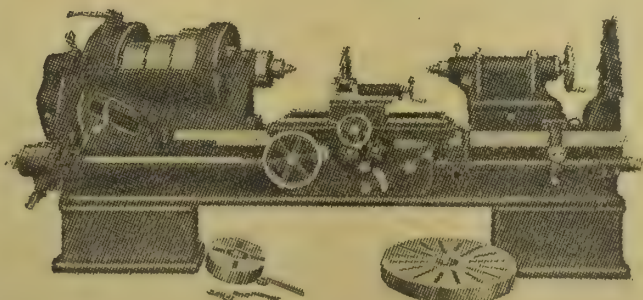
Complete Set (front and rear) only \$18.50

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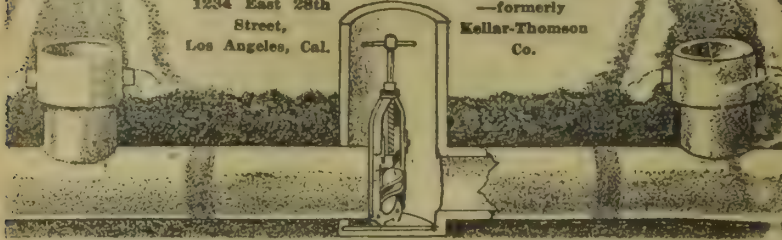


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Labor Problem Met by Co-operation

(Written for Pacific Rural Press by D. J. Whitney.)

The Labor Problem Solved! That announcement certainly would create excitement throughout rural districts and it looks as if co-operation by the growers would go a long distance toward solving the problem, just as it has gone far toward overcoming marketing troubles.

Three years ago the I. W. W.'s around Fresno were talking about a very nice farm labor union that was going to make everything smooth and lovely in crop harvesting and other farm work. The practical effects worked out about as beautiful as the Bolshevik regime in Russia. But the farmers stepped in with a big mass meeting, organized the Valley Fruit Growers' Association to attend to labor matters, and conditions have been getting better ever since. Even without governmental and public opposition to I. W. W.'ism and related insanity, it would be difficult for any mis-called labor movement like that of three years ago to get a real foothold in the district while everything is going as it is now.

The association was started by public subscriptions of farmers of 5 cents per acre and one of the first steps taken was to open an employment agency, which acted as a clearing house between the worker and the farmer who needed help. Later when the State opened public employment offices this part of the activities of the Association was passed over to the State, the association receiving as full benefit from the division of duties as it had before.

Growers Well Organized.

One of the reasons for the success of the association is the fact that the growers are well organized already, in a way, through the Associated Raisin Company, and the Peach Company. It has the moral support of both companies; and the abilities of leading men of each, as well as of other prominent fruit men, are used in its directorate. W. Flanders Setchel, a prominent fruit shipper, is president; Chas. B. Harkness was the first manager and O. V. Cobb the present manager.

One of the great services of the association is in stabilizing the labor supply and wages also. A man who has been used to vineyard work drifts in and wants to know about prospects. He learns about them and tells about the amount of work, wages, or labor supply where he comes from. If what he says is verified by what others write, Manager Cobb learns that he can, or cannot, get a number of men from that quarter. This is one method of learning when and where to advertise for help when labor is needed locally. Then men who have worked from the office before, write, wanting to know when the busy time will start and are told when to come or not to come.

On the other hand, large growers send in word as to the number of men they will want, when they will want them, and what they expect to pay. This gives a line on the amount of help which will probably be needed. Help is brought in as needed, by advertising in other sections, particularly in those where there is a surplus of labor, the amount of advertising depending upon probable demands. A big surplus of labor brought in by advertising would offer a great field for trouble.

Occasionally, Manager Cobb will make a special trip after help. Once, for example, a large rancher came in and said he wanted 100 men within a short time. Cobb went right up to

Stockton and went to the public employment office, but on account of his position as agent rather than actual employer, could not get what he wanted without a good deal of red tape, so headed for the part of town where common labor would likely hang around. He handed out a lot of cards, and in one afternoon raked up his hundred men.

Explicit Understanding Between Employer and Employee.

A record is kept of every man sent out, with an exact understanding of wages and terms of employment. This makes it possible to straighten out every difficulty developing between laborer and employer. Once or twice there has been a difference of opinion as to wages, based as a rule on book-keeping records; and in every case this has been adjusted with satisfaction to both parties. When a man proves unable to hold a job, and useless or a trouble maker, he is never sent out again. There are men around Fresno who cannot get a job either through the Association or the State employment office. This prevents trouble-makers from annoying good men.

Before every busy season, whether harvesting or pruning, the directors meet and decide what is the proper wage, based upon conditions elsewhere, as well as in the district, and this, in a way, governs wages through the district. The directors do not always hit it right, and in 1918 had to raise the schedule for grape picking, but without any particular harm being done.

Community Camps.

About the biggest proposition undertaken is the establishment of community camps by the Association. The first, and trial camp, was put up at Fowler, for about 80 men. A model tent is supplied every two men, with tight floor and fly-proof walls; meals are supplied at cost prices, and a camp supervisor, as required by the new State law, is kept to see that everything is in order; also to see that work is done as it should be on the ranches where the men work. Then the ranchers who are members of the Association can come in with their machines and take out the men every morning, without the expense of providing accommodations, or cooking and caring for more men than the ranch usually holds. The cost to the rancher is merely regular pay for regular work. Association members can hire men from the camp, others can not. Membership privileges are 10 cents an acre, charges having advanced, owing to the greater scope of work taken up by the Association, beyond what was first planned. With State requirements for labor camps it is now an expensive thing to provide accommodations for a bunch of men and the saving of expense and trouble to a large rancher in having his own camp is large. The community camp idea is only on trial, but it promises great things. If as successful in practice as in theory it is only a question of time until they spread over all the State.

As a matter of fact it would be a great step forward if there was such an association in every section of California. It brings help to the place needed from the place where help is scarce, keeps the farmer supplied with help when needed, without making an over supply, thus eliminating a fertile field for I. W. W.'ism. By keeping a record of the men it prevents the I. W. W. loafer and agitator from disrupting conditions and so helps everybody concerned.

BURBANK TOMATOES DOUBLED SALES.

After trying many varieties of tomatoes for sale to the local market, C. H. Hughes of Santa Cruz County has discarded all but the Burbank and the San Jose Canner. The latter is a good, well-meated variety, but the Burbank has considerably the best flavor, the most sweetness, and general good qualities of all the varieties

tried. It precedes the San Jose Canner in ripening, so the two make a good succession to keep the market supplied during the season. Mr. Hughes felt long ago that local tomato sales could be greatly increased by supplying only well packed fruits of the best quality. Toward the end of the 1919 season, he surprised the store people who handle his tomatoes by showing that they had sold twice as many as they did last year.

Lady Randolph Churchill writes a tribute to Mr. Edison

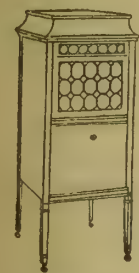


LADY Randolph Churchill is England's greatest authority on furniture. Her home is the best furnished house in London.

Lady Churchill saw the Edison Period Cabinets. Immediately she wrote:

(HER LETTER)

"What an extraordinary man Mr. Edison is! He perfects his phonograph to a point where its realism is astounding. Then he determines to make each Edison Phonograph, even the least costly an attractive piece of furniture. Instead of the usual dentist-like looking cabinet, his designers have succeeded in putting the character and feeling of the best periods into his phonograph cases. These graceful and artistic productions will be hailed with delight by all who can afford them, and will cause Mr. Edison's new phonograph to be received in many houses where less worthy machines have not been welcomed heretofore."

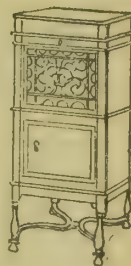


Sheraton
(Sans inlay)

These Edison Period Cabinets are American adaptations of Europe's richest furniture treasures. This letter is the Old World's stamp of approval on the

achievement of Edison's American designers and craftsmen.

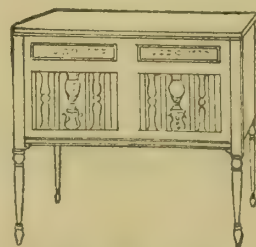
BUT Lady Churchill has overlooked the second great part of Edison's purpose. She has received the impression that these cabinets are only for the well-to-do. Nothing could be farther from the fact. Edison has developed an authentic period cabinet for each New Edison,—even the lowest priced models. Isn't this exactly what you would have expected of the man who spent three million dollars in order to give the world his musical ideal,—the Official Laboratory Model?



William and
Mary

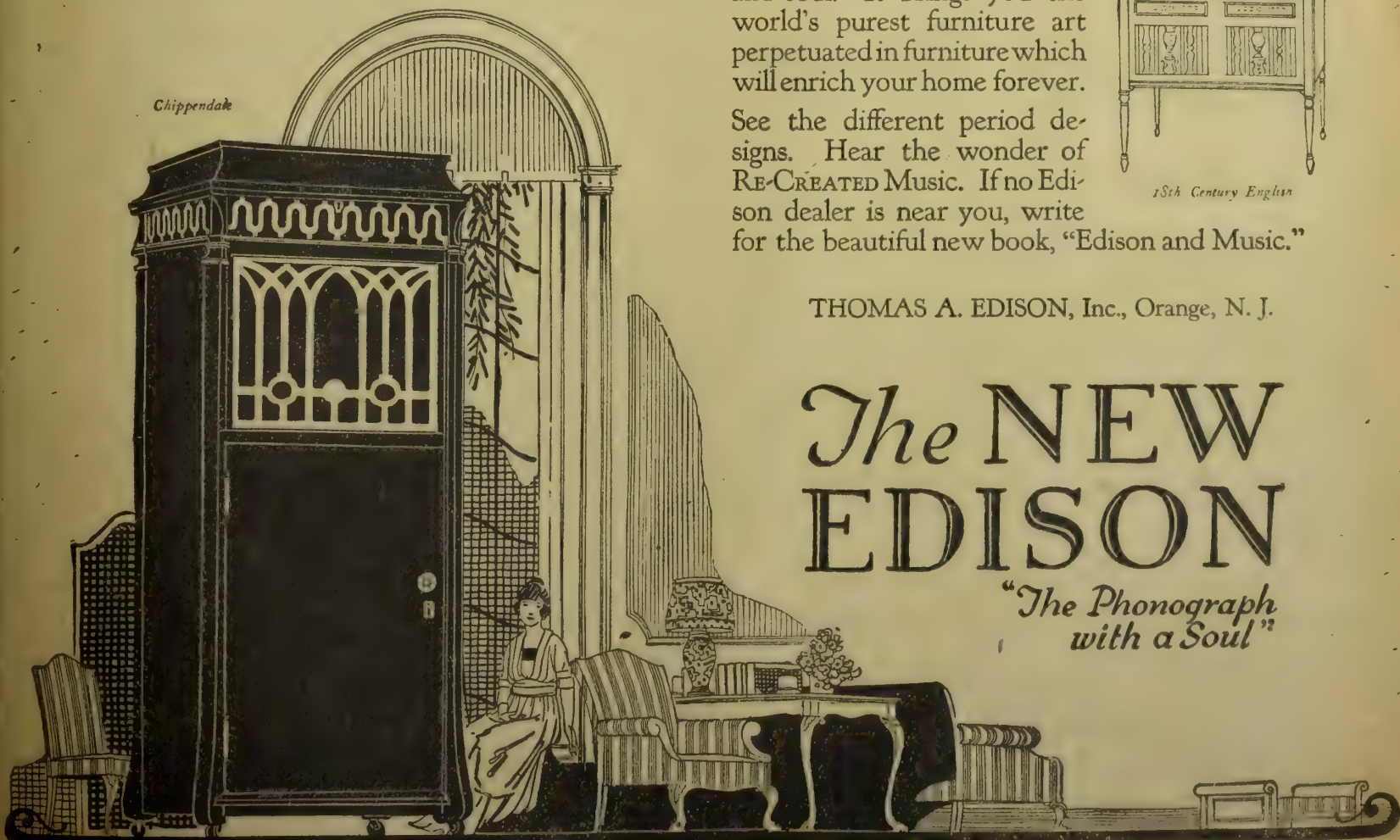
THE New Edison is truly the phonograph of two arts. It brings you the world's noblest music, RE-CREATED in all its beauty and soul. It brings you the world's purest furniture art perpetuated in furniture which will enrich your home forever.

See the different period designs. Hear the wonder of RE-CREATED Music. If no Edison dealer is near you, write for the beautiful new book, "Edison and Music."



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THOMAS A. EDISON, Inc., Orange, N. J.

The NEW EDISON

"The Phonograph
with a Soul"

Tractor Rice Binder Saves Entire Crop

Written for Pacific Rural Press by R. E. Hodges.

This year's rice crop, planted on 140,000 acres in California, was recently estimated at 350,000,000 pounds by President J. H. Stephens of the Rice Growers' Association. That is a low yield of 2500 pounds per acre. In 1918 the yield averaged 3,000 pounds. This year's crop is valued at six cents per pound. It has been harvested in ideal weather conditions, so the quality is first class and the demand is strong.

Wasted 14,000,000 Pounds of Rice.

Under normal conditions with a crop like that of 1919 well over 100 pounds per acre were wasted. Some of it will be of value for hog or turkey feed, but its value for that can not be over one-quarter of what it would be for market. We may figure a dead loss of about \$4.50 per acre this year due to our method of irrigation and harvesting. The man who has a quarter section of rice is a small planter. Yet this year, due to common methods of harvesting, he lost \$720 worth of rice.

How Do We Figure the Loss?

Very few rice growers have believed it would pay to level their land into rectangular checks. A great deal of it is over hardpan anyway and it would do no good to expose hardpan. Three years is about the limit of consecutive planting of rice. The low average yield this year is due largely to the ignoring of this fact by many planters. No one wants to put out a lot of money leveling and checking land in squares for three years. So practically all rice leveling and checking is in contour checks, each generally containing one to ten acres. The levees are steep and high so a binder cannot well go over them. They twist in all directions worse than a snake in convulsions. Often they come close together and then separate far apart. In harvesting, one of three choices is possible. The six-foot width of rice each side of each check may be cut by hand sickles if labor can be found to do it in time to get the rest of the crop off before rains make

the fields impassable. The regular rice binder may be hauled around inside each check, knocking down the standing rice and mixing into the mud that generally is softest next to the checks. Three or four horses walking through the grain knock down and thresh out quite a bit of it. The wheels of the binder roll a good bit more into the mud. It is commonly estimated that one-seventh of the

binder. In the mud that is commonly encountered at rice harvest, the binders sometimes cannot be pulled by horses, much less could they be pushed. The binder weighs about a ton. When operating with horses it exerts a pressure on the mud somewhere around 75 pounds per square inch.

To devise a means of reducing the pressure per square inch and to avoid

country and he knew there was a keen desire for something workable along this line. So, when W. J. Shepherd designed a rice binder suitable for a special tractor which he intended to build for it, Mr. Abildgard pooled ideas with him and the result was an equipment by which any eight-foot binder could be put on the front of a Monarch 32-18 tractor in two two hours and removed in about the same time.

Mr. Abildgard's specifications for such a combination are given in his own words:

"In order for the machine to be a really practical outfit, it must be built on a tractor that is an all-around practical machine for every condition of work that the rice grower has to contend with. It must be a light-weight machine and have plenty of clearance and must be balanced in the center. A specially built tractor that could not be used for other work besides carrying a binder would be a failure on account of the extra investment.

"The only changes that we make on our tractor are to put in a ninety-inch axle and bore four holes in the front of the frame. The binder is mounted on an oscillating frame that is raised and lowered by the binder operator with one hand. We have a leverage of sixteen feet against eighteen inches to lift the binder. A 375-pound weight on the end of the beam easily balances over 2,000 pounds in front of the tractor. All of the weight of this attachment is carried on the axle and not on the frame of the machine.

"The cutter-bar of the binder is wider than the tractor; therefore the tractor is traveling only over stubble that has already been cut. We do not run over a spear of rice."

Only Four Pounds Pressure on the Mud.

One might think that a steel tractor plus a binder and counterweight would exert more pressure and would mire down sooner than the binder alone. But this outfit instead of push-



Rice binder mounted on the front of a tractor. It cuts rice on the first round inside each check without tramping or rolling any of it in the mud. This is working where a horse-drawn binder got stuck. The outfit exerts only four pounds pressure per square inch.

average rice crop is included in the first round in each check. About a third of the first round is put out of commission by horses and binder, able to be recovered only by hogs and turkeys. Thus 2,500 pounds per acre harvested comprises what is left after about one-twenty-first of the crop is lost.

Tractor Binder Wastes No Rice.

The third possibility open to the rice man is to devise a means of cutting the rice next to checks before horses or binder run through it. This at first thought would mean a push-

running over standing grain would not only save over 100 pounds of rice per acre, but it would reduce the miring of machinery.

This problem has received attention from several manufacturers; and at last two or three different tractors were used in attempts in 1918 to solve it. These required additional study to make them satisfactory, and we are not aware of their being developed further this season.

But another tractor man carried the bee in his bonnet. William Abildgard had been selling tractors in the rice

We Manufacture Levelers for Any Power from 6 Horses to a 75 H. P. Tractor

A Schmeiser Leveler

WILL WORK WONDERS ON YOUR FARM



Moving immense amounts of dirt daily, and working on ground too tough for horses and Frenos to tackle, SCHMEISER POWER LAND LEVELERS are now being used with utmost success by a great many ranchers, large and small—also by contractors—saving their owners' time, labor and money.

So extremely simple, a child could operate one, as a simple twist of the wrist raises and lowers the bucket or holds it stationary, as the case may require.

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Every road district should own one of these machines for constructing roads. They will cut down the high places and make fills quicker and cheaper than by any other known method.

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420 E. Third St., Dept. A,
LOS ANGELES

ing down 75 pounds per square inch has only four pounds pressure per square inch.

The difference is due to the long track of the machine and to the plank 19 inches long bolted to each shoe in the track. This gives the machine over 2500 square inches of bearing surface. Its total weight, including binder, is less than 10,000 pounds. The slight pressure per square inch explains why the machine in our illustration is working over a spot where a horse-drawn binder had been stuck and temporarily abandoned.

CALIFORNIA NEEDS GREATER ELECTRIC DEVELOPMENT.

"The light and power situation in California this year offers nothing to worry about," declared H. G. Butler, power administrator of the State Railroad Commission, recently. The present rate of consumption of energy would deplete the storage supply of water used for generation of electricity by the latter part of December if no rain should fall. If the shipyards resume operations soon, they will use so much electricity that the water supply will not last so long. But we expect rain to save the situation.

This state, in addition to its oil fields, has a potential supply of hydro-electric energy greater than any country in Europe. This relieves us from great dependence on coal. Our electric power should be developed to its highest point. To take care of the normal power needs of California due to normal growth, something like \$60,000,000 a year must be spent for hydro-electric purposes. This will use water for power before distributing it for irrigation. Our recent legislature passed a law permitting irrigation districts to generate electricity for use and sale; and Congress has a bill before it to further encourage hydro-electric development.

PERMISSIBLE MOTOR TRUCK LOADS.

In the enforcement of that part of the Motor Vehicle Act, which relates to permissible loads of motor vehicles, the following procedure shall be followed:

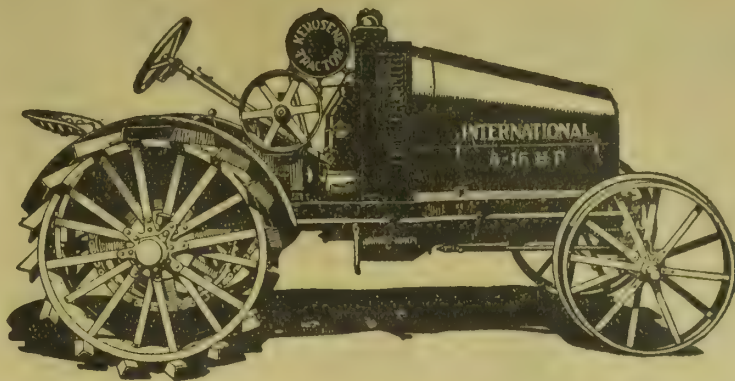
The actual width of tire coming in contact with the surface of the highway is to be considered as the width of bearing on the highway for the wheel under test. Eight hundred pounds per inch width of tire is allowed on rubber-tired vehicles.

The vehicle with its load, if any, shall be weighed first with all wheels on the scales. Then each axle load shall be weighed separately by running the front wheels and then the rear wheels off the scales alternately. If the sum of the observed weights of the two axle loads does not equal the total weight of the vehicle and load, as aforesaid, subsequent trials shall be made with the vehicle moved forward or back, as required, until the sum of the two axle weights does equal the total weight of truck and load. Each wheel will be assumed to carry one-half of the axle load of the axle to which it is attached, except in the case of dual wheels when each will be assumed to carry one-quarter of the said axle load.

ADJUSTED DISK PLOW AND SAVED POWER.

The new three-disk plow stuck a 12-25 tractor in Geo. D. Gilman's orchard in Santa Clara County. The ground was soft on top, but hard underneath, and many plum suckers were growing through it. Mr. Gilman found it impossible to cut deep enough to keep the rear wheel on the ground. The disks were set so nearly vertical that they had to simply push and break away the furrow slice, and it took too much power. Mr. Gilman set them much more horizontal, so that they cut the dirt without having to push and break it. The plow worked fine after that, for there was less friction on the disks.

It is well to know that aside from the switch wire and one cable leading from the magneto to each plug, a high tension magneto has no external wiring.



100 Cents on the Dollar

THE tractor that is really a 100-cents-on-the-dollar investment for the farmer is the tractor that can be used practically every day of the year, one that is 100% efficient, both on the belt and the drawbar.

The International 8-16 kerosene tractor meets the above specifications. The drawbar has a wide range of adjustment both up and down and sidewise so that the tractor will pull any machine or implement on the farm with equal advantage. The 8-16 pulley is so placed that the tractor can be backed into the belt quickly—so placed also that the belt doesn't rub against any part of the tractor nor drag on the ground. And 8-16 power is just right—neither too heavy nor too light—it fits practically any drawbar or belt power task on the average farm.

Aside from its adaptability for all-year-round farm work, the International 8-16 tractor is a 100-cents-on-the-dollar investment because of its exceptionally efficient and economical (kerosene) operation; because, too, you can always secure repair and expert service without delay through the 92 branch houses scattered over the United States. Your dealer—wherever he is—has a Harvester branch in easy reach.

If you are interested in a 100-cents-on-the-dollar tractor investment just write your name and address along the margin of this advertisement and mail to the address below so that we can send you full descriptive information of the International 8-16.

International Harvester Company of America

(Incorporated)

Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont.
Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah
San Francisco, Cal. Spokane, Wash.



Are You Paying Taxes On Your Stump Land? Clear It and Make Money.



ACTUAL PHOTOGRAPH

Increase your acreage and you will increase your bank account

Clear your stump land cheaply no expense for teams or powder

ONE man with a "K" can outpull 16 horses. Works by leverage—same principle as a jack. 100 lbs. pull on the lever gives a 48 ton pull on the stump. Made of the finest steel—guaranteed against breakage. Works equally well on hillides and marshes where horses cannot operate. Endorsed by U. S. Government experts

Write today for special offer and free booklet on Land Clearing

The Fitzpatrick Products Corp.

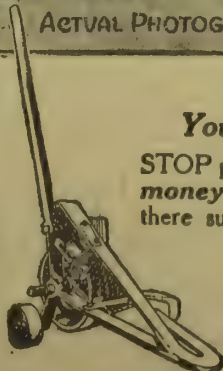
Box 12 John St., New York
Pac. Coast Office 182 Fifth St. San Francisco, Cal.

Your opportunity is here to-day

STOP paying taxes on your stump land turn it into money. Never in the history of the World was there such a demand for the product of the soil.

K HAND POWER Stump Puller

Man or woman single handed can pull from 50 to 150 stumps a day. Weight without cable 171 pounds. NO STUMP TOO BIG.



-make this a **DELCO** **INCREASES**



Delco-Light—the whole family gift of cheer—combining simple, economical, complete installation that will bring more attractive the year round to your family, your friends of the deeper meaning of Home is the True Spirit of Christmas.

Delco-Light Appliances

Although the Delco-Light installation is complete in itself, there are many suggestions on short notice. For Xmas remembrances, you will find inexpensive even more.

Finely finished chafing dishes, efficient disk stoves, indispensable electric serviceable washing machines, practical vacuum cleaners—these few suggest your home. For attachments that will work properly and satisfactorily with

Let the Strength of Delco

The backache and drudgery of pumping and carrying water can be eliminated of water for stock and garden, fresh water in the dairy—your family could not serviceable attachments such as feed grinders, cutters and fans, stock clippers, winter nights, that will reduce your work around the farm. The simplicity of of chores it performs.

Delco-Light Is More Than

You will find in the free Delco-Light book the interesting letters of pleased Money could not buy these letters. They tell how much Delco-Light means to ical means of doing every-day chores. A Christmas gift of Delco-Light, from savings to your farm. Send—today—for the free book, or better still, get

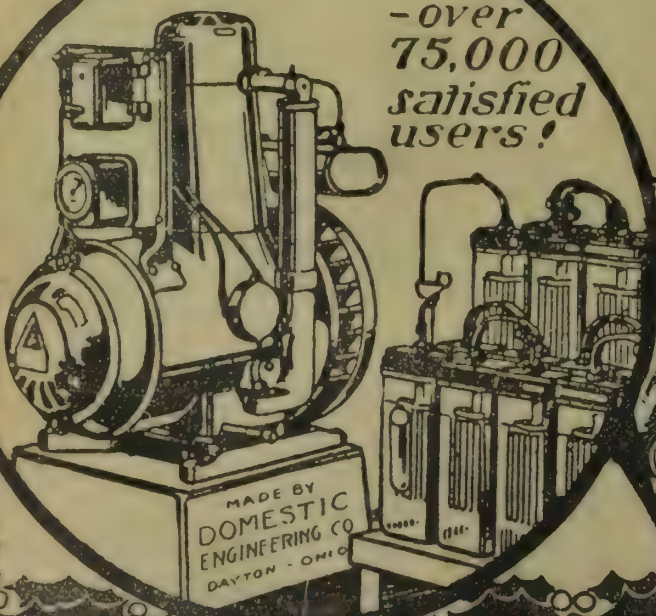
Ask us how Delco-Light is making hens lay more eggs. Many progressive the market is so good.

DeJONGH & CO

LOS ANGELES
129 E. Sixth Street

FRE
715 Eye

-over
75,000
satisfied
users!



LIGHT Christmas!

ARM PROFITS!

Season usefulness with practical worth. It is a comfort of real living to your farm, making it and your help. To bring closer a realization Giving exemplified by Delco-Light.

Make Ideal Gifts

Attachments that can be had from your nearest Delco-Light representative-operated appliances that will make you appreciate Delco-Light

Active coffee percolators, portable heaters for cold days, sturdy, household gifts are but a hint of what Delco-Light will bring to Delco-Light installation, see your nearest representative.

Light Do Heavy Work

Your farm by Delco-Light. Hot and cold running water, plenty of a finer gift! And in turn the family can give YOU genuinely openers, tire inflators, electric tire vulcanizers, searchlights for light, the economy of its operation, are strengthened by the scores

Just Electric Light

Who had had the foresight to give their family a Delco-Light. Now it takes the drudgery out of housework, and provides mechanical family, will bring these same comforts, conveniences and with the nearest Delco-Light representative.

are reaping the rewards from increased egg production while

IRAN, Distributors

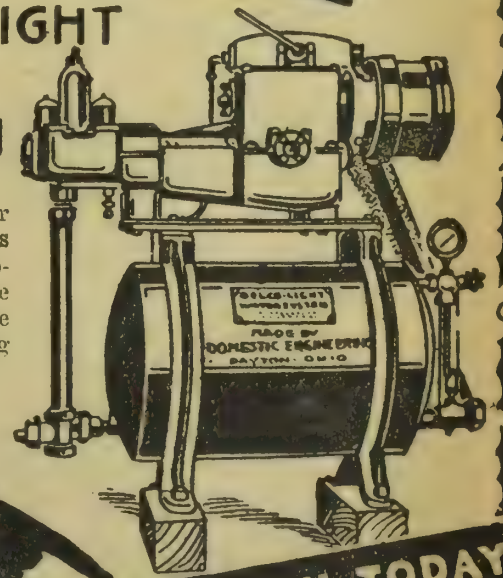
SAN FRANCISCO
880 Mission Street

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DELCO-LIGHT WATER SYSTEM

fills the tub or dishpan, waters the stock and protects the house and barn from fire by simply turning on the tap.



MAIL THIS COUPON TODAY!

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Delco-Light sounds good to me. If I am not interested now, I may be later. Without obligation please send me your booklet (free) showing what Delco Light is doing for others.

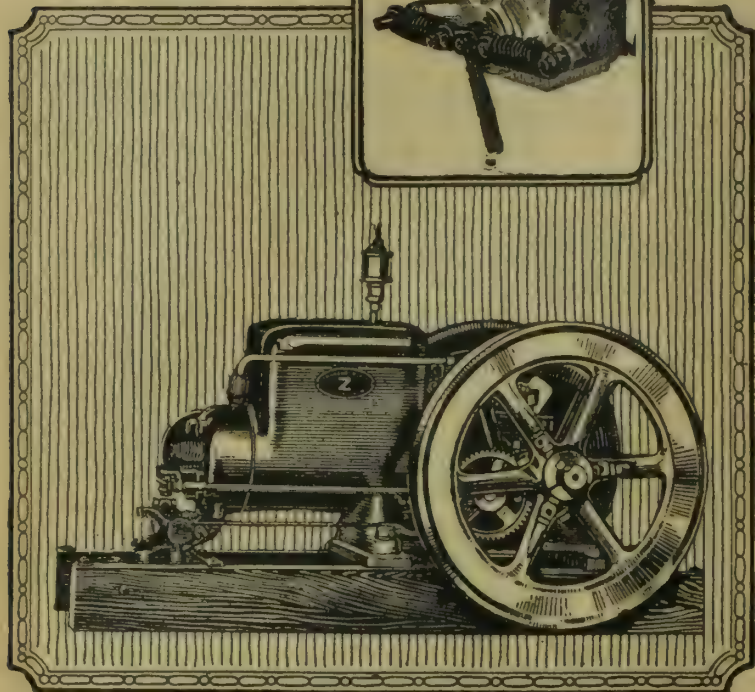
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The Greatest Combination

**Fairbanks-Morse
"Z" Engine with
Bosch Magneto**



WHEN the full meaning of this "Z" message is realized—mighty few farmers in America will fail to at once call on the nearest "Z" engine dealer. ¶ This example of master engine-building must be seen. ¶ Type and pictures can but suggest this value establishing achievement. ¶ By adding this one possible betterment—Bosch high tension, oscillating magneto—we complete a rare engine service, fully maintained by over 200 Bosch Service Stations in co-operation with every "Z" engine dealer—for all "Z" engine owners. ¶ Prices—1½ H. P. \$75.00—3 H. P. \$125.00—6 H. P. \$200.00—All F.O.B. Factory.

Fairbanks, Morse & Co.
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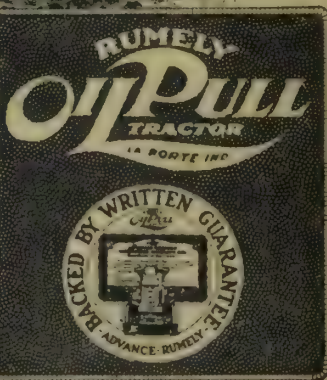
The Famous OilPull in a Smaller Size

The 12-20 was brought out to answer the demand for a small size, light weight tractor of the same durability and efficiency as the other OilPulls. It is an OilPull through and through and you know the reputation these famous tractors have earned.

The 12-20 has proved to be an exceedingly desirable tractor for use in California.

The OilPull is built in four sizes—12-20, 16-30, 20-40 and 30-60 H. P. Send for catalog.

ADVANCE-RUMELY
THRESHER CO., Inc.
17-19 Main Street
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442-444 Sansome St.
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The biggest order ever placed for magnetos is that of the Fairbanks-Morse Co., when they decided to equip all of their model Z engines with Bosch magnetos.

Sharp implements are cheaper than the extra power required to use dull implements.

Mechanical Power on the Farm

ORCHARD TRACTOR PROVES ECONOMICAL AND EFFECTIVE.

(Written for Pacific Rural Press.)

What should we figure for repairs on a medium-sized wheel tractor the first year? R. L. Dunshee, who has run a 12-20 tractor practically a year, has had not over \$25 repairs. His chief trouble was a broken ball in a ball bearing. The tractor stands ready for another year's work and cannot be said to have depreciated greatly. It belongs to Jas. E. Brown of Santa Clara County. Since it was bought last January, Mr. Dunshee has plowed about 125 acres, and disked over 1,000 acres, besides checking up many orchards for irrigation and furrowing out other places. More plowing would have been done had not the season been so short last spring. A ten-acre field for row crops has been leveled and some spots in the home orchard of ten acres have been put into better shape for irrigation. A two-disk orchard plow is used in preference to a three-disk plow built for the same tractor, because with two disks there is no danger of getting stuck and the engine is not overworked. Five acres a day are turned over with this outfit. The seven-foot double disk cultivator could work 25 acres per day of ten hours, but where trees are too close together, the third time through a row does not cut full width, and the daily average acreage is reduced to about 20, as estimated by Mr. Dunshee. The tractor uses about 15 gallons of distillate per day of ten or eleven hours.

Mr. Brown also owns two horses on account of the row crop field. Only one of these will be kept next season for this purpose and to do light jobs around the orchard. The disk plow leaves an eight-inch strip when plowing away from the trees and a horse is handy to finish this as well as to haul out pruning brush, etc. However, for the orchard alone, it would be a question whether it would pay to keep a horse the year around for the little work it would do. A neighbor using a similar tractor puts a walking plow and a man behind it to finish the plowing next to trees. He figures that the waste of man and tractor power on this job costs less than to maintain a horse. Probably a better way would be to hitch a walking plow behind the tractor plow on the last round next to the trees. This should not overload the tractor, for plowing is usually shallow there anyway, and a wider strip may as well be turned. To make this economical, the final rounds would be left until all of the middles are plowed. Thus the walking plow would be put on and off only once, and its operator would be kept busy until that part of the work is done.

This wheel tractor is no worse than many others on sandy soil, but it has rested on its belly in the sand while the wheels spun around in holes they had dug for themselves. Mr. Dunshee has learned to stop the wheels when they begin to dig in, and fix up a better footing, lighten the load, or do something else to avoid slipping the wheels.

ROTARY PUMPS.

Promising rivals of centrifugal pumps are rotary pumps which likewise require pits. Rotary pumps are no new things, but have been in use for a great many years and are of many designs. Their advantage is a high efficiency, provided they are in good shape, so that far more water will be given for the amount of power used than centrifugal pumps will give. Absence of valves is also a great advantage. The trouble with pits and rise and fall of water level is the same with both rotary and horizontal centrifugal pumps.

The greatest fault with rotary pumps is that they wear out quicker than is desirable when there is much sand in the water. Slow speed of operation reduces this wear, but the only way to reduce it greatly is to reduce the amount of sand pumped.

If a person could have them pump from a dug well, from a lake, or slow stream with clear water, or in fact any place where the amount of sand was insignificant, their merits would make them highly desirable. Theoretically they have always been considered good, and improved designs and guaranteed service for definite periods makes them more desirable now than they once were.

GAS CAUSES PUMPING PROBLEM.

To the Editor: Following an article on selecting an irrigation pump, I desire to submit a small problem of my own. I have only ten acres and cannot put in an expensive plant, such as a deep-well turbine. My pit is 20 feet deep and I get water for a 3-inch centrifugal pump, but it does not work well on account of there being gas in the well. I am afraid that there will be too much sand for a rotary or plunger pump, so if you can give me full information on compressed air I would be obliged. The well is 130 feet deep, the casing 6 inches and the lift 30 to 40 feet. Are air compressors complicated, or are they not a success? I would like 200 to 300 gallons per minute. What size pipe and what h. p. will I need?—H. S., Thornton, Cal.

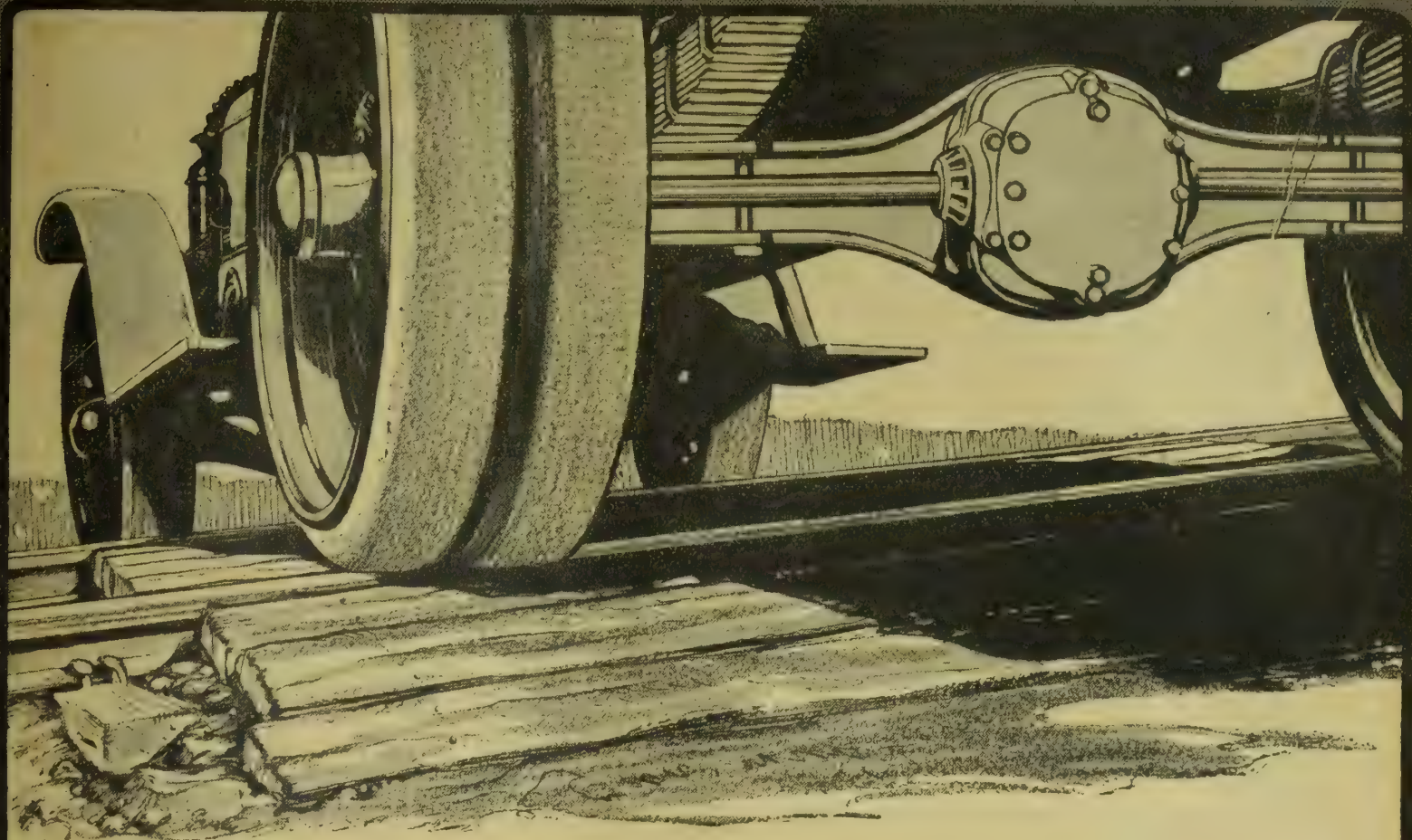
(Answered by D. J. Whitney.)

The article you refer to was written from the standpoint of ranch experience and not as a trained expert on the subject, and this answer will be given in the same way. The presence of gas is the usual excuse for installing a compressed air plant. They are rather expensive and the amount of water supplied is rather small in proportion to power used. Mostly they are on large ranches. Unless your well gives more than an average amount of sand, I believe that a rotary pump would serve you best, as the presence of gas in the water will not bother them at all, and you can doubtless get a guarantee for wearing qualities. Gas will not bother turbines, but these usually are installed where much larger streams are required than you will need. There are also plunger pumps without leathers that sand will not affect to speak of. There is sand in every well in California, but plunger pumps are a great success, and do not be afraid of them unless the sand is very coarse and abundant. They are, of course, somewhat expensive. The horsepower required and size of pipe will depend upon the kind of pump you install. Would advise your communicating with pump men handling the kind of outfits you think you would like, and finding details from them. By having continuous operation 100 gallons per minute should be all the water you would want; and remember also that a small stream means a smaller, less expensive plant and one that will draw the water down less in the well than a large plant. Compressed air pumps will probably be your best equipment for greater capacity.

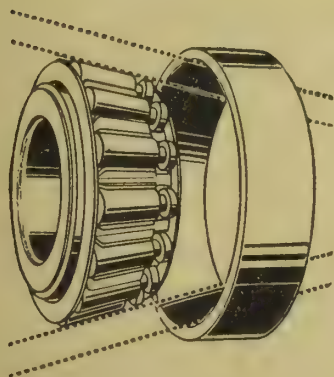
AUTOMOBILE PASSENGER MILEAGE TREMENDOUS.

There were 5,000,000 automobiles in regular use in the U. S. in 1918. This indicates that at an average annual mileage of 3,000, which is low, the total mileage is 15,000,000,000 miles per year. This, multiplied by an average of three passengers, means a total passenger mileage of 45,000,000,000. The passenger mileage of automobiles exceeds that of the railroads by over 10,000,000,000 miles. (In 1915 the official railroad passenger mileage was 32,384,247,563.)—National Automobile Chamber of Commerce.

A low radiator and sheet-metal fenders, adapted to the Holt 45 caterpillar, makes this machine as low, as narrow, and as short as a two-horse team. This is especially built for orchard work, though the tractor itself is not greatly different from the one used in grain fields and which looks so big.



If It's Mounted on Timkens



Remember the *tapered* shape of the Timken Bearing. That tapered design has brought about the superiority of performance, which in turn has led to the adoption of Timken Bearings by the best motor car, tractor and truck builders of America.

The rear wheel of your farm truck hasn't quite as hard a job as a front one, but it needs Timken Taper just the same.

A little skid, a graze of the curb or sidewise blow from a rut or a stone gives a tremendous end thrust to the bearing. Measured in pounds the end thrust that comes from a two-inch drop of a loaded truck would startle you.

And a trifling looseness—which is bound to come with a bearing that has no take-up for wear—the take-up that Timken Bearings do have—means a considerable play at the circumference of the wheel and rapid wear on tires.

Every year adds to the list of truck builders and truck owners who appreciate the advantages of Timken Taper.

It doesn't pay to overlook the things that don't cause trouble.



THE TIMKEN ROLLER BEARING COMPANY
Canton, Ohio



TIMKEN TAPER

PUMP SUPPLEMENTS SHORT GRAVITY WATER

Floods run from Arroyo Seco in Monterey county to the Salinas river and thence into the sea. But they are generally all gone by July. The Clark Colony Water Co. has a ditch which diverts some of the floods to the fertile orchards and alfalfa fields around Greenfield. But when the ditch goes dry the alfalfa goes dormant and the fruit growers have already done some good cultivation to tide their trees over the crop-bearing period. Of course a dam and reservoir in the Arroyo would save the floods for use late in summer, but the land holders haven't figured that the expense would be worth while. Meanwhile, a bunch of the colonists have formed The Greenfield Water Company, to pump water to supplement the gravity water on about 400 acres.

When we met W. R. Johnstone, who is interested in the new project, they had bought 20 acres above the canal and sunk a test well 240 feet. Water-bearing gravel was found at 100 feet. The bed was found to be 112 feet through, with tighter ground below. A \$10,000 pumping plant was planned to deliver 1,500 inches of water. The well proper was down 100 feet with 24-inch casing to go 50 feet farther and 16-inch casing to penetrate thence to the bottom of the gravel bed. They will use the Clark Colony Water Co. ditches and irrigate colony land exclusively, except 10 acres of the twenty on which their plant is located. Thus will these ranchers be rendered fearless of water shortage. The extra alfalfa crops they can cut or the extra fruit they will gather will repay their interest, maintenance, and depreciation accounts with a goodly balance to absorb as profit.

There is a movement on foot to license tractors.



Construction

Holt experience, knowledge of materials, workmanship, design,—make the "Caterpillar" Tractor a machine of exceptional service and efficiency. This Holt construction results in long life, dependability, power, low operating costs. Send for catalog 410.

THE HOLT MANUFACTURING CO.
Stockton, Cal., Peoria, Ill., Los Angeles, Cal.
Portland, Ore., Spokane, Wash.
San Francisco, Cal.

CATERPILLAR
REGISTERED TRADE MARK

Your earning power
when it rains is
made sure
by

TOWER'S
FISH BRAND
REFLEX
SLICKER
Look for the
Reflex Edge
A. J. TOWER CO.
Established 1836
Boston, Mass.

PROPER TRACTOR LOADS.

There is frequent talk about overloading tractors, but something can be said for underloading also. A certain San Joaquin valley fruit grower states that his orchard tractor seems to go along far more smoothly and nicely when it has the kind of a load that it is supposed to pull than when it is doing light work, like furrowing out with a two-horse tool. Doubtless there is no injury from having a very light load, even if the tractor does not seem to work as well as when it has more to pull. However, it would seem that as long as a team is kept upon a ranch where tractors are used, horses can very well be used to do the work that they can do easily, leaving the tractors to do the heavier work that a team cannot do.

MORE WORK DONE WITH FEWER MEN.

Sixteen "men" had jobs on W. E. Vaughan's ranch in Kern county last May, but acquaintance with work horrified them. Only two stayed on the job. There were 150 acres to be leveled for pump irrigation. Mr. Vaughan could have gotten a battery of Fresno scrapers at \$30 apiece. But they would do no good with no men to run them. So an eight-foot Schmeiser leveler and a dozen mules were purchased. The two men who stayed leveled the 150 acres before August 1. Last fall Mr. Vaughan planned to use a tractor on the leveler to get 640 acres in shape for a cotton crop in 1920.

WHICH OIL FOR TRACTOR?

There are those who may hesitate to buy a tractor whose successful operation depends on one certain brand of oil. Dealers who insist that tractor buyers use a certain oil in order to get the benefit of their guarantee are more than likely to be getting a profit on the side which the tractor manufacturers do not countenance. This practice was tried in the automobile trade and discontinued. When a tractor buyer feels compelled to use a certain oil under these circumstances, he is justified in asking the manufacturer direct. The answer is likely to be a list of several brands, any one of which will prove satisfactory to all concerned.

"TRACTOR TENANTS WANTED."

The owner of a 45,000-acre ranch has written to a California tractor manufacturer asking for ten tractor farmers to replace tenants who had been farming part of the ranch with horses. They have observed that the tractor-farmed part of their ranch has been better cultivated, is in better shape, and has in general produced better crops. The terms of rental are one-quarter share to the owner. The soil is black, loose plow-land, which produced in 1919 about 20 sacks of barley per acre and up to 16 sacks of wheat per acre.

DANGERS IN SCRAPING CARBON.

Leakage of water and power, where the removable head of an engine should be tightly fitted to the cylinders but isn't, is often caused by getting carbon in the studholes while cleaning it from the firing chamber. Then the studs cannot be tightened enough to prevent leakage. There will also be considerable carbon in the water system which will clog the radiator, and the engine will run hot. Stuff the stud holes and water-jacket openings with waste or cloth before beginning to scrape the carbon.

The Avery tractor hitch book, showing hitches for attachment of all kinds of farm implements to tractors under various conditions, will be sent free to all who apply for it. Diagrams illustrate the various hitches clearly and in detail.

"Optional ignition" will be a feature at the New York Motor Show in January. One dealer reports that 90 per cent of his advance orders for optional ignition 1920 cars have specified magneto equipment rather than batteries.

Hardpan and plowman are promoters of poverty, unless broken up with dynamite or subsoilers.

Investment in labor-saving machinery is cheaper than investment in labor when you can't get the labor.



GRINDS
ANYTHING
GRINDABLE

FEED 1 IN 5 ANIMALS FREE!

That's what you do when you feed ground feed and by so doing utilize the 20 per cent of grain which, when fed whole, goes to waste!

But grind your own feed! Grind it the cheap, quick, and easy way with a Letz Dixe—the mill famous for its patented self-sharpening Steel Grinding Plates.

These plates have thousands of Keen-cutting, scissor-like edges—in one operation cut, grind, and pulverize to powder any-

thing fed into them. Won't clog on stuff damp, wet or oily. Are self-sharpening—silent, trouble-proof. Convert your alfalfa, roughage, and all other grindable materials into the finest of balanced rations and combination feeds. Enables you to use your poor grades and sell your A-1's! More profit!

Unbreakable in fine-cutting, light-running, capacity, durability. One set plates guaranteed to outlast 3 ordinary sets.

LETZ

DIXIE—AMERICA'S LEADING FEED MILL

Letz Feed Mills now used by hundreds of thousands of satisfied farmers and feeders. Write quick for catalog and another Book valuable to feeders. FREE! (Dealers: Cash in on huge demand for Letz Mills. Write for proposition.) Address

The LEWIS COMPANY, San Jose, Calif.
Wholesale Distributors for California.

The LETZ MANUFACTURING CO., Crown Point, Ind.

Wholesale Distributors in all sections insure prompt service through Lets Dealers Everywhere.

Dependable Pumping Plants

When you install a pumping plant you want water—plenty of water—full-rated production and more, if possible. And that's what you get when you install

American Centrifugal Pumps

These pumps produce the full guaranteed amount of water and they keep power bills down to a minimum! That's more than a claim—it's a guaranteed fact.

Write for Catalog

—which illustrates and describes the entire line of American Pumps and proves their advantages beyond a question. The American Catalog points the way to irrigation efficiency.

Open territory for live dealers.

California Hydraulic Engineering and Supply Co.

68 Fremont St. Dept. A, 430 E. Third St.
SAN FRANCISCO. LOS ANGELES

—Horizontal Pumps
—Vertical Pumps
—Deep Well Heads
—Deep Well Crinders
—Oil Engines
—Direct-connected Motor and Pump
—Gas Engines
—Motors

Added protection

Mica Axle Grease contains powdered mica—practically wear- and heat-proof. Fills up all roughness in the metal and makes the grease work better and last twice as long. Easier pulling. No hot boxes. Ask your dealer. Buy by the pail.

Standard Oil Company
(California)

**MICA
AXLE GREASE**

COMPANY



Co-operation of Dairymen Ably Defended

THE USEFULNESS OF MILK AND DAIRY PRODUCTS as food has been known since the dawn of civilization, although but little thought has been given to this important fact. We have just awakened to a realization of the importance of the cow, the foster mother, who dispenses the one perfect food without which the world could not be nourished. In that food there is a mysterious something which scientists have found essential to the highest health of the human race and which can be found nowhere else. Without her milk children languish, the vigor of the adult declines, and the vitality of the human race runs low.

There are in round numbers in this country, twenty-three million dairy cows which produce 89,000,000,000 pounds of milk. Large as this amount may appear, it is not sufficient for one full glass per capita per day for the population of this country, when other dairy products are taken out of the total supply.

Consider the large amount of milk necessary for child feeding and ask yourself if upon this extremely narrow margin the dairy industry of the United States can be said to be safe.

Last year over 19 per cent of all food eaten in this country came from the dairy cow. Of this 89,000,000,000 pounds of whole milk produced, 43.1 per cent goes for direct consumption, 4.3 per cent (over 3½ billion pounds) fed to calves, 5.0 per cent cheese, 2.9 per cent condensed, 3.7 per cent ice cream, 41.0 per cent used to make butter; and of this 41.0 per cent used to make butter, 4 per cent becomes butter, 12 per cent buttermilk, and 84 per cent skim milk. The people do not realize the food value of dairy products, or there would not be this under-consumption of them.

Slept on Its Rights Too Long.

Because the dairyman has lacked anything like a realization of the size of his job, or the utter dependence of the human race for its very life upon the milk pail, the dairy industry has long slept upon its rights and allowed itself to become the football of petty politicians—the prey of organized spoilers and speculators, and the sport of the civic uplifters who cannot see the cow and her attendant dairyman because their eyes are filled with the image of the city milk bottle. How many aldermen and mayors have climbed into public favor as noisy defenders of the milk bottle, with sublime indifference to the fact that their "reforms" were well calculated to kill the cow from which the bottle must be filled? Last winter, if it had not been for the activities of the dairymen, there would have been a milk famine in a number of California cities, which would have been a calamity, and the responsibility of such a calamity would fall on these agitators.

We have been shaken from our trance. We saw two things: That we must pull together if we were to save this all-important industry from political and commercial greed, that organization was our only method; so the Associated Dairymen, like all other co-operative associations, was born of necessity and with the object of putting the dairy industry on a sound, economical basis, and making every human being, from the dairyman himself to the city consumer, respect the cow as the most marvelous food factory known to man.

The real reason of our Association lies in the necessity of service to be performed for the producer and the consumer of dairy products; by improving the conditions under which the dairy products are produced, elimination of waste, and generally by doing such other things as are necessary with respect to the cost of production, quality, more economic manufacture, and better and more even distribution of these products; thus increasing the returns to the producer and lowering the cost to the consumer, that the interests of both may be promoted.

The failure of the farmers' co-oper-

A speech delivered before the Fresno Bankers' Association by J. M. Henderson, Jr., president of the Associated Dairymen of California. In a letter submitting this speech for publication, Mr. Henderson says: "I appreciate very much the friendly spirit shown by the Pacific Rural Press to our Association."

ative creameries in the past years has demonstrated that their associations were not properly organized. Many failures have been caused because the members were at liberty to withhold their raw products and send them to a competitor of their own creamery. If this competitor was willing to maintain a seemingly high price over a long period, he would be able to get so much of the raw product from the co-operative creamery that the latter would be forced to close. Our Association has bound its members by a tightly drawn agreement to market all of their dairy products through the Association for a term of years. They are absolutely bound to market all of their products through the Association.

The Association recognizes that those who are now performing the service of manufacturing and marketing the dairy products are specialists and have had long experience in their several lines of work. Therefore, our Association does not aim to destroy the structure they have built, but seeks to absorb and remodel the present many organizations in such a way that they will be working for the best interests of the dairymen. Without doubt there are more manufacturers and handlers of the dairymen's products than are needed; many will necessarily be eliminated. Our Association, however, desires to co-operate with the well-organized concerns and form them into one organization in order that they may work in one direction instead of many different directions as at present.

It must be borne in mind that the object of our Association is to handle the products with greater economy, to head off profiteering, and eliminate waste, to the end that the dairymen will receive a greater net return, and be able to sell the consumer at the lowest possible price. Beginning with the delivery of the raw product from the farmer to the factory, our aim is to perform each function with the least labor, fuel, and materials, keeping in mind at all times the necessity of maintaining a high standard of quality.

Unnecessary Duplication of Service.

In many sections of the country the creamery men have assumed responsibility for gathering milk and cream. On account of keen competition and their desire for volume of business, many creameries are sending their trucks over the same routes, thereby increasing the cost of handling. This increased cost must, and does necessarily fall upon the dairymen. Our Association will effect a big saving, as routes are being formed in such a way that there will be no duplicated effort, and the milk and cream are delivered to the nearest factory, reaching their destination in good condition.

One of the most important activities of our Association is the proper grading of the raw product and the payment of different prices to the producer for the different grades. The keen competition of the creameries for the dairymen's product has prevented them from doing this, and the Association, having full control of the products, is able to enforce this grading system. The dairymen handling their products through the Association, from the cow to the consumer, feel a great responsibility for the quality of the milk and cream delivered to the factory, and the result is a higher standard of the finished product.

The Association feels that in order to have a brand of dairy products which will stand first in the world's markets, it must have quality, uniformity and quantity. Quality will be attained by the system mentioned above and by proper methods of man-

ufacturing and handling the product. Uniformity will come by the use of uniform methods and materials in the manufacture of the products, and quantity will be the natural result of a large organization.

Securing Uniformity of Product.

With a sufficient number of general utility plants, in which all known dairy products can be manufactured, under the control of the Association, a uniform product can be had and maintained by adopting uniform methods and uniform composition of the products manufactured, and by employing expert field men who will assist the different plants in turning out uniform products. Laboratories will be established and chemists employed to analyze samples from every churning, or every vat of cheese. This not only provides a check upon the uniformity of the product in moisture, salt, and color, but it also gives a check, to a very great extent, upon the efficiency of the men in the different plants. The duty of the field men is to visit the different plants and aid the men in charge in bringing their product up to the standard. They will also standardize the methods for doing the work in the plant, introduce labor saving methods, equipment, and many other things. There can be no question but that our product, under these conditions, can be made practically uniform every day in the year. The Association, having these plants, can buy supplies and equipment in large quantities and thereby make big savings in the cost of manufacture.

The speculator fixes the price the dairymen receive on a butter fat basis, which is fundamentally wrong. Through the instrumentality of the utility plants, the Association hopes to establish a uniform price on the basis of a hundred pound weight on the farm according to butter fat standard. This will prevent competition among themselves. When the price of whole milk goes up in the city, the dairyman in the country stops skimming his milk and sends it to the city, which creates a surplus that heretofore, as Dean Hunt of the University testified before the Legislative Investigating Committee, went to waste. This surplus, if any exists hereafter, will be converted to some use in the utility plants, making condensed milk, powdered milk, butter, cheese, condensed skim, condensed

buttermilk, sugar of milk, casein, albumen, etc. In many sections of the State there has been no means of handling the skim milk and other products; they have been allowed to go to waste.

The present system of fixing the price of our product on the butter fat basis has permitted profiteering on the part of certain manufacturers who buy our whole milk and pay us only for the butter fat, securing for themselves the revenue from the by-products.

There are certain interests in this State which would like nothing better than to see the organization of the dairymen disrupted and its members once more in their clutches, and they are moving heaven and earth to bring about such a condition. They have been carrying on a propaganda of misrepresentation, innuendo, and slander in expectation of creating discontent within the Association and

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Write T. H. Harrison.
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FIVE COWS

Yielded 11.58 lbs.

Butterfat in 24 hours

and 25.65 lbs. of solids, not fat.

These were the Holstein-Friesians that won the Sweepstakes Prize of the Ohio Agricultural Society. The nearest competitor made 10.05 lbs. fat and 14.34 lbs. solids, not fat.

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is as profitable as grain growing. Successes as wonderful as those from growing wheat, oats, barley, and flax have been made in raising Horses, Cattle, Sheep and Hogs. Bright, sunny climate, nutritious grasses, good water, enormous fodder crops—these spell success to the farmer and stock raiser. And remember, you can buy on easy terms

Farm Land at \$15 to \$30 An Acre

—land equal to that which through many years has yielded from 20 to 45 bushels of wheat to the acre—grazing land convenient to good grain farms at proportionately low prices. These lands have every rural convenience; good schools, churches, roads, telephones, etc., close to live towns and good markets.

If you want to get back to the farm, or to farm on a larger scale than is possible under your present conditions, investigate what Western Canada has to offer you. For illustrated literature with maps and particulars regarding reduced railroads, rates, location of land, etc., apply to Department of Immigration, Ottawa, Canada, or

GILBERT ROCHE,
3-5 First St., Sheldon Block, San Francisco, Cal.
Canadian Government Agent.



through public opinion bring pressure to bear from without.

Misleading Propaganda.

One of the first attacks against the Association was made by an officer of the State Dairy Bureau, who was also employed by one of the vested interests. Columns of misleading propaganda from his pen found their way into a large number of newspapers. This attack was designed to discourage the dairymen from joining our organization, but it failed. Then at the last Legislative session we were subjected to an investigation which resulted in a clean bill of health. The same sinister interests reached out and secured the arrest of the Association officers at Modesto on the charge of making false returns to the dairymen; again without result. In San Francisco the District Attorney's office was used to indict the directors of our San Francisco unit on the ground of conducting their business in violation of the Anti-Trust law. A jury of consumers in San Francisco rendered a verdict of not guilty. In the Imperial Valley a dozen suits are pending, which will probably be tried only in the newspapers. A short time ago, when we issued bonds to secure funds for erecting plants, all the newspapers representing the vested interests cried to high heaven that here was a move to turn the dairymen over to Wall street. It was a figment of the imagination typical of the unscrupulous attack being waged against us, and designed merely to frighten investors from the purchase of our bonds; but without success.

As a last desperate means to wreck the Association, quo warranto proceedings have been instituted to secure the sanction of the Attorney-General to bring suit for the purpose of dissolving the Association. These proceedings are now pending.

Producers Branded as Criminals.

We have seen in California how the officers of the milk producers were branded as criminals, not for profiteering, but simply for making collective sales. Now let us turn to Chicago. In the fall of 1917 the organized farmers, who supplied the Chicago market, were indicted as having violated the State Anti-Trust law. Shortly after it became necessary for Mr. Herbert Hoover to deal with farm organizations to help solve his great problems, and where farmers were not organized to see that they were. He called the Chicago organization to his assistance. Under the circumstances it would have been very strange to try the producers for acts which were being done under the acquiescence of the Federal Food Administration. So the prosecution was postponed.

In April of this year the Federal District Attorney took a hand. Thirty-five different places in the territory supplying the Chicago market were visited at the same hour by special agents, who subpoenaed local officers to proceed forthwith to Chicago with all books, correspondence, and papers in their possession. I wish I had the time to tell of some of the third degree methods used on these officers when they reached Chicago. You might think it happened in Russia. The city newspapers were full of invective before the trial so that prospective jurors might be fully informed. The jurors were city men—some of them young men of small means with families, who were deeply concerned as to the price of milk. Yet, in spite of the manifest possibilities of bias, the jury brought in a verdict of not guilty. I shall not comment upon this, but I would like to have you characterize it.

Indicted for Making Collective Sales.

Now, let us turn to Ohio. In September the officers of the farmers' milk-selling organization were indicted—not for profiteering, but for making collective sales. Some of these gentlemen were advised of their indictment by telephone in the evening, and because of their high standing in the community, made arrangements with the sheriff to appear in the morning and give bail. This did not suit the District Attorney, who had them dragged from their homes in the

middle of the night and they were thrown into vermin-infested quarters. In the morning they were provided food, which, because of its quality, they could not touch. The District Attorney did not find it convenient to arrange for bail until noon, and while in court a photographer was introduced who took a picture of these dairymen lined up at the prisoners' dock.

These were not bomb-throwers or murderers, but reputable farmers, who were simply accused of combining with other farmers to sell their products.

Let us go on to New York.

In January, 1918, the officers of the farmers' organization were indicted under the Anti-Trust laws. After some legal skirmishes which cost the association fifteen thousand dollars, the New York Legislature amended the laws to permit collective bargaining. Thereupon the District Attorney caused these indictments to be dismissed, stating that the farmers had a clear right under the law to do what they were doing. It was thought that in view of this opinion the organization might continue constructive work in comparative peace. However, the District Attorney has continued to harass the organization. Subpoenas from time to time have been served on the officers, papers and other records have been called for, and there has been a constant investigation going on. Some of the papers called for by the District Attorney were turned over to a New York sensational paper, who printed them in connection with the picture of an emaciated baby, indicating by flaring headlines that the latter was a "victim" of the "milk trust." More attacks are scheduled to develop, not only against producers of dairy products, but against other organized branches of agriculture. Many of these attacks will be camouflaged behind the high-cost-of-living question, but you must not be deceived as to the real intent.

We shall be wise at the beginning to guard ourselves from snap judgment and prejudices. We need to look coolly and thoroughly into the facts of high prices and find out why prices are higher than they used to be. We shall find "profiteering" such as I have pointed out to you, which ought to be, and is corrected by such an Association as ours. If the processes of production are wasteful, the charges of production will be unduly high. The cost of producing manufactured articles is usually fairly ascertainable, but the cost of producing raw material is, in most cases, difficult to establish in this day. Agricultural management has neglected this essential phase. Farmers for the most part have been content with a living and have not "kept books" on cost. Few of them, relatively speaking, know what the elements of the final cost of their productions are.

Loose Talk Against Farmers.

Consumers called upon to pay high prices for agricultural products, the basic necessities of our lives, are a little inclined to talk loosely about rich farmers and complain against assumed profiteering by the producer. There is one thing the consumer can never afford to do, and that is to favor measures or conditions which do not encourage and reward production. Every ounce of encouragement by the consumer to the producer comes back to him in pounds, not ounces. Low prices, when they strike at the margin of profit of the producer, most certainly injure the consumer, because they reduce production and eventually restore high prices by creating scarcity.

A Fair Profit Indispensable.

There are three things absolutely essential to the future of this important industry, namely, a realization on the part of the consuming public that the future welfare of this nation depends upon the development of the dairy cow, and that she cannot be conserved and developed unless it is possible for the farmer to care for and maintain her at a fair profit. In any ordinary business, those engaged in it are expected to educate the public as to things they have for sale and their uses. It is quite different with the

products of the dairy cow. Every individual is interested in his or her health and welfare and should be seeking all information as to the kind of foods which will best equip them for life's effort. For this reason, every person should interest himself in learning of the vital qualities of milk and its products, and of those things necessary to be done to maintain and develop the dairy cow.

The owners of the cows need a clearer understanding of the importance which the animals they own bear to human welfare, and a fuller

realization of the fact that in caring for and developing the dairy cow, they are engaged in a business, the importance of which cannot be over-estimated.

[The above very able defense of the co-operative movement among the dairymen of California and the United States is published almost complete. Great care was taken to leave out nothing that would detract from the force and truth of the argument. It should be read carefully by all those interested in milk from any viewpoint whatsoever.—Live Stock Editor.]



Would a Bigger Milk Check Be Acceptable?

All you need do is to pay closer attention to cow health. A big milk yield is a genuine health certificate; if the quantity falls off the chances are the cow is suffering from some impairment of her digestive or genital organs—the starting point of nearly all cow ailments.

This Holstein holds the **WORLD'S BUTTER RECORD**, 1504 lbs. butter in a year. Perfect health made her record possible.

KOW-KURE is a cow medicine designed to act directly on these vital organs. There is nothing "just as good" for the treatment or prevention of Abortion, Barrenness, Retained Afterbirth, Scouring, Bunches and Milk Fever. For more than a quarter-century it has been used in the most successful dairies. Feed dealers and druggists sell **KOW-KURE**—in 60c and \$1.20 packages. Send for free treatise.

"THE HOME COW DOCTOR."

It gives full instructions on treating cow diseases—should be in every farm library.

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CLAREMONT HERD GUERNSEYS

Represent the best blood lines of the breed. They combine big production and show type.

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VICENTE ROAD,

BERKELEY, CALIFORNIA

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

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REGISTERED HOLSTEINS

Claremont Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal

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Two miles out North First Street.

HOLMES STOCK FARM

WATERFORD ROAD, MODESTO

Registered Holstein Friesians

Prize winners at all the Shows. Inspection invited and satisfaction guaranteed. Write for prices.

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ALLANA HOLSTEIN FARM.

This fine farm, situated 12 miles north of Fresno on the main highway to the Yosemite Valley, consists of 520 acres of the finest land in this Eden of the world. A large acreage is devoted to raising table and raisin grapes. Besides the grapes, there is



Friesian female at California International, 1919. Owned by J. P. Phillips, Fresno, Calif. Josephine Jehanna Oak De Kol, junior champion and reserve grand champion Holstein-

alfalfa galore, and a herd of Holstein-Friesians of the best-producing blood lines to eat it. J. P. Phillips, owner of the property that anyone would be glad to have, is developing one of the great herds of his favorite breed of dairy cattle. His senior herd sire is Sir Pieterje Korndyke Ormsby, son of the noted sire, Sir Pieterje Ormsby Mercedes. With cattle of the best, feed in plenty, and withal the ability to select winners, it is no hard task to see a brilliant future for this great herd.

DAIRY INTERESTS IN SESSION.

(Written for Pacific Rural Press.)

The California Butter, Cheese and Ice Cream Makers' Association held their 1919 Convention at the University Farm, Davis, on November 20.

The Buttermakers' Competitive Butter Judging Contest was won by A. R. Wickham, University Farm, Davis. Mr. George Dondero of the Petaluma Co-operative Creamery won second honors in this contest. After the judging contest, Mr. T. J. Harris of the San Francisco Dairy Produce Exchange, called the buttermakers' attention to certain common defects in butter, his contention being that a large amount of butter lacking in color, is received on the market at this time of the year. Mr. G. E. Frevert of the U. S. Dairy Division, also addressed the meeting, calling special attention to the value which can be obtained from Educational Butter Judging Contests.

At the business session it was agreed to establish a requirement for membership, which would eventually result in developing a better spirit among the men in the plant and their managers. It was also agreed upon to use the dairy papers of the State to advantage in discussing the affairs and progress of the Association.

The dairy supply representatives and milk inspectors present at the meeting responded favorably when they were called upon to assist the Association in a membership campaign planned for the coming year. The following officers were elected: Thomas C. Moran, Oakdale, President; J. M. Jensen, Hanford, Vice-President; Wm. Dreyer, Sacramento, 2nd Vice-President; J. C. Marquardt, Davis, Secretary-Treasurer.

SHORT SALE OF SHORTHORNS.

Last call for this great sale of Nevada bred Shorthorns. Here will be a chance for those intending to get into the purebred game to get some excellent stock at their own prices. Purebreds pay, and these are some that have not been pampered, but are ready to go right to work without any tedious "letting down" process. Col. Ord L. Leachman will cry the sale.

The American Jersey Cattle Club by the recent action of the Board of Directors, has eliminated the seven-day test. This test has fallen into disuse in late years, and the directors thought best to strike it out of the rules entirely.

The Famous TAGUS RANCH Tulare Calif.

MERRITT-BOWERS COMPANY

2-Day Sale TUESDAY, WEDNESDAY, **December 16-17**
OFFERS AN OPPORTUNITY NO STOCKMAN OR FARMER CAN AFFORD TO MISS

The Shorthorns

101 in number, are the largest lot of animals of superior breeding ever offered in a single Shorthorn sale in California. The 58 beef cows and heifers, most of them bred and many selling with calf at side, are a fine lot of matrons by Scotch and Scotch-topped bulls. Many are by Knight Avon 2nd, the great Curtiss bred bull by the Carpenter & Ross bull Comet by Avondale and he by Whitehall Sultan, which is quite enough to say of a Shorthorn. Some of the cows are in calf to Knight Avon 2nd, and others by some of his outstanding sons.

Knight Avon's sons of breeding age are numerous in the offering and frequently in the catalog will be found sons and daughters of Coronado, by Golden Goods, the last of the great sires combining the direct blood of the St. Louis World's Fair Champion, Young Abbotsburn and Choice Goods. A worthy son of Coronado transmitted more of his blood through the herd and is bred to daughters of Arizona Archer, by Victorious Archer by Golden Lord, a member of the strikingly handsome Golden Drops section of the Linwood herd. Knight Avon 2nd was used quite extensively on the daughters of Coronado.

The 25 bulls in the offering are good rugged sires, bred and raised in the open and ready for the range or breeder's lot.

The 13 MILKING SHORTHORNS are a shapely lot of well-developed dual-purpose cows, and for the most part are bred along lines that will give the greatest production of valuable products for which the Shorthorn is noted—meat and milk. Glensides Sequel of the famous Glensides breeding, has seen service in the herd and is the sire of the half-dozen fine, vigorous young bulls that should prove an attraction where milk-strain Shorthorns are in demand.

The Shorthorn offering, presented in good rugged range condition, without the usual sale ring preparation, will give the buyer more for his dollar than had the herd been pampered and fitted for the auction.

The good regular breeders of such excellent blood lines and tuberculin tested should make the most inviting Shorthorn offering of the year, and the large number selling is bound to have the bargain spots.

The Shorthorns will go through the ring commencing 9:30 o'clock Wednesday, December 17th.

The Herefords

The 30 two-year-old Hereford bulls are as nice a lot as was ever offered in a bull sale of either registered or unregistered purebreds. They are the tops of a large purebred herd that has been permitted to run on the range without the keeping up of individual breeding records, so they will sell unregistered, ready for the range. The ruggedness, size and vigor of the lot commends them to the buyers who want a better crop of calves by bulls that have been bred right and raised under conditions which will permit their being turned out on the range to prove their worth. They sell Wednesday, December 17th.

The Work Horses

No ranch can boast of a better lot of good work horses than this one, and the 30 head that are offered are ready to get into the collar for any kind of work. They sell Tuesday, December 16th.

The Unbroken Horses

The 25 unbroken horses are for the greater part saddle stock, being a nice trim lot of young horses not to be overlooked. They also sell Tuesday, December 16th.

The Wagons and Harness

The 25 big wagons are in good-as-new condition and with the 20 sets of first-class harness will make a feature of the sale well worth figuring on even if interested in nothing else. They sell Tuesday morning, December 16th, and will go fast.

THE IMPLEMENTS

Tagus Ranch is noted for its modern equipment and the manner in which it maintains its farm and field machinery is an example for other ranches of the country. Much of the great 6000-acre ranch is being leased, so there is offered an assortment of implements too numerous to mention. Plows of all descriptions, subsoilers, grain and alfalfa drills, and hundreds of useful and expensive tools that have seen but slight service, will go to the highest bidder.

THE IMPLEMENTS WILL START THE GREAT 2-DAY SALE, COMMENCING 9:30 O'CLOCK, TUESDAY MORNING, DECEMBER 16, 1919

**IMPLEMENTS, WAGONS, HARNESS,
HORSES, JACKS, MULES
SELL**

TUESDAY, DECEMBER 16th

**100 — SHORTHORNS — 100
30 — HEREFORDS — 30
SELL**

WEDNESDAY, DECEMBER 17th

The Tagus Ranch is one of the Great Farms of the country. Its stock and equipment are in keeping with its good reputation. Come for both days. You will find what you want and get it at your own price. The ranch is on the highway 5 miles north of Tulare.

For catalog and further information, apply

MERRITT-BOWERS COMPANY, or
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Tulare California.

ORD L. LEACHMAN,
Auctioneer and Sales Manager,
1111 Seventh Street, Sacramento, Cal.

The Draft Horses

The horse offering has never been surpassed for a finer lot of registered and unregistered stock than has been put up to the highest bidders at this sale.

Percherons

Superior, 97190, the big steel-gray 7-year-old stallion by Restaurant, an imported stud, and out of Black Bess, is the kind badly needed in many communities of the country today.

Woodland, 141084, the gray 3-year-old by Nero, 1211061, and out of Comet, 74004, is one of the promising young stallions of the Pacific Coast.

Inquiet, 69564 (79239), the big black imported stallion by Aiglon (64052) and out of Castile (61344) is one of the kind seldom, if ever, found at public sales.

Patre of Paicines, 111450, a gray 5-year-old stallion by Fernand, 72763 (65262), and out of Pink Timber, 46040, is a real horse through and through.

A gray 2-year-old stallion rounds out the Percheron offering, the likes of which has rarely been sent through the sale ring.

Shires

General Sherman, 18042, a black 4-year-old stallion by Rolleston Wonder, 7931 (22730), and out of March Queenie, 10517 (58913), both imported stock, could stand anywhere in the country.

March Coronation (12959), an imported 7-year-old stallion, is a beauty, size and quality unexcelled.

Goodacre Gem, 15949, a 6-year-old bay mare by Nateby Statesman, 8510 (23539), and out of Horbling Gem, 10519 (58916), is a fine brood animal of the best of imported mating.

Wrydelanes Model, 105454 (58883), a brown mare by Warden Royal Harold (16300) by Harold (3703) and out of Norbury Sylph (48883) was imported in 1909 as a filly, and comes from the best Shire blood in England.

Belgians

Dewey, a roan 2-year-old stallion by Cesar d'Olsene, 3924 (51518), and out of Diana, 1426 (67045), combines the blood of two of the greatest imported horses ever brought West and his big muscular body and heavy frame would be difficult to equal.

A nice, big Belgian stallion colt also goes into the ring for what buyers consider him worth.

Margot de Waere, 68659, a black imported mare by Martin de Cappelle (41336), and out of Marie de Waere, is one of the choice mare offerings.

Mina (1370), a 2000-pound imported roan mare, is of rare quality and substance.

A roan imported mare of 2000 pounds, on which the owners cannot secure papers, would not be up for sale under any other circumstances.

German Coach Horse

Raven, 5945, a 7-year-old stallion by Latus, 5289, out of Dura, 312, is a horse worthy of his breed. These sell Tuesday, December 16th.

The Jacks

Five of the biggest-boned kind of Jacks that get those big useful mules, are to be sold under the hammer on Tuesday, December 16th, making an attraction of the sale that is of unequalled offering anywhere in the country.

The Mules

The 25 mules are fine, big, good pullers, heavy in demand throughout the land today, and buyers will find the kind to their liking in this bunch. They sell Tuesday, December 16th.

Butchering Hogs and Curing the Meat

(Written for Pacific Rural Press by Thos. F. McConnell.)

Several inquiries about home curing of hams and bacon makes it appear that there is more or less interest among farmers on this subject at this time of the year. Where the farmer or rancher has a number of hogs to kill, it is possible for him to hire some one to assist on "hog killing day," as it used to be termed in the states east of the Mississippi river. Fifty years ago it was looked upon as a sort of holiday by the children on the farm in the northern states, and according to an old negro mentioned in an account of plantation operations in one of the southern states, "hog-killing day" stood out as the most delectable period of the year. He said, in talking about it, "Dese yere udder niggers may hab deir water millions, deir 'possums, and 'coons, but hawg-killin' day is de supremest time of all." Be that as it may nearly every one is fond of properly cured hams and bacon, sausage, and head cheese, and it is the aim in this article to assist those who wish to cure their own meat.

It is necessary in order to have the best-cured meat, to have the best hogs to kill. No particular breed is meant when we say the best. What is best in this case is a hog, either sow or barrow, from 6 to 8 months old, and weighing from 200 to 225 pounds. If you have an animal a year old, the lean meat will not be as juicy and tender, either fresh or when cured.

If a large proportion of lean meat is desired, do not feed your hogs like the Irishman who wanted "a strake of fat and a strake of lane mate," and fed excessively one day and starved 'em the next. It has been demonstrated years ago by no less an authority than Professor W. A. Henry of the Wisconsin College of Agriculture, that it is easy to produce a hog carcass having a large percentage of lean meat by feeding a narrow ration and plenty of mineral matter. That is, give plenty of alfalfa pasture, a reasonable amount of tankage or skim milk along with the barley, Egyptian corn, milo maize, or Indian corn. Wood ashes are excellent to supply mineral matter, and are relished by hogs that are on full grain feed.

Tools Needed.

When the hogs are considered fat enough, then if there are any weather prophets in the family, select the first of two or three cool, frosty days in succession for "hog-killing day," as it is very necessary to have the meat thoroughly cooled before placing in the pickle. Plenty of sharp knives, gambrels for hanging the hogs after scraping, scrapers for removing the hair, platform on which to lay the hogs while scraping off the hair, and a barrel or cask in which to scald them to loosen the hair.

Kill by stunning with a blow from an ax, or shooting with a small calibre rifle, and "sticking" immediately afterward so that the animal is bled well. If the animal is completely stunned the bleeding is painless, and the animal suffers not at all.

Scalding and Scraping.

A fifty-gallon barrel is large enough to scald a 200 to 300 pound hog, scalding one end or half the hog at a time. The water should not be hotter than 175 degrees Fahrenheit to begin with, and should not be allowed to fall below 155 degrees. The animal should be kept moving all the time while in the water to prevent cooking the flesh. It will take from a minute to a minute and a half to loosen the hair so that it can be removed quickly and completely. The hind end is generally scalded first, and the hog is handled by insert a hay hook or similar, but larger and heavier implement, in the under jaw. Just as soon as the hair will slip off easily, remove the hog from the barrel to the platform provided for the purpose. Work rapidly now just as though you were fighting fire. Remove the hair from the feet first, as they are the most difficult to clean. If a "good scald" was obtained all the hair will come off except that in the wrinkles of the

legs which will have to be shaved off with a sharp knife, being careful not to cut the skin at the same time. As soon as this end is scraped, see that the water in the barrel is hot enough, testing with a dairy thermometer (don't guess) and scald the head and fore legs and the part of body still remaining. Handle the carcass by a gambrel (a strong stick, sharp at both ends, about 2 feet long and slightly bent), inserted under the tendons on the back part of the hind legs, just above the hoofs. After all the hair has been removed by scraping that can be, rinse the animal with water from the scalding barrel, and shave off the few bristles remaining with sharp knives, cleaning the feet and head carefully of all scurf and hair.

Dressing the Carcass.

Hang the carcass up by the hind legs with the gambrel mentioned above, just high enough to clear the nose from the ground. Rinse again with clean water, and shave with sharp knives, so all dirt and few hairs left will all be removed. If the work has been properly done, even the blackest of hogs will look clean and white. Remove the intestines first, being very careful not to cut or break them. Now carefully remove all fat from them as on a fat hog there is considerable lard to be saved from them if carefully and cleanly done. Then the heart, lungs, liver, and tongue should be taken out. The only thing to avoid here is breaking the gall bladder, which should be removed from the liver carefully after the liver is removed from the carcass. The carcass is now open, and should be rinsed out thoroughly with clean, cold water, first placing a small stick or corn cob between the jaws so that all bloody water will drain out. Place a stick in the flanks to hold the carcass open so that it will cool quickly.

Cutting Up the Carcass.

The old rule in "years gone by," particularly in the colder climates, was to allow the carcass to cool thoroughly before cutting it up. Many claimed it was not possible to make good cured pork from it unless this was done. In California, and especially in the warmer parts where no artificial cooling means are available, it is better to cut the carcass up as soon as possible, placing the hams, shoulders, and bacon strips on clean boards, skin side down, in the coolest place on the ranch. Cut all bacon pieces as true and square cornered as it is possible to make them, and when placed out for cooling, lay them straight and square so that they will not be all twisted and crooked when cool.

When cutting up the hams for brine pickling, it is better to cut the legs off close up to the ham or shoulder, making what is known as a short ham. The hoofs should be cut off the feet at the same time, care being taken to not cut the feet any shorter than is absolutely necessary, as those who like pickled pigs' feet like all that they can get. All loose, flabby portions like the belly should be put with the leaf lard or "kidney fat" as it is sometimes called, cutting out all the lean portions to make into sausage.

After the meat has cooled thoroughly, go over all the hams, shoulders, and pieces of bacon, trimming off all ragged edges and corners, giving the hams and shoulders a neat, smooth appearance. All that is trimmed off can go into the sausage, or if too fat into the lard.

Sausage.

Genuine pork sausage, properly cut and seasoned, is a delicacy seldom obtained except on the farm or ranch. Judging by appearance the fat and lean should be about equal with the lean part being the larger if any difference is made. All skin should be removed, and the meat cut into pieces convenient for feeding into the grinder or cutter. Cut it fine rather than coarse, and under no circumstances put in any meat other than fresh pork. After you have the sausage meat ready for cutting, weigh

The Chester White Will Start You Right

Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Our last carload shipment dressed 72.30 per cent and brought 1½¢ above the market price.

Largest Herd on the Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

OAK KNOLL FARM

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Promote Pork Profits

With Better Poland-Chinas breeding

I have a few young boars by Joe's King just ready for service. They will make your spring crop of pigs profitable in spite of high price of feed and labor. They are the big type, with easy feeding and quick-maturing qualities. I have priced them very reasonably for a quick sale. Write at once for prices and particulars or call and see them.

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Big Model Fellow 305547

1st prize senior pig, 1918 State Fair.

1st prize senior yearling and Reserve Grand Champion 1919 State Fair.
Sire of the Grand Champion pen of barrows at 1919 State Fair heads my herd.

J. F. McSWAIN

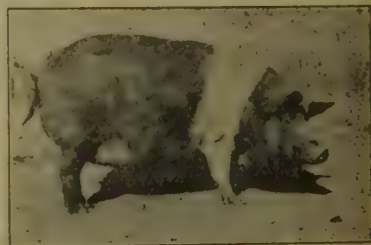
Breeder of Poland-China Hogs.

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LLANO VISTA HERD Champion Hampshire Swine

The pioneer grand champion herd of Hampshires is directly responsible for the growing interest in the Hampshire breed today.

It has brought to light the winning blood lines in our big shows. It has furnished foundation stock for numerous new herds throughout the state and is still doing so: 200 pigs bred, bred sows, and sows with litters for sale.



JUDITH—No. 126448

Sire: Calif. Lad, 45021. Dam: Mabel, 113078

F. V. GORDON
Owner

PERRIS (Riverside Co.), Calif.

F. A. LANGDON
Manager

BIG BOAR BARGAINS

We are dissolving our partnership and we have a few spring boars, weighing 250 pounds, the tops of the season, sired by Big Bone Bob Jr. To close out quickly have priced them at \$50 to \$75. This is away below their value.

Write at once, or call and see them.

Young & Clark - Lodi, Calif.

BIG TYPE POLAND-CHINAS

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

THE GARDINER RANCH

ROUTE 4, BOX 735,

SACRAMENTO, CAL.

it, and to each 5 pounds of meat add 1½ ozs. salt, ½ oz. ground black pepper, and ½ to ¾ oz. ground sage. It probably will be necessary to grind the meat twice in order to thoroughly mix the meat and seasoning, and to get it fine enough to suit most tastes.

To keep after making, it may be cooked at once, making it into balls ¾ inch thick and 2 inches in diameter, placing them after cooking in clean crocks, and covering with melted lard, or it may be partially cooked, stuffed into muslin sacks about 3 inches in diameter, dipped into hot lard, smoked and hung up in a cool place. The first method is the safest in California climates.

Pickling the Hams and Bacon.

There are various methods of pickling hams and bacon, but only the brine pickling will be noticed here, as experience has shown that more people are successful with it than otherwise, and if detail of the work is looked after success will follow.

The first thing to be done is to get a proper receptacle in which to pickle the meat. It must be clean and free from taint of any kind. For small amounts of meat a 20-gallon earthenware crock is an ideal receptacle, as it can be made perfectly clean, is absolutely free from taint, and will not leak. A clean oak barrel that is absolutely tight and has been soaked long enough to free it from the wood taste, is all right. Wooden hoops are best, although iron hoops will answer, but iron tends to rust, and in about the third or fourth year a hoop will part, the barrel start to leak, and before it is discovered, the meat is spoiled.

Therefore, have the right kind of barrel or crock.

The Brine or Pickle.

There are many formulas for making the pickle, but they really are much alike, and the base of all is salt. The sugar in most of them adds a flavor desired, and is somewhat of a preservative. The saltpeter preserves the red color so much desired. Saleratus is added sometimes to keep down fermentation, and eliminate ropiness in the brine.

A formula given in "Southern Pork Production," by Prof. P. V. Ewing, of the Texas College of Agriculture, is perhaps as well adapted to California conditions as any. We give it below.

For every 100 lbs. of meat, 8 lbs. of clean rock salt, 2½ lbs. sugar, 1 quart sugar cane molasses, 2 ounces baking soda (saleratus), 1½ ounces saltpeter, dissolved in 5 gallons of soft water. Put in a kettle or other vessel, and bring to a boil, skimming until clear. Place hams and bacon in the receptacle, placing a weight on them so that they cannot float in the brine. When the brine is cool, pour over the meat, being sure that all is covered.

In the above formula the molasses may be omitted, but many prefer the meat with it in. The recipe calls for soft water, but tons of meat have been cured successfully with hard water. Watch the meat to see if there are any signs of fermentation shown by froth on top of pickle or ropiness in the brine. In warm weather this may occur. If it does show, either the brine must be boiled or new brine made. Six weeks is about the right length of time to keep the meat in the brine, although very large hams and shoulders may be left in a week or two longer.

Smoking.

If the meat is to be smoked, it should now be taken out of the brine, and hung up in the smoke house, and allowed to drain a day or two before commencing to smoke it. Care must be taken to prevent flies from depositing eggs and worms developing. Smoke with apple, prune, or apricot wood, or corncobs, avoiding all pitchy resinous woods. The amount of smoking depends on the taste. Judge by the outside appearance or by cooking and eating some of the meat.

In the colder climates the meat may hang in the smoke house until warm weather, but in the Southwest it should be taken down and, according to Prof. Ewing, before quoted, painted with a mixture of molasses 9 parts, ground black pepper 1 part. Then wrap closely in heavy wrapping paper after which it should be placed in a heavy muslin or paper sack, tying so that no insect can possibly gain entrance. Now the package should be completely and thoroughly covered with a mixture of 50 parts powdered barytes, 1 part each of glue and lead chromate, and 5 parts flour. Make the flour into a thin paste with water, then add the dissolved glue and chromate, and finally adding the powdered barytes. The different pieces should now be hung in a cool, dark place and so that they do not touch.

If the above directions are followed, sweet, nicely flavored meat will be the result that is better than any you can buy.

DO YOU WANT TO BUY POLAND-CHINAS?

If you do, W. T. Dice, of Hanford, who is well-known up and down the Pacific Coast as the breeder of "Right type" Poland-Chinas, will leave for the corn belt not later than December 15th. He expects to be gone for 6 or 8 weeks, and will attend all the important auction sales of his favorite breed during that time, and visit many of the prominent breeding establishments of Poland-Chinas. He has accepted commissions from a large number of breeders to buy Polands, and would be glad to receive a few more. Those who know Mr. Dice are glad to avail themselves of the opportunity, and know that any commissions placed in his hands will be executed with honesty and ability.

All carloads of fat steers on exhibition at the California International were Herefords. Where were the other beef breeds?

PURE HAWAIIAN CANE MOLASSES

PORK PRODUCTION

By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

MILK PRODUCTION

One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars for shipment anywhere.

W. H. YOUNG COMPANY

Holbrook Bldg.,

San Francisco

WILL YOU WANT THEM?

SOWS, GILTS AND BOARS

Sired by or bred to

MATCHLESS BIG BOB

LAKEIDE DEFENDER

LIBERTY BOND and

MAJOR HADLEY WONDER

The offering at our next sale will represent some of the most noted blood lines of the Poland-China breed East or West.

Watch for further particulars.

LAKEIDE STOCK FARM

GEO. V. BECKMAN & SONS,

LODI, CAL.

WINSOR RANCH DUROCS

Home of

WINSOR'S GIANT ORION

We won at Los Angeles Live Stock Show

GRAND CHAMPION SOW

"Model Defender Lady"

And be sure you look up our other winnings Bonita, San Diego, Co.



Address R. K. WALKER,

POLAND-CHINA BREEDERS, ATTENTION!

We will spend 4 weeks in the corn belt of the Middle West this winter, visiting the most important Poland-China farms and auction sales. We have orders to purchase hogs for a number of breeders and would be pleased to receive a few more. We will act for you to the best of our ability and have your interests always foremost. Write us at once for terms.

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Box 374, Hanford, Calif.



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Sell your livestock, farm equipment or real estate at public auction. I can get big prices for you. Have cried successful sales in all parts of the State. Customers always satisfied. Purebred sales a specialty. Write or wire for terms and dates.

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(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes. Sure to please.

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Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1890 as the complete milk substitute. Costs less than half as much as milk - prevents scouring - promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data See actual figures showing you how to increase your calf profits.

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Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.75 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

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O. M. FRANKLIN GERM FREE AGGRESSIN

Manufactured by The Kansas Blackleg Serum Co. and save every calf. Do not use imitations of our vaccine. Get the ORIGINAL O. M. FRANKLIN GERM FREE

It is absolutely the only Aggressin on the market that is guaranteed to immunize cattle from Blackleg.

This Seal on every bottle.

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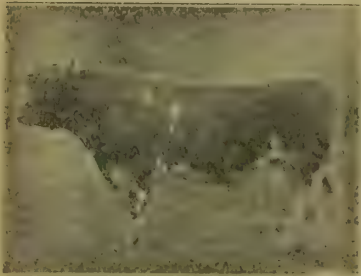
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Valuable for its information upon diseases of horses and cattle. 197 pages, 67 illustrations. Write today.

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Production AND Conformation



Imported Itchen May King
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Senior Herd Bull, many times
Grand Champion, and sire of
12 A. R. daughters

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ROYAL ROSE KING,

By Itchen May King, out of
Belladia, A. R., 19,631 lbs.
milk, 934.05 lbs. fat

PENCOYD'S GOLDEN MAY SECRET

By Longwater Pencoyd, out of
Nellie Jay 4th, A. R. 20,709
lbs. milk, 1,019 lbs. fat

WE WON AT LOS ANGELES:

- 1st on Bull, 3 years old or over.
- 1st on Senior Bull Calf.
- 2nd on Junior Bull Calf.
- 1st, 2nd on Cow (4 years old or over).
- 1st on Cow (3 years old and under).
- 1st, 3rd on Heifer (2 years old and under).
- 2nd on Senior Yearling Heifer.
- 1st, 2nd on Junior Yearling Heifer.
- 1st, 2nd on Senior Heifer Calf.
- 1st, 2nd on Junior Heifer Calf.
- 1st on Aged Heifer.
- 1st on Young Heifer.
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- 1st, 2nd on Four Animals. (Either sex—any age, get of one sire).
- 1st on Two Animals (either sex, any age, produce of 1 cow).
- 1st on Five Cows in Milk.
- All championships.

And at the National Dairy Show—
(Chicago, 1919,

Grand Champion in Guernsey Bull Class
with,

"ITCHEN MAY KING"

**Bull Calves for Sale
at Reasonable Prices**

**W. H. DUPEE, Owner
Santee, Calif.**

Livestock and Dairy Notes

Dairy.

The highest 7-day record of the year comes from the herd of Alex Whaley, Holstein-Friesian breeder of Tulare, whose 4-year-old cow, Eldorado Winifred, produced 24.174 lbs. butter fat, and 637.6 lbs. milk for the period. The average per cent fat was 3.79.

The cost of pasteurized milk soared recently in Stockton two cents. Wagons delivering from door to door are now selling at 8 cents a pint and 14 cents a quart. There has been no advance in the cost of raw milk to the trade. The stores report a similar increase to the counter patrons, also.

In some way our "wires got crossed" in reporting Ayrshire awards at the California International, and E. B. McFarland was credited with winning first prize on four animals of either sex, get of one sire, when this award was made to cattle owned by J. Henry Meyer, proprietor of Elkhorn Farm and breeder of blue-ribbon Ayrshires.

The Western Berkshire Congress has presented Owen Duffy, business manager of the Napa State Hospital, with a silver trophy as an appreciation of the service that Mr. Duffy has rendered the Berkshire breed in sending a car-load of Berkshire hogs to the California International good enough to win the grand championship in car-loads of fat swine.

Thirteen thousand official year's records have been completed by Jerseys. No other breed can show as many completed year's records. The average production of these records is 7932 lbs. milk, and 424 lbs. fat. This includes cows of all ages from yearlings to animal 17, 18, and 19 years old. The average production of 4500 aged Jerseys, cows 5 years old and over, is 9218 lbs. milk, and 487 lbs. fat.

Swine.

The calendar of fat hog sales by the California Farm Bureau Marketing Association throughout the San Joaquin valley for the month of December was announced from the office of the farm advisor. The dates follow: December 6, Wasco; December 9, Tulare; December 10, Visalia; December 11, Chowchilla; December 12, Turlock; December 13, McFarland; December 15, Modesto; December 16, Merced; December 17, Hanford; December 18, Corcoran; December 19, Fresno; December 20, Bakersfield; December 22, Madera; December 23, Tulare; December 24, Visalia.

"Pure Bred Squeals" is the title of the latest livestock publication to find its way to our desk. It is published by the Kern County Union High School Agricultural Club, and is a very creditable publication. It is very fashionable, as it is like some of the New York magazines; it is beating the H. C. of L. by eliminating the printer. The paper is published for the purpose of keeping the public informed about the progress of the Purebred Litter Contest, and other seasonable data relative to the purebred livestock business in general. The first issue gives a list of the boys who have bought gilts, and entered them in the contest, giving the name of the breeder from whom the gilt was purchased, and its weight. They certainly have patronized a reliable bunch of breeders in the purchase of their stock.

Beer.

Caledonia Farms of San Francisco and Sacramento report recent sales and shipment of Shorthorns as follows: 4 heifers and 3 bulls to Carson City, Nevada; 5 bulls to Red Bluff; and 9 bulls to Montague.

The Lazy H. Ranch of Sanger has recently imported 64 bulls and 26 heifers from the Noah B. Matkins Ranch of Kansas. The cattle are all purebred Herefords, and the management intends to gradually replace

Holsteins and some other breeds that have formerly been bred on their holdings.

The sale of Nevada bred Shorthorns, owned by W. C. Short of Reno, will take place at the State Fair Grounds, Sacramento, Thursday, December 11th. This stock is all young and well bred, and will afford California breeders an opportunity to buy some excellent stock.

The weekly report of the Bureau of Markets, U. S. D. A., of November 20th, says "the Brazilian Government realizes the necessity for improving the quality of Brazilian cattle. In the Chamber of Deputies at Rio Janeiro, the Minister of Agriculture, in sub-

mitting the estimates for his department for next year, estimated that there are 30 million head of cattle in Brazil at the present time, including 20 million head of females of which 12 million head are ready to breed. For the proper crossing of these herds the Minister stated that it will be necessary to import 120,000 bulls during the next ten years, or an average of 12,000 bulls annually, and he therefore requested an increase of the appropriation for this purpose from \$364,987 to \$3,649,875." Now that we have the Panama Canal it would seem as though the Pacific Coast ought to be able to get some of this money.

The government has issued a special circular warning farmers against feeding carcasses of animals dying from disease. It is safer to burn all such carcasses, or bury them deeply, covering with quicklime. Carcasses of animals dying of anthrax, glanders,

Next Thursday, Dec. 11th

—At the—

STATE FAIR GROUNDS
SACRAMENTO, CAL.

Will be the

Shorthorn Opportunity of the Year

FOR BREEDERS, RANGE MEN AND FARMERS

To Secure at Their Own Prices

50 HEAD OF REGISTERED, TUBERCULIN
TESTED AND GUARANTEED BREEDERS

SHORTHORNS

From the Herd of

W. C. SHORT, RENO, NEVADA

A splendid lot of young bulls and heifers ranging from 10 to 24 months of age from one of the oldest established herds in the West, breeding for the needs of the Western breeder, stockman and farmer.

TO OVERLOOK THIS SALE WILL BE MISSING AN
OFFERING THAT IS SELDOM PRESENTED ON
THE PACIFIC COAST

For Catalog, Write to

ORD. L. LEACHMAN, Auctioneer and
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1111 Seventh Street,

Sacramento, Cal.

ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, winner of 1st premium in two-year-old heifer class, and also awarded grand championship at State Fair and all Coast livestock shows, and sold at auction for \$2,000, the record price of the Coast; sire also of Ormondale Maid 2nd, winner of 2nd premium in the strongest junior yearling class ever shown at the California State Fair.

Every animal positively guaranteed.

Prices on application.

SHORTHORN CATTLE
DUBOC-JERSEY SWINE

ORMONDALE CO.

REDWOOD CITY, CAL.
R. D. No. 1

Brighton Farm Herd Shorthorns and Berkshires

We have a very fine yearling bull for sale sired by Sir Type and out of a Laurel Frantic cow. This is an ideal bull for a breeder of Dairy Cattle.

Also some very choice cows and heifers.

H. L. & E. H. MURPHY,

6 miles east of Sacramento.

Perkins, Calif.

Beef Cattle Specialist

For 30 years I have been devoting my entire time to purebred beef cattle. I know the kind of cattle California needs and where and how to buy. I make regular trips to the great producing centers and will buy on order. Best of references. Satisfaction assured. Correspondence invited.
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BOOK ON DOG DISEASES And How to Feed

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the Author

H. CLAY GLOVER CO., Inc.,
118 West 31st Street, New York

and tuberculosis should always be completely burned.

C. R. Thomas, manager of the Los Angeles Livestock Show, expects to make a trip to the Central States early next year to buy two carloads at least of purebred Shorthorns and Herefords for the Southern California breeders.

Sheep.

In the report of the Pacific International last week, the winnings in the Hampshire sheep classes by C. Harold Hopkins, of Woodland, were omitted. First on ram lamb, and grand champion ram of the Hampshire breed went to his credit in strong competition. Mr. Hopkins is manager of the Conaway Ranch at Woodland, where they are doing things in the purebred livestock business. They are just starting a flock of Hampshires, but judging from their winnings, they have started right.

At the wool auction sales in London December 1, 11,890 bales were offered. The market was active and prices firm. America bought merinos which were 5 per cent dearer. Cross-breeds were unchanged except shabby coarse, which were 5 per cent cheaper. Melbourne greasy merinos fetched from 7 shillings 3 pence to 7 shillings 8½ pence.

Miscellaneous.

Rodent control has produced excellent results in the Sitgreaves National Forest of Arizona, according to the Extension Department of the Arizona College of Agriculture. The gramma grass is kneedeep on thousands of acres that were formerly devastated by prairie dogs. We have no prairie dogs, but we have gophers and squirrels that are just as hungry as the dogs. Feed 'em poison next summer.

The U. S. Forest Service some time ago proposed a stock road to parallel the Lincoln Highway between the Shingle Springs and Summit, but the cattlemen of that region at a recent meeting opposed such a move. The expense was to be taken care of by the Forest Service and was intended to accommodate both the automobile tourists and the cattlemen. To the uninitiated this would seem a safe and sane idea.

TAGUS RANCH SALE.

Having fixed a policy to hold two great livestock and farm auction sales a year, the Merritt-Bowers Company, operating the famous Tagus Ranch at Tulare, has decided upon Tuesday and Wednesday, December 16th and 17th, as the dates for 1919 fall sale.

One hundred registered Shorthorns, many of them sired by or in calf to Knight Avon 2nd, son of Count Avon by Avondale by Whitehall Sultan, some of the greatest sires of the breed, are an attraction that will bring breeders and range men from all over the west. In the lot are a number of Milking Shorthorns.

Thirty unregistered Hereford Bulls that go into the sale are a fine lot of two-year-olds.

The Merritt-Bowers Company is providing a further attraction by putting in fifteen head of high class registered Percheron, Belgian and Shire stallions and mares, as well as five head of registered jacks. The horse offering will also include twenty-five mules and thirty work horses.

Col. Ord L. Leachman of Sacramento will cry the sale.

LIVESTOCK DIRECTORY.

Rate 3½ cents per word each issue.

SWINE.

Berkshires.

"ACHIEVER"

The DUKE

BERKSHIRES—Sired by Star Leader, the \$1500 bear. Kounias Registered Stock Farm, Modesto, Calif.

CARRUTHERS FARMS BERKSHIRES—Chester immune. Live Oak, California.

ANCHORAGE FARM.

MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion **STAR LEADER**. We are now making a special offering of classy boar pigs. Anchorage Farm, Orland, Calif.

A SOW THAT FARROWS 10-11-15-17-11-10-9-10

Is worth her weight in gold, particularly so if she is royally bred. This is the record of Symboler Belle. I have a boar pig from her last litter that is a dandy. If you act quickly you can have him for \$75.00. Sandercock Land Co., 23 Montgomery Street, San Francisco, in charge of Natomas Land Sales.

REMEMBER—Berkshire barrows win over all breeds at Frisco Stock Show. We can ship you a boar that will produce that kind. Satisfaction assured, or money returned. Write today as they will move quick for the price. R. J. Merrill & Son, Morgan Hill, Cal.

WRITE FOR MY BERKSHIRE CATALOG, giving names, ages, breeding of service boars, bred gilts, specially selected trios. Frank B. Anderson, Sacramento, Cal.

GRAPEWILD FARM BERKSHIRE-GUERNEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRES—Closing out entire herd, sows, gilts and boars. Best stock obtainable, priced very low. Wm. C. Laux, Morgan Hill, Cal.

LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write me. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

Poland-Chinas.

ELDERSLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our ½-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D., Box 180.

POLAND-CHINAS—Young boars ready for service; also a few gilts, sired by California Big Bone Bob and Ursus Jr., real 1,000-lb. boars. Prices and descriptions on application. Eugene Miner, Rt. 2, Box 105, Lodi, Calif.

TOHOQUA POLAND-CHINAS—Strictly big type. Junior and Grand Champion sow at Glenn County Fair. Young breeding stock to sell; bred right, grown right and priced right. Ferguson & McKaig, Orland, Cal.

J. F. McSWAIN, Breeder of Poland-China hogs. Herd headed by Big Model Fellow. Reserve grand champion 1919 State Fair. Boar for sale. R. 3, Merced, Calif.

THE PACIFIC HERD of big-type Polands. Herd sire, Hadley Wonder and an outstanding boar by Golden State King. Nettie E. Andrews, Modesto, Cal.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

A FEW BOARS of May farrow. Grandsons of Big Bone Bob. R. B. & L. J. Montgomery, R. F. D. No. 1, Walnut Creek, Calif.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

10 SPRING BOARS—Tops from herd, will be sold at very low prices to close up partnership. Young and Clark, Lodi, Cal.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

POLAND-CHINAS—Bargains—Two March boars, large type. Will ship on approval. J. E. Thomas, Gilroy, Cal.

REG. BIG TYPE POLAND-CHINAS—Service boars and weanling pigs for sale. J. H. Cook, Paradise, Cal.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

POLAND-CHINAS—Young stock for sale. H. E. McMahon, Lemoore, California.

TWO SPECIALLY GOOD Poland-China boars. May 25th farrow. \$45.00 each. A few choice gilts, June 29th farrow—\$20.00 each. Edward A. Hall, Rt. 1 Box 39 Watsonville, Cal.

WAUKEEN HERD POLAND-CHINAS—Big type herd boars, the \$700 Grand Champion of California. Lee McCracken, Prop., Ripon, Cal.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

Duroc-Jerseys.

"MAY ROSE" DUROCS are the classicst pigs in the West. Take a look at them—seeing is believing. Our junior boars have been first and champion at both the California State Fairs and the Los Angeles Show—nothing better. We have a few dandy boar pigs by them out of our great "May Rose" sows ready for sale. Grab one, if you want the real thing. Cokers, not plugs. Also booking limited number of outside services for champion boar May Rose King. The cheapest way to get his blood, but only a few more sows will be accepted. Elliott-Brant Rancho, Owensmouth, Cal.

FOR SALE—Two Spring boars by 1918 Grand Champion of Missouri, High Orion (221329), dam by Pathfinder, a good one. One fall boar by Grand Model's Type (244719), dam Col. bred. Midvale Farms Corp., Ethnace, Cal.

RANCHO RUBIO DUROCS—Two boar pigs, four months old and weaned pigs, both sexes. Stock of Orion Cherry King Pathfinder and Golden Model breeding. Sold on "Money Back" guarantee. Elmer Lamb, Ceres, Calif.

DUROC-JERSEYS AT IRELAND—Sows sired by Cherry Volunteer 2nd and Reformer, bred to Ireland Joe Orion at public sale, January 30, 1920. Write for catalogue, 1219 Brockman Bldg., Los Angeles, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Address R. K. Walker, Winsor Ranch, Bonita, San Diego Co.

BIG-TYPE DUROCS—Herd headed by California Orion King. Am offering excellent young boars at right prices. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

REGISTERED DUROC-JERSEYS—Weanlings, both sexes, from Orion, Defender and Golden Model stock. Address H. C. Baum, Pino Vista Ranch, Placerville, Cal.

DUROCS—MATURE BOAR—Bred by University Farm, Davis. Solely on account of needing change of blood. Weanlings, either sex. H. E. Boudier, Napa.

WEANLINGS—Gilts open or bred to a son of Great Wonder I Am. Service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

BIG-TYPE DUROCS—Gilts and boars of Orion Giant breeding. Falfadale Farms, Peris, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

Chester Whites.

BILLIKEN CHESTER WHITES—Entire herd for sale. Every animal is listed and priced for immediate movement. Herd boars; young service boars. Bred sows. Seven litters of fall pigs, by four different sires. Write for special price list. C. B. Cunningham, Mills, Cal.

Hampshires.

REGISTERED HAMPSHIRE—"Belted Beauties." Weaned pigs a specialty. Unedda Hampshire Swine Farms, Gardena, Cal.

DAIRY CATTLE.

Jerseys.

SERVICE JERSEY BULL, bull calves, Financial King blood, Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

Holsteins.

THE LEWIS COMPANY BAYWOOD HERD OF REGISTERED HOLSTEINS

Herd sire Ormsby Segis Marie Lad, whose dam has produced in two years, beginning as a three-year-old, 57481 lbs. of milk and 2243 lbs. of butter.

First National Bank Bldg., San Jose, Cal.

REGISTERED HOLSTEINS for sale. Seven bred cows, one Pontiac bull, 5 years old; also two heifer calves. Subject to registry. Wm. M. Little, Box 76, Snelling, Cal.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spires, Hillcrest Farms, Caruthers, California.

A FEW YEARLING registered bulls by King Morco Alcartra 2nd, from good producing cows. H. M. Cross, Merced, Cal.

PAJO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. B. Freeman, R. B., Modesto, Cal.

REGISTERED HOLSTEIN—Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

CREAMCUP HERD—Register Holsteins. Pontiac bull calves. M. Holdridge, Rt. A, Box 437, San Jose, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp. Importers and Breeders, Woodland, California.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

J. W. BENNETT, Modesto, Calif.—Breeder of registered Holsteins.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

Ayrshires.

ELKHORN FARM AYRSHIRES—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRSHIRES—Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco, California.

NORABEL FARM AYRSHIRES—Le Baron Estate Co., Valley Ford, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choice bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal. R. 2.

Milking Shorthorns.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

DUAL-PURPOSE SHORTHORNS—registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibbles, Santa Barbara, or Lompoc, Calif., John Troup, Supt.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch, Esposito, California.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke. Likely, Modoc county, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

REGISTERED YEARLING SHORTHORN BULLS—Heavy-boned, thick-meated. Scotch and Scotch-topped breeding. Ormondale Co., Route 1, Redwood City, California.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords, Bishop, California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUFKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillots. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

HARVEY S. VAN VLEEK, Lodi, Cal. Breeder of registered Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH

SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale at the Ranch—all breeds—April 17, 1920. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn County, California.

HORSES FOR SALE—40 head of 3-and 4-year-old Percheron horses. Price from \$250 to \$300 for span, beautifully matched team of very kind disposition. S. L. Skaggs, four miles south of Madera, Cal.

FOR SALE—25 head of brood sows, some of them have pigs; balance to farrow about February 1st. Also 2 fine bears. J. J. Flannery, Kiefer Road, Santa Clara, Cal. Telephone, S. C. 185F4.

Livestock Shippers' Short Course

The first of the series of Short Courses for managers of co-operative livestock shipping associations under the auspices of the National Federation of Co-operative Livestock Shippers, and in charge of the Bureau of Markets and State Marketing Specialists, was held at St. Louis on November 18, 19, and 20.

Buying and Selling Cattle.

The first morning of the session was spent in the cattle pens with the cattle buyers of Swift, Armour and Morris. These men very carefully went into detail on their reasons for classifying the cattle in the various grades, told many of the tricks of telling good beef from poor, and in general gave the managers their views when purchasing. In case the cattle were not yet purchased, two of the buyers retired while the third went over the stock with the delegates, pointed out the various good and bad points of the stock, and told what he would offer. Some of the opinions expressed by these buyers were as follows:

1. The higher the breed of cattle, the better is the beef.
2. Packers will give \$5 to \$7 more per hundredweight (cwt.) for unbranded hides than they will for branded.
3. A steer that is not fed out can drink lots of water, and packers will not pay for water. It is very easy to tell when a steer is full of water, and it is discounted in the bid.
4. Nothing will make beef cut "bright" except a good corn finish.
5. New York, Philadelphia, and Boston demand heavy cattle in their purchases.
6. Small southern cattle usually fall in the "canner" class, and seldom will do for the butcher's block.
7. Small, fat heifers sell better in the South, and the big beeves in the North, probably due to the Northerner desiring fat and the Southerner lean meat because of the climate.
8. One buyer expressed a preference for a steak from a 3- or 4-year-old steer because of the better flavor of meat.
9. Heifers are preferable to near cows as they are rounder and more plump, while the cattle are rangier.
10. The "rangers" of Texas and Oklahoma are usually wild and will drink no water when they get to market. They dress out better and are all meat.
11. A good bull is just as good as a stag as far as market value is concerned.
12. The high-priced beef comes from the loins back. As the Angus and Shorthorns are blockier behind, they are better.
13. Bunchy fat on the hind quarters is not desirable. Some farmers get sore when told that their cattle, developed in this manner, will go to the canners.
14. A thin-necked steer is almost invariably thin, something else than fat causing him to stick out.
15. The Angus and Shorthorns make the prime beef.

16. Bull beeves will absorb lots of water, and therefore are good for bologna meat. They will absorb almost one-third their weight in water.

17. It doesn't pay to feed unless you intend to finish the cattle at present prices of grain and beef.

18. The commission man must be as good a judge of cattle as the packer buyer, and also knows his way of trading. It is almost impossible for a man who comes into the yards only two or three times a year to learn the fine points necessary to make an expert salesman.

On the afternoon of the second day, the delegates visited the coolers or one of the packers where it was seen how these beeves dressed out. By this method, the managers learned the ideas of the various packers, what they wanted to buy and how they graded. The outstanding impression that was to be gained by the delegates was that cattle which many farmers would consider finished were considered only "fair" by the buyers of the packers, and it was almost a waste of money to feed the cattle un-

less they were thoroughly topped out. Wednesday morning the delegates visited the hog and sheep barns where methods of purchasing were carefully investigated, and on Thursday afternoon, the coolers of the packers were visited where these hogs were inspected as they dressed out.

Thursday morning the feeder pens were visited and the expert advice of the commission men on the purchase of feeders was gained. The hog immunizing pens were also visited and the method of immunizing was thoroughly explained.

This Short Course was voted a very pronounced constructive success and resolutions were adopted to hold Short Courses semi-annually.

Delegates were present from Missouri, Arkansas, Mississippi and Illinois. Other Short Courses arranged are: Kansas City, Nov. 24, 25, 26; Denver, December 20th. St. Paul, Omaha, Sioux City, Chicago and Detroit Short Courses will be arranged for at the National Federation meeting Chicago, December 3-4.

BUY A BILLIKEN.

We do not mean a little image out of some curio store, but a real Chester White Billiken, such as C. B. Cunningham of Mills will sell you "unsight and unseen," and guarantee satisfaction, or you can go to Mills, visit the herd, and select your dollar-getters.

Mr. Cunningham has been breeding Chester Whites for years, and we can confidently say that he has retained all the good points of the breed, and added some Cunningham characteristics that place these swine right up in the front rank for practical farmers that want a prolific, easy-feeding strain, that will graze well and mature at 6 to 8 months.

The Chester Whites are one of the breeds of hogs originating in the United States some 80 or 90 years ago, and while they were rather coarse at first, this has disappeared but left all the other desirable characteristics such as prolificacy, early maturity and easy feeding qualities.

NEW MANAGER FOR NOTED STOCK FARM.

The Palo Alto Stock Farm of 600 acres of beautiful oak-studded hills and level fields, with its great herds of superb Holstein-Friesian, Guernsey, and Shorthorn cattle, is to have a new manager in the person of Ralph E. Watson of Sacramento. Mr. Watson was last with the Henderson Company, and had charge of that great herd of "blacks and whites," and is well qualified to manage a proposition such as this at Palo Alto. He will have full charge of all operations, and expects to place this excellent herd of purebred dairy cattle on a par with the best on the "Peninsula." The cattle and ranch are there, and Mr. Watson has the training and ability to place them where they will be in the limelight of high performance.

A NEW POLAND-CHINA BREEDERS' ASSOCIATION.

Merced County, not to be left out in the cold this winter, has formed a Poland-China Breeders' Association and claimed a sales date for February 21st next.

J. F. McSwain, the prominent Poland-China breeder of that place, who had claimed this date yielded the place, and consigned 20 head more or less of those he had expected to dispose of at his contemplated sale of the above date.

Mr. McSwain, in a letter announcing this new organization and change of plan, says: "A selection committee has been appointed with instructions to see that nothing goes in the sale that will not reflect credit to the owner, and to the association." Certainly a start in the right direction.

The cost of equipment is not its price at first, but it is the interest on that price, plus the cost of repairs on the equipment, plus depreciation.

RU-BER-OID and MALTHOID READY ROOFINGS



The cheapest coverings you can buy

Good ready roofing costs less to buy and apply than practically all other coverings. In addition to this, good ready roofing will provide dependable protection indefinitely with the minimum of attention—a coat of good roof paint such as Ru-ber-oid Roof Paint and Malthoid Roof Coating every few years.

Good ready roofing is therefore the cheapest kind of roofing you can buy.

Ru-ber-oid and Malthoid roofings are made by one of the oldest and largest industrial concerns on the Pacific Coast—an institution known throughout the world for high quality of products and for square dealing. Not only does this Company turn out Ru-ber-oid and Malthoid in finished form, but also manufactures the raw materials—felt and saturating and coating compounds—all supervised by experts.

When you build, remember that it pays to roof with Ru-ber-oid or Malthoid.

THE PARAFFINE COMPANIES, INC.
San Francisco



EACH THE STANDARD OF ITS KIND

Poultry and Rabbits for Profit

FEEDING FOR FORCING EARLY LAYING.

There is a difference between "forcing" pullets and merely feeding heavily for egg production, writes a correspondent in an exchange. Immature pullets can be so fed as to check their natural growth and bring them prematurely into laying. This may or may not be a good plan; it depends. If they are late-hatched and are to be kept solely for egg production, I see no objection to getting them laying as soon as possible, even at the expense of their growth. It is doubtful whether pullets so handled will lay as many eggs in the year as they would if permitted to reach their natural growth before being fed for egg production, but eggs laid before February 1st are worth twice as much as those laid in the spring, and without doubt it will pay to push late pullets about as hard as they are able to stand it, when to let them develop naturally would mean that they would not begin laying until well along in the winter.

Pullets that are practically full grown should, of course, be brought into laying at once. There is nothing gained by being too conservative on this point, and a month's production in fall or early winter may readily be lost by being too slack with them. Such pullets should have a nutritious laying ration and all of it that they will eat. There is little danger of their getting overfat. Pullets must be reasonably fat before they will lay, and practically every instance of delayed laying in well-grown pullets will be found to be due to underfeeding, or to supplying a ration lacking in some essential—usually meat. In the case of pullets slow to begin laying, meat scrap may safely be increased to 25 per cent of the mash mixture. If skim milk can be secured it will be found especially valuable at this time. As green feed, cabbages are thought by many to be extra desirable.

It is doubtful if any healthy full-grown pullet will long hold back on production where such a ration is liberally supplied, and if the feeding is judiciously done there need be no fear of injurious "forcing." In all cases where heavy feeding or rations high in meat scrap are used, the caretaker should give especial attention to the character of the droppings of the fowls, and if these become abnormal in any respect, should promptly apply suitable correctives.

ARTIFICIAL LIGHT.

Artificial light in the hen house in winter does not make Faithful Biddy lay two eggs a day, as some people seem to think, say poultrymen, but it does make conditions such that she does not have to wait for spring to begin her spring work.

The proper use of artificial illumination on layers not only increases the total number of eggs laid each year by the hen, but it gives increased production during the fall and winter when prices are high.

Using light is not a forcing measure, if rightly used, say the poultry workers at Cornell. It merely makes conditions more natural for the hen by lengthening the day and therefore allowing the hen to eat more feed and secure more exercise.

This keeps her body supplied with feed and gives her the activity which produces health and vigor and which is essential to egg production. It gives the hen 10 or 12 hours of night and the same of day.

The hen naturally is not lazy and she does not like, because of darkness, to have to spend 15 or 16 hours on the roost in the intense cold and with nothing to eat during that time. The remaining 8 or 9 hours on the floor are not enough. She would not be expected to feed as well nor lay as well under these conditions.

How long would the average human being be able to render a maximum

service if he slept or remained in bed that long, ask the Cornell workers? Many folks might like to, and suffer the resulting inefficiency, but the hen has no desire to do so, and will get up and start work at 3 a. m. if light is provided.—Exchange.

WHY CHINESE EGGS ARE OFF-GRADES.

The Chief of the Poultry Division of Canada, in an address at a recent poultry conference, made this statement anent competition with Chinese eggs: "The producing sections of China are upwards of a thousand or two thousand miles inland from Shanghai. They have to bring these eggs down by slow river transit, and

the eggs that arrived in Canada last fall and came under our Canadian regulations would not pass the inspectors at a grade higher than seconds. Distance and other factors are in our favor, but we must reckon on having to meet the Chinaman as a particular competitor in England." American producers are, of course, up against the same proposition.

THE OAKLAND POULTRY SHOW.

The 19th Annual Poultry Show held at Oakland last week was the largest ever held on the Pacific Coast. Over 1800 birds were shown in the Poultry Department and over 1000 pigeons. The rabbit show, too, was the largest and best ever held on the Coast.

In that the White Leghorn contributes a large percentage of the State's egg production, it was fitting that this breed should have the largest representation. Numerous entries of Anconas would indicate that this is a

coming breed. Rhode Island Reds, Orpingtons and Plymouth Rocks, well known and popular breeds, were represented in numbers about in the order given. There was a good showing both in quality and numbers of nearly all the breeds we had ever heard of and some new ones. One of these, the Bare Necks, apparently a cross between turkey and chicken, will probably win laurels for utility rather than for beauty.

The show was splendidly staged in the Auditorium and was well attended throughout the week.

Experts who have been studying the shortage of eggs in London, estimate that there are 180,000,000 fewer hens in the world now than there were just before the war. England used to import 200,000 tons of eggs yearly, but because of the shortage this country is able to buy only 40,000 to 50,000 tons.



It's not fat—it's EGGS you want

Are your hens just boarders? Fat and lazy? All their food going to flesh? Nothing left for egg production? Madam,—Your hens' egg organs are dormant, and if you are going to be satisfied to let nature bide its own time to revive these dormant egg organs, it will be Spring eggs, not Winter eggs, for you. But why wait on nature?

You can speed up egg production—you can make your hens lay now by feeding

Dr. Hess Poultry Pan-a-ce-a

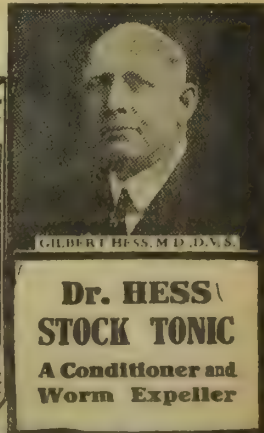
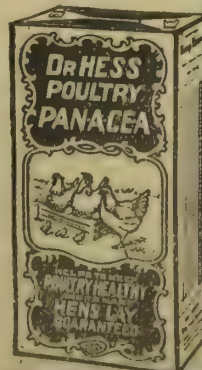
It contains *Nux Vomica* and *Quassia*, the best nerve, appetizing and digestive tonics known to the *Materia Medica*—tonics that promote a hen's digestion—tonics that tone up the dormant egg organs so that the proper amount of food goes to egg production, and not all to flesh, and fat, and laziness, when it's action, and eggs you want.

Pan-a-ce-a supplies the additional iron for the blood, which is essential to the speeding up process. It contains certain forms of lime that supply the needed material for making egg shells.

Dr. Hess Poultry Pan-a-ce-a insures a healthy, singing, laying, paying poultry flock, Winter as well as Summer.

Always buy Pan-a-ce-a according to the size of your flock. Get it from a reliable dealer in your own town. Tell him how many fowls you have, and he will supply you with the proper sized package, which is guaranteed. 30c, 60c, and \$1.25 packages. 25-lb. pail, \$3.50; 100-lb. drum, \$12.00. Except in Canada.

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A FEED FORMULA.

Would you kindly fix up a formula in parts, to stated feeds, which I have got and am not quite certain how to feed same to year-old hens and baby chicks. Now I have got dirty wheat flour; a breakfast food called cream of barley, which is a rejected product, also vitus, which sound good and is a breakfast food, and whole wheat and health bran, and also ordinary bran, such as can be bought of feed merchants, and I feed beef scraps, bone green, ground and fish meal. These meats I feed as a change mixed in dry mash. What I should like to know is something in the way of a formula. Barley grass is my green feed at night for last feed. I give scratch feed, \$4 per sack variety.—H. H. B., Santa Monica.

We recommend our correspondent to feed daily to each mature fowl about one and one-half to two ounces of whole grains, and all the green barley they will eat. When using the materials mentioned the following formula will make, approximately, a proper mash to be fed with the whole grains and greens to provide a balanced ration for egg production: Five parts bran; one part each of, wheat flour, cream of barley, vitus, meat scrap (or fish scrap), and green ground bone. We think it advisable to use all of the materials mentioned for feeding the mature fowls and to supply the baby chicks with commercial chick feeds that are now readily obtained where feed stuff is sold.

IRON TONIC FOR HENS.

To the Editor: Kindly give me directions for a good tonic with iron for my hens. They need it badly.—Mrs. E. G., Napa.

Improved Douglas Mixture is the most satisfactory iron tonic for poultry. This is made as follows: Mix two ounces sulphate of iron and one-half ounce sulphuric acid dilute, and stir with a stick. Add hot water until dissolved. When cold add enough cold water to make one gallon of mixture. Keep in glass or earthenware container. One teaspoonful of this mixture to one quart of drinking water makes a strong tonic; half that amount is sufficient when used continually for a week or longer; and one-quarter the amount for young chickens.

COMBS AND FLESH DISCOLOR.

To the Editor: Some of my hens and pullets have been sick. Have not lost any yet, but their combs and flesh turn yellow, and after a few days their combs turn a dark purplish color. They have a slight diarrhoea, and sit around, having very little appetite. In about a week they appear to get well again. What can I do for them?—J. W., Brentwood.

These fowls are suffering from some disturbance of the liver which may be due to overdoses of common salt placed in the feed. The symptoms described indicate both congestion and inflammation of the liver. If the trouble is not caused by too liberal feeding of salt we suggest that it is the result of continued over-feeding of starchy and other fattening feeds, and insufficient green stuff, charcoal, grit, and shell. Feed more crude protein than is contained in such things, as meat, meat scrap, fish meal, green ground bone, and bran; also all the greens they will eat. A total lack of salt in the feed may have contributed to the ill health of the fowls.

CALIFORNIA EGG-LAYING CONTEST.

The four hundred and eight pullets entered at the California Farm Bureau Egg Contest started on their official test on the morning of November 16, 1919. On account of the change in housing, feeding and other general care, and also in many cases climate, the hens are not up to their best for the first week, while many of the outside birds, those coming from other parts of the State, have been thrown into a molt. The Santa Cruz birds as a whole are doing the best, due to having undergone the

least change. Highest records for the week are as follows:

Highest Pens.

W. J. Neef, Santa Cruz 35 eggs
F. Stalling, Santa Cruz 34 eggs
Hollis Peck, Santa Cruz 34 eggs
C. T. Brown, Santa Cruz 33 eggs
C. K. Hale, Santa Cruz 32 eggs
Theo. Clark, Santa Cruz 31 eggs
B. F. Rose, Santa Cruz 30 eggs

Highest Hens.

Warren Wood, Santa Cruz—
Hen No. 255 6 eggs
Hollis Peck, Santa Cruz—Hen
No 383 6 eggs
R. C. Gibson, Newhall, Cal.—
Hen No. 66 6 eggs

CLEAN LITTER MAKES GOOD LAYERS.

An Eastern poultryman with 440 hens found that when the litter in the poultry-house was clean the egg production per day was 212. He left the same litter 6 weeks and during this time the eggs laid fell to 80 per day. He then put in clean litter and in 2 weeks the egg yield went up to over 200 a day.—Extension Div. N. D. Agr. College.

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WHITE LEGHORN BABY CHIX—Heavy laying, Hoganized stock. March \$15.00 per 100; April and May, \$13.50 per 100. Safe arrival of strong live chix guaranteed. Pioneer Hatchery, 408 Sixth St., Petaluma, Calif.

FOR WHITE HOLLAND TURKEYS write J. L. Fulton, Glenn, Calif.

BABY CHICKS—From my Single-comb White Leghorns, bred for heavy layers, which have been in the race for 12 years, and today is among the leaders. You don't go wrong by placing your order with me. Write for prices and terms. H. A. Schlotthauer, Exeter, California.

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BLACK MINORCAS—The large egg layers. Eggs, \$2.00 per 15. Cockerels, \$4.00 each. E. A. Hall, R. 1, Box 39, Watsonville, Cal.

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There's joy in the song of the robin, that rests on the twig of the tree, And there's joy in the blossoms of summer, and a thrill in the roar of the sea, Oh, the peace and the gladness we're seeking, are clothed in all manner of dress And some in the laughter of children may come to their dream of success.

There are millions of ways to be happy, and only one way to be rich, The king with his treasures may envy the toiler who digs in the ditch, For the king is a slave to his station, but the toiler each evening is free To follow his fancy of gladness whatever it happens to be.

There's joy in the smile of a comrade, and joy in the blue of the sky, Who lives in the sunshine of friendship has joy that no money can buy, There is peace to be found in the valleys and calm in the shelter of trees, And millions of people are happy in claiming such pleasures as these.

The man that is proud of his children owns more than the man with his gold, And he that has chummed with the songbirds has found a delight he can hold; There are millions of ways to be happy, too many by far to recall, And who lives but for gold and for silver has chosen the poorest of all. —Edgar A. Guest.

THE TRANSITORY TRAMP.

Miss Eliza Brown was alone. She sat on her front porch, and now and again cooled her cheek by a nervous jerk of her palm-leaf fan. The rockers of her chair gave forth a dismal squeak, as her small but weighty person swayed forward and back. She was much discontented and very ner-



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vous—unstrung, she would have said—and her flushed face and aggrieved eye proved her no liar.

Miss Eliza's character included two very opposite qualities—a quick, high temper and great timidity. We see this combination in men very often, but in women it is rare. Miss Eliza had the arched nose and valiant coloring of England's Virgin Queen, contradicted by a mild eye, an insignificant mouth and a double chin. Her height was not much to speak of, and her figure was of the down-cushion order—soft and puffy.

Her thoughts just now were troublesome. They hovered persistently about a conversation she has listened to the night before, while taking tea with a neighbor. The subjects of this conversation, instead of remaining decently buried in oblivion, haunted her. They were rather a ghastly lot, taking them altogether. The first was set going by a girl who said that there had been more tramps hanging round this summer than ever before as far as she knew. Then followed stories of the bad behavior of these horny-footed and light-fingered gentlemen, tales of the evil deeds of gypsies, thieves and murders, of the villainy of Italians and the wily ways of the peddling Jew-man, till every one's flesh began to creep, and the younger girls giggled hysterically; till Miss Eliza's crimson cheeks faded to a faint heliotrope, and Miss Eliza's niece, who was present, trembled with delicious excitement. After it was over these two found their way home through the gathering gloom, the one with boldness of speech and an eye that shunned shadowy corners, the other thrilling at every rustling leaf and inwardly thirsting for adventure.

Now Miss Eliza was alone. "The girl," Miss Eliza's helpmeet, had gone to visit her mother, and Pauline, Miss Eliza's niece, was spending the afternoon with a friend about half a mile down the road. The house seemed very empty and isolated, just the place in which to enact a tragedy of the deepest dye. Miss Eliza reflected that in all tales told the night before, the bloodiest misfortunes ever befell the lone woman who lived a half-mile down the road, and could there be a fitter subject for such horrors than herself? She thought, too, that Pauline was not likely to return before sunset, for she had refused to let her take part in some amateur theatricals, and there was a coolness between them.

Miss Eliza rocked uneasily and scanned timorously the dusty road which ran past the garden gate. After a half-hour of this watching and fearing, she calmed a little and went into the house for her sewing. What was her dismay, when she stepped forth again upon the porch, to see a very ragged tramp come toward her up the gravel path and mount the steps. He stopped when he reached the step below her and smiled.

He was a young man, not over twenty-two or three, maybe younger, and rather handsome, but his black brows were very sharply marked, and there were deep shadows under his eyes, which gave him a deadly look, and the smile which now lifted the corners of his mouth brought to Miss Eliza only a more lively idea of how he would look as he gloated over her mangled remains. He stood, silent and smiling, and Miss Eliza felt she must say something. She gave a furtive glance down the road to see if any one were coming, then she raised herself on tiptoe, pointed a fat finger to the gate, and said:

"Go away."

She wished to trumpet this command in high, peremptory tones, but instead it came forth feebly and with a tremulous nasal twang.

The tramp shook a little, as though with suppressed laughter, then said in a deep and hollow voice:

"I'd rather stay here, ma'am, if it's all the same to you."

The voice suited his cadaverous eyes, but there was something incon-

gruous and ghastly in the silent laughter that took hold of him and shook him at intervals.

Miss Eliza took a step backward. "What do you want?" she demanded. "If yer don't mind sittin' down and listenin' to me for a few minutes, I'll tell yer."

Miss Eliza, being scarcely able to stand, did as was suggested. The tramp also took a chair. He folded his legs and clasped his hands about his knee. His hands were small and well shaped, but very dirty; his feet were exceedingly large. Somehow the look of those smooth, soft fingers gave Miss Eliza a creepy feeling round the throat. The tramp began to speak in a rather affable manner, but with the same hollow voice.

"Yer ask me, ma'am, what do I want,

and I'm a-goin' to tell yer. First, I want the silver spoons and candlesticks and the teaset what's in the dinin'-room; then I want the stuffed hummin'-birds in the front parlor and the silver cake-basket what stands on

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We won't mention any names, but this message is for "Dad" only, so consider it labeled, "Do not open until Christmas." Daddy Boy, wouldn't it be rather nice to give mother something out of the ordinary—something that would be really extraordinary, in that it would be a source of cheer all the year? A thing so acceptable and full of comfort it would affect the whole household.

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the corner table. After that I want yer gold watch and chain and that hair-brooch yer a-wearin', and all the

other trinkets, ornaments and jewels what yer keep in the under drawer of yer washstand; and last, but not least,



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I want all the pie and cake yer was makin' this mornin' and all the gooseberry jam on the top shelf of yer store-room. And if yed don't care to give it to me," the tramp winked slowly and made a motion as though to draw a revolver from his breast, then repented and went on:

"Yer see I have pervided myself with a place to stow 'em in," and he brought forth from under his coat a large and rather gaudy calico bag. He spread this out before him, then fell to shaking again with his horrid, suppressed laughter.

Miss Eliza was stupefied with terror. As this young but awful man laid bare his sinful plan, and enumerated her dearest household treasures, the blood left her cheeks drop by drop and her round blue eyes opened too wide for tears. When he finished, she could only gasp feebly. Then she found voice to murmur:

"Please, won't you leave the cake-basket?"

The tramp ceased to laugh and looked solemnly at her.

"Why, ma'am," he said, "how can you ask it?" His voice had a disagreeable way of running up into the falsetto. "No, I will leave nothin'." He got up and pulled his hat farther over his eyes. "My time is yours, ma'am, to come along. Sooner or later, it's all the same."

Miss Eliza could not summon sufficient strength to move, but when the tramp winked at her slowly, then covered his mouth with one of those dreadful little hands of his, and indulged in silent laughter, she jumped to her feet with nervous haste and led the way into the house with rapid though tremulous movements. They went from dining-room to parlor. She shut her eyes as the silver teaspoons, candlesticks, teaset and cake-basket were placed in the recesses of the calico bag, and it was scarcely cheering to be told that the "hummin'-birds had best be saved till later, and would do to ornament the top." The paper-cutter in the parlor and the silver salt cellars were also swallowed up. Then the two wended their way up the narrow stairs.

The tramp became every moment more jubilant, and Miss Eliza more wretched. Miss Eliza fully expected to be elaborately murdered when they reached the second floor. This tramp, with his smiling mouth and hollow eyes, with the smooth, small fingers, the convulsive laughter and the cavernous voice was sure the kind to torture one to death, and hug himself ecstatically at the sight of one's dying agonies. Wherefore she went up the stairs one step at a time, till the tramp snapped his fingers and begged her to step a little lively. Poor Miss Eliza! in all her plump and peaceful life she had never dreamed of such hideous excitement.

At the head of the stairs was the door that opened into Pauline's room, and to this the tramp motioned her. They entered. It was a pretty place. The sunlight filtered through the apple trees and the ruffled curtains, and lay cool and shining on the neat matting and the little white bed that stood in the corner. Water-color sketches were stuck up in every direction, and on the opposite wall hung a picture of Pauline done by herself. It was not very good, and for a moment or two the tramp paid no attention to it. Then it caught his eye. He took a long stride forward, and stopped as though spellbound with admiration. Then, clutching at his breast convulsively, and with eyes still riveted upon the picture, he said in hollow tones:

"Lord! who may yon angel be?"

Miss Eliza had a moment's hope that all this was but a dream, for the tramp's every movement seemed to grow more unreal and like a nightmare. Then her fears redoubled, and she weakly whispered:

"My niece, Pauline."

"Pauline!" repeated the tramp in dreamy ecstasy, and again, "Pauline!" Then he let go the bag, fell on one knee, clasped his hands and raised them toward the picture.

"O pure and lovely angel!" he exclaimed. "What goodness and what beauty shine from thy heavenly face! How sadly those holy eyes look into my sinful soul!"

Miss Eliza's jaw dropped weakly. Perhaps this was the most astonishing of all the past half-hour's experiences. To be sure, Pauline was a pretty girl, but there had never, as far as Miss Eliza knew, been any marked holiness in her expression or conduct.

The tramp now got upon his feet.

"Ma'am," he said, "I am converted, and 'tis all the work of that angelic creature. I am a-goin' to give up my evil life, and you will be the first of the many new leaves I am about to turn over. But remember, it is all her doin'! You will have to thank her that the cake-basket remains in the family, and that yer still a-wearin' that hair-brooch. Only, there is one condition that I make;" his voice grew more hollow and he laid his hand on his hidden revolver. "Swear that you will treat her like an angel; that you will refuse nothin' she may ask of yer. Swear! or—"

Miss Eliza swore.

"Farewell! Pauline," said the tramp, with another long gaze at the picture, "I'm a-goin', but I'm carryin' yer image with me in my heart."

He left the room, and Miss Eliza heard his footsteps down the stairs down the gravel walk, and down the road, till they died away in silence; then she fell down upon her knees, and clasped her desecrated household goods to her ample bosom, murmuring broken thanks.

Half an hour later, and half a mile down the road, two girls were together in an upper room. One, who was small and fair, was sitting on the floor, both feet curled under her, her chin between her hands and her elbows on her knees—an attitude showing enthusiastic interest. The other, who was tall and had fine eyes, stood before the glass. Her hair was a good deal tumbled, and her hands were dirty; she was busy rubbing burnt cork off her cheeks and eyebrows.

"Do you really think, Polly, she will let you do it now?" asked the little one.

Pauline turned about.

"I am sure of it," she said.

Then, as the last traces of burnt cork disappeared, she leaned toward the glass.

"And it's all the doin' of this angelic creature," she laughed.—Harvard Advocate.

HOUSEWIVES' LEAGUE.

The women of the bay cities have organized a Housewives' League for the purpose of combatting the high price of milk, butter and eggs.

The league stands for the following principles; a study of economic conditions; reduction of the price of necessities to a just level; consideration of all questions for the welfare of the family.

It is hoped and expected that the league will enable housewives to know clearly what they should pay for the necessities of life.

At a recent meeting, Mrs. Jaffa gave a report on the present egg situation, stating that by investigation it was found that while some chicken feed had increased in price within the year, others had not and that eggs ranged from four to eight cents a dozen higher than for the corresponding time last year.

She emphasized the thought that there was no desire on the part of housekeepers to demand eggs at a cheaper price than they could be produced, but merely an intelligent investigation to discover why they had soared so high that the family of limited income was obliged to entirely discontinue their use, no matter how valuable they were as a diet.

ONE-CRUST FRUIT PIE.

Have pie crust baked. Pour juice from can of berries into a saucepan and heat; if there is not enough juice add water. Allow ½ cup sugar and 1 heaping tablespoon cornstarch per pie, mixed to a paste with cold water, then pour into the boiling juice. When thickened stir in the berries and turn into the crust, cover with icing or whipped cream and serve. A quart can of berries makes two large pies. Any other canned fruit may be used thus.—Exchange.



A Kodak Christmas

Kodak helps to make the Christmas merry—then keeps a picture story of the Christmas merriment.

And nowhere are there more Christmas pictures for the Kodak than in the country, where Christmas is so real, so home like, so full of the old-fashioned, whole-souled spirit of the day.

The arrival of the visitors; the children romping in the snow; the gorgeous sun and snow effects in the orchard; the family dinner party ready for the attack on the savory bird whose bronze glory fills to overflowing the huge platter at the head of the table—grandmother busy with her knitting and dreaming of a Christmas of other days; and the tree itself—all these are subjects for the Kodak.

In taking and titling the pictures there is fun and interest that give an added zest to the Christmas merry-making—and afterward these pictures, telling so faithfully the home story, help to keep fresh the memories of the great home holiday.

Put Kodak on your Christmas List.

If it isn't an Eastman,
it isn't a Kodak.

EASTMAN KODAK CO., Rochester, N. Y., The Kodak City

Market Comment

Butter Climbing.

While fresh butter is in good demand, there is a disposition on the part of the consuming public to shy at the rising price and to content itself with the storage article. As a result there have been heavy withdrawals from storage. It looks as though still higher prices are on the way. The resumption of foreign commerce in butter, cut 80 per cent during the war, presents a problem that is engaging the attention of the dairy industry in the United States. The perplexing question is whether the nations that had sent 600,000,000 pounds of butter to Great Britain and Germany before the war, will regain those markets now; or, failing in this, seek to send their surplus products here. Butter in Chicago climbed another quarter-cent to 76 cents a pound December 2. It was declared there is a vast quantity of butter and eggs laid up here for England and Belgium.

Wheat Minimum Exceeded but Little.

W. A. Starr of the U. S. Grain Corporation stated this week that the minimum price fixed by the Federal Government on wheat at Pacific Coast terminals, \$2.20 a bushel, has been exceeded very little on the Coast save in the case of strong, glutinous wheat such as bakers prefer, and some of these varieties have, on the Pacific Coast, brought 60 or 70 cents above the Government minimum price, although the Government pays no premiums while accepting wheat offered at the \$2.20 rate. But this increased price, based on a great demand for a wheat that is deficient in quality to meet the needs of bakers, is nothing to the increase that has been noted in the East.

Increased Cost of Raisin Production.

The cost of raisin production, including packing, increased \$25 a ton, or 1½ cents a pound in 1919 over 1918. W. M. Giffen, president of the California Associated Raisin Company, testified this week before the Federal Trade Commission. It cost the association approximately \$50 to pack and sell a ton of raisins, Giffen said, as against the Bonner Packing Company's figures of \$40 a ton, adding that the association's costs necessarily were higher than those of an independent concern because of the nature of the organization.

No Good Reason for Cheaper Beans.

"There is no reason for American beans selling below cost of production as Europe needs all surplus bean stocks over home requirements," says Herbert Hoover. Bean prices have been comparatively low until recently, when the Association made a number of large sales of 1918 stock at the following prices: pinks, \$6.21; small whites, \$6.05; large whites, \$6.25; blackeyes, \$6.00; bayos, \$6.10. These sales approximated 30,000 sacks.

Eggs, East and West.

Eggs are moving Eastward in carload quantities, where they command up to \$1.05 in retail stores. That is why eggs are scarce and high at coast points. Restrict the sale of California eggs to California markets and the price would drop quickly, despite high-cost feeds and high-priced labor. "Extras," weighing 22 ounces and over, are at this writing selling at 95c; "pullets," weighing between 19 and 22, are quoted at 82c.

Watsonville Apples Seized.

On complaint of United States Attorney Annette A. Adams, 1200 cases of dried apples en route from Rosenberg Brothers & Co., Watsonville, to Stockholm, Sweden, this week were seized at the waterfront by deputies from the United States Marshal's office on the ground that the goods were mislabeled.

Co-operative Buying.

The farmers of California have been so successful in effecting selling organizations for the disposal of their crops that they are now turning their attention to co-operative buying, and are quite generally discussing plans to that end.

THE MARKET REPORTS

SAN FRANCISCO

San Francisco, December 3, 1919.

BARLEY.

While the holiday of last week caused a certain dullness in the market barley continues strong at last week's quotations. The rains of the past few days have had no effect as yet, although it is generally conceded that they mean better feed on the ranges if they continue and therefore lower prices of grain for feedstuffs. Futures continue strong.

Feed \$3.40@3.50
Shipping \$3.45@3.55
OATS.
Red feed was stronger this week on a demand for oats for feedstuff and in sympathy with the general strength of barley.

Red feed, per cwt. \$3.00@3.10
Red for seed Nominal
Black for seed \$3.25@3.50
Recleaned Red or Black for seed Nominal
COBEN.
Egyptian was advanced somewhat in price this week in sympathy with the general strength of the grain market, although there were no large sales reported.

California \$3.60@3.70
Egyptian, choice \$3.40@3.50
HAY.

There was no change in the hay market and prices were maintained at last week's level. Receipts of hay at this point continue below the normal, and there is no change in the car shortage. In fact, the coal situation in the East and the taking off of many trains in that section are having their effect here, though the roads of this State are operated on an oil fuel. However, if an embargo on trains going East is maintained for any length of time, it should release cars which can be used in this State for hay shipments. As all hay is now practically under cover, the prevailing rains should not do material damage to the crop.

No. 1 Wheat, or Wheat & Oat \$20.00@24.00
No. 2 Wheat, or Wheat & Oat \$19.00@21.00
Choice Tame Oat Hay \$22.00@25.00
Wild Oat Hay \$18.00@21.00
Barley Hay \$18.00@22.00
No. 1 Alfalfa Hay \$20.00@25.00
Stock Hay \$15.00@18.00
No. 1 Barley Straw, per bale50@ .80

FEEDSTUFFS.

Prices of rolled oats and cracked corn were advanced this week on a fair demand. Lower prices are not looked for in feedstuffs until the ranges are capable of being used again for feeding stock. If the present rains continue this should be some time in January.

Rolled Oats \$65.00@66.00
Rolled Barley \$69.00@70.00
Cracked Corn \$81.00@82.00
Alfalfa Products \$38.00@45.00
POTATOES, ONIONS, ETC.

Oregon garnet seed potatoes are coming on the market, although they are not yet plentiful. They sell at \$3.00 per cwt. There has been little demand for seed potatoes as yet, but if the rains continue it is expected that an active inquiry will develop. The market for potatoes in general is in a fair condition, although it cannot be said to be active. Prices, however, are being firmly maintained. Onions are much stronger, and on a good demand have advanced during the past week from 25 to 50 cents. Sweet potatoes are also strong and the bulk of sales are being made at \$4.00 per cwt. The general vegetable market has been inactive with little change from day to day in quotations. Lettuce is somewhat scarce and not of best quality, but its price was advanced to \$3 for the best.

String Beans, lb. 12@17 1/2 c
Peas, lb. 15@25 c
Carrots, per sack 75c@1.00
Celery, crate \$5.00@6.00
Cucumbers, box Nominal
do, Hothouse \$2.00@3.00
Lettuce, per crate \$2.25@3.00
Lettuce, per crate \$1.75@2.25
Tomatoes, Stone 50c@1.25
Hubbard Squash, sack \$1.25@1.50

Pumpkins, sack 75c@1.00
Potatoes, River, cwt. \$2.75@3.00
do, Oregon Gem, cwt. \$3.25@3.50
do, Oregon Burbank, cwt. \$3.25@3.40
do, Idaho Gem, cwt. \$3.25@3.50
do, Sweet, new, lb.3@4c
Onions, Brown, sack \$4.25@4.75
do, Yellow, sack 3.75@4.25
do, Green, Alameda Nominal
Garlic, lb20@22c

BEANS.

The bean market is becoming more active, and reports from the East indicate that the market there is almost bare of California beans. New crop bayos, blackeyes and Mexican reds were most in demand and the prices of these three varieties were advanced. Local dealers are more hopeful this week than they have been for some time, and the prospects that the 1919 crop will be successfully cleaned up before the next crop appears now seems to be excellent.

Variety Old crop New crop
Bayos \$7.00@7.25 \$9.00@9.25
Blackeyes \$5.75@6.00 6.25@6.40
Cranberry \$6.00@6.25 7.25@7.75
Pinks \$5.50@5.75 6.15@6.40
Red Mexican \$5.00@5.75 6.80@7.25
Tepary \$2.50@2.75
Garbanzos 9.50@10.00
Large Whites \$5.25@5.50 6.10@6.25
Small Whites \$6.00 6.25@6.35
Limas \$14.50
do, Baby \$13.00

POULTRY.

The week after Thanksgiving is always a dull one in the poultry business. Prices for all descriptions show no material changes from a week ago. Turkeys are quoted as low as 36 to 40 cents, but the demand is so light that these figures are practically nominal. Live turkeys are not quoted, although they would probably bring about the same price as the dressed bird. Old geese are more in demand than the young stock at this season and bring the same price. There was a good demand for Jack rabbits, and stock in really good condition readily sold at from \$2.50 to \$3.50 per dozen.

Broilers, 1½ lbs. under 36@40c
do, 2 to 3 lbs. 32@36c
Fries, 2 to 3 lbs. 32@33c
Hens, extra, per lb. 34@35c
do, Leghorns 30@33c
Smooth young roosters, per lb. (8 lbs. and over) 30@32c
Old Roosters, colored, per lb. 22c
Turkeys, dressed, young spring, lb. 36@40c
do, live Nominal
Geese, young, per lb. 28@30c
do, old, per lb. 28@30c
Squabs, per lb. 60@65c
Ducks, young 28@30c
do, old, per lb. 25@27c
Belgian hares 16@20c
Jack Rabbits \$2.50@3.50

BUTTER.

While butter dropped a cent in the quotations today the market is regarded as having inherent strength which will prevent any material lowering in quotations. While butter was higher during November this year than last year, the difference was not so great as in the case of eggs and many other products. December of last year showed an extreme of about 5 cents above the high of November, 1918, and an average higher price of about 3½ cents. Therefore, based on last year's quotations for December, butter may be expected to go from 3 to 5 cents higher during the present month. Reports that the Eastern markets are being pretty well cleaned up gives an element of strength to the local market.

Thu. Fri. Sat. Mon. Tu. Wed.
Extra .63½ 64 64½ 64½ 64½ 63½

EGGS.

Eggs took a decided drop owing to the lack of demand at the holiday season. They immediately showed partial recovery and reached the top again on Monday of this week. They were a cent off today, on natural reaction. After the close of the exchange session today came the news that extras sold in New York

at \$1.05 and this will undoubtedly add strength to tomorrow's market. A feature of the week has been the advance in the prices of pullets and underzeds, after the first drop due the holiday. Last year this differential in the prices of extras and eggs became very much less during December and continued prices extras have about reached their top, but this prediction is apt to be modified by the great demand still prevalent in the New York market. The number of cases in storage is being rapidly decreased and storage eggs advanced two cents to 60 today. Via the steamer Ventura there has arrived 1467 cases of shelled eggs and 1000 cases of egg pulp listed as from Sydney.

Thu. Fri. Sat. Mon. Tu. Wed.
Extras 77½ 80 82 84 84 83
Dirties, No. 1
Ex. pullets 62½ 65 66 69 71½ 69
Underzeds. 62½ 62½ 62½ 62½ 67 67

CHEESE.

There was very little activity in cheese this week with a small demand for any description.

California Flats, fancy 29½ c
do, Firsts 27c
Y. A. Fancy 34c
Oregon Triplet 30½ c
do, Y. A. 34c

FRESH FRUITS.

The market has been quiet since the holiday last week. Strawberries are now at the end of their season, the last case to arrive selling at \$25. Lady apples are developing a good demand which will be maintained until after Christmas. Persimmons and pomegranates are also selling comparatively well.

Apples, Jonathan, Oregon \$2.50@3.00
do, Spitzenberg, Oregon \$2.50@3.50
do, Bellflower Nominal
do, Pippin, Calif. \$2.25@2.50
do, Lady, Calif. \$3.50@4.00
Quinces \$1.00@1.50
Pears \$2.50@4.00
Grapes \$2.25@2.75
Persimmons, box \$1.65@2.00
Pomegranates, ½ orange box \$2.00@2.50

CITRUS FRUITS.

Grapefruit sold at lower prices this week, and so far but comparatively little demand has developed. Oranges went fairly well, although nearly everyone had stocked up before Thanksgiving day. Lemons are lower by 50 cents for all varieties.

Oranges, Valencia, \$3.00@4.50
do, Navel, \$4.00@5.00
Lemons, fancy \$5.00@5.50
do, choice \$4.00@4.50
do, standard \$3.00@3.50
Grapefruit, \$2.50@3.00
Mandarin, box \$2.00
Tangerines \$1.50@3.00

DRIED FRUITS.

There has developed a brisk market for dried fruits during the past week, which is unusual for this time of the year. Prices show no change from the previous week, but the dealers report that the demand has been unexpectedly large for all varieties.

Apples 17@18c
Pears 16@18½ c
Apricots 21@28c
Prunes 11@13c
Figs, Adriatic 12@18c
do, Calmyrna 15@21c

HONEY.

While quotations of honey are not changed the market is firm at these figures. There has been more local inquiry for honey this week than there has been for a long time. Dealers say the prospects are that the large stocks stored in New York are moving, and if these are cleaned up the local market will respond to the demand created thereby.

Water White 18@20c
Light Amber (Mountain) 16@18c
do (Alfalfa) 14@16c

RICE.

There has been some very heavy trading in California Japans, and sales for a large amount for export to Europe have been closed. Three steamers recently sailed from San Francisco for Europe laden with rice. Prices are firm and fairly stationary at \$10.75 and \$11.00 for choice and fancy. During the past few days there has been something of a rush for California rice, owing to the strong Oriental market, and some sales have been made at higher than the above quotations.

HIDES.

The hide market for the past week has been weak, showing a decline in prices.

No. 1 Wet Salt Kip, 15 to 30 lbs. 40c
No. 2 Wet Salt Kip, 15 to 30 lbs. 38c
No. 1 Wet Salt Kip, trimmed 70c
No. 1 Wet Salt Kip, untrimmed 64c
No. 2 Calif. 2 cents per lb. less.
Wet Salted Horse Hides
No. 1, Large, skinned to hoof \$7.00@9.00
No. 1, Medium, skinned to hoof \$4.00@6.00
No. 1, Small, skinned to hoof \$1.00@3.50
No. 1, Colt's, skinned to hoof 50c@1.00

WOLLS.

Long wool, 9 to 12 mos. growth, \$2.50 and up
Medium, 8 to 9 mos. \$1.50@2.50
Short, 3 to 6 mos. 80¢@1.50
Lambs, large, long wool \$1.25 and up
Lambs, small 35¢@1.00
Milk Lambs 95¢@ .25

DRESSED MEATS.

M. & L. prices are:
Steers, Prime small 16c
do, heavy 15½ c
Cows 12½ @14c
Lambs, Spring, light, 23c
do, heavy 19c
Ewes 12@13c
Wethers, light 18c
do, heavy 17c
Western Meat Company prices are:
Steers, No. 1 15@16c
do, second quality 14@15c
Cows and heifers 12@14c
Calves (as to size), etc. 15@19c
Lambs, Suckling 21@22c
do, yearling 18@20c
Sheep, wethers 16@18c
do, ewes 14@15c
Hogs 23@24c

Special Citrus Market Report

Los Angeles, Dec. 1, 1919.

It is anticipated that there will be a big clean-up of Valencia during this first week of December. The demand for sound stock is good. California quotations are on a basis of \$4.50 per box f. o. b. and from \$4.00 to \$3.75 orchard run. The big holiday trade has not had very much effect on the new crop of navel from Tulare. They are selling on a basis of \$4.25 to \$4.00 per box f. o. b. with some cash sales at \$3.90 per box. Up to date a total of 438 cars have been shipped from Central California this

season, as against 718 cars for the corresponding period last year. Shipments of oranges since November 1, are about double what they were last season at this time.

A large per cent of the foreign lemons imported this year have been small sizes. California has also had an unusually heavy run of small fruit. The trade, as a consequence, has objected to this, much preferring the larger size fruit. F. o. b. quotations are on a basis of \$4.50 to \$4.00 per box. Foreign lemons have brought from \$1.85 to \$1.50 per box.

COLD STORAGE PRODUCTS OF POULTRY AND MEAT COMPARED.

COMMODITY	Holdings for Nov. 1, 1919	Holdings for Nov. 1, 1918
Frozen Poultry		
Broilers	6,877,214	12,751,064
Roasters	5,524,643	7,722,305
Fowls	4,301,728	9,521,871
Turkeys	1,307,005	1,587,062
Miscellaneous	14,903,447	13,073,212
Meat Products		
Frozen Beef	183,969,787	224,320,531
Frozen Pork	46,339,462	38,053,383
Frozen Lamb and Mutton	7,888,329	8,644,785
Cured Beef	37,235,896	29,376,151
Dry Salt Pork	278,518,467	247,305,996
Pickled Pork	237,315,613	233,148,099
Lard	65,437,307	76,127,664
Miscellaneous Meats	80,693,684	103,537,568

GREAT UNIVERSITY WINNINGS AT INTERNATIONAL.

A telegram to the Rural Press from Chicago, received just before going to press, states that the University of California has won as follows at the International Live Stock Show now in progress there: First Angus yearling steer; first Angus steer calf; first senior Shorthorn steer calf; first junior yearling Hereford steer; third junior yearling crossbred steer; third senior crossbred steer; champion Angus steer; champion yearling, reserve champion of show; first and second Shropshire wether lamb; first, second, fourth Southdown wether lamb; first, second, third Hampshire wether lambs; first, second, third crossbred wether lambs; first Southdown pen of lambs; first Hampshire pen of lambs, first grade pen of lambs; champion Southdown.

In College classes the winnings were: first senior yearling steer; third and fourth junior yearling steers; first, second and third steer calves; first of group of five and champion steer; first, second and third on wether lambs; first on pen of five; first on five steers, five wethers and five barrows by one institution.

We'll bet that Alex McDonald is happy.

LOS ANGELES

Los Angeles, Dec. 2, 1919.

BUTTER.

Butter prices remain unchanged since last week. Demand holds up well and receipts lighter than a week ago, being 250,700 lbs. Fresh, California extra creamery.....67c do, prime first.....65c do, first.....64c

EGGS.

Prices on fresh ranch and pullets' eggs the same as a week ago, but on case counts the price declines 5c on the dozen. Very good demand reported. Receipts are higher, for the week 552 cases. Fresh ranch, extras.....77c do, case count.....66c do, pullets.....62c

POULTRY.

Prices on hens and friers have declined slightly since last reports, and demand is only fair for them. Ducks show slight advance while geese are quoted lower. Broilers advance 1c and turkeys are unchanged. Broilers, 1 to 1 1/2 lbs.....46c Broilers, 1 1/2 to 1 3/4 lbs.....46c Friers, 2 to 3 lbs.....29c

Hens.....31@33c Roosters (soft bone), 3 lbs. and up.....29c Stags and old roosters, per lb.....19c Turkeys.....35@37c Ducks.....25@33c Geese.....25c

FRUITS.

Malaga grapes and Bartlett pears are off the market. Apples and Japanese persimmons are making up the offerings and demand for them is good.

Grapes, Malaga, lb.....12@15c do, Corniche.....12@15c Pears, Bartlett, lb.....6@9c Japanese Persimmons, lb.....8@14c Apples—Bellflowers, 4 tier.....\$1.75@1.80 do, Jonathan, packed box.....\$2.75@3.00 do, Red Permain, packed box.....\$1.75@1.85

do, White Permain, packed box \$2.00@2.25 do, Yellow Newtown Pippins, pkd box.....\$2.00@2.25 do, Spitzenburg, packed box.....\$3.00@3.50 Quinces, lb.....3@4c

VEGETABLES.

All good fresh stuff in demand. Offerings are very light with prices generally higher. Potatoes, Northern Burbanks.....\$3.00@3.35 do, Idaho Russets, cwt.....\$3.20@3.30 Sweet Potatoes.....\$2.00@2.25 Onions, Stockton, yellows, cwt.....\$3.85@4.00 do, White Globe, cwt.....\$3.60@3.75 Cabbage, per 100 lbs.....\$2.50@3.00 Lettuce, crate.....\$2.75@2.80 Rhubarb, per 30-lb. box.....70c@1.25 Summer Squash, lug.....\$1.25@1.50 Peas, per lb.....12@17c Kentucky Wonders.....16@17c String Beans, Green.....12@13c Tomatoes, lug box.....85@90c Lima Beans, local, lb.....8@9c Cucumbers, local, lug box.....\$1.00@3.00 Peppers, Bell, lb.....6@8c Casabas, lb.....1 1/2@2c Celery, crate.....\$4.00@4.25 Cauliflower, crate.....\$2.00@2.25

HAY.

Receipts in this market are very light. The demand is reported to be good and prices have jumped \$1.00 per ton higher all around. F. o. b. Los Angeles. Barley hay, ton.....\$23.00@26.00 Oat hay, ton.....\$25.00@27.00 Alfalfa Northern, ton.....\$26.00@27.00 Alfalfa local, ton.....\$27.00@29.00 Straw.....\$10.00@12.00

BEANS.

This market is reported dull as ever. Prices are unchanged. Even limas are neglected. Limas, per cwt.....\$12.00 Large white, per cwt.....\$6.25 Small white, per cwt.....\$6.50 Blackeyes, per cwt.....\$5.00@5.25 Tepary, per cwt.....\$3.00@3.25 Pink, per cwt.....\$6.25

WOOL MARKET POINTERS.

Two factors prevent any demand for short California fall clip wools, i. e., a very heavy demand for long, fine wool such as is used in the manufacture of the finest woolen goods, for which the buying public seem willing to pay any price, and the continual dumping on the market by the government of millions of pounds of such wool as the manufacturers need—on November 10th, 6 millions of pounds; on November 11th, 10 millions of pounds; on November 12th, 4 1/2 millions of pounds, and on November 13th, 2 1/2 millions of pounds of scoured wool. That on the 10th ult. was largely foreign—Australian and New Zealand—as was that of the 11th. This last, however, was mostly South American.

Therefore, there is practically no market for the short fall clip wools. Such wools are generally bought on a speculative basis by local dealers, then scoured and sold when opportunity offers.

BERNSTEIN'S POLANDS BRING BIG MONEY.

On Saturday, November 29th, Wm. Bernstein of Hanford offered one of the finest aggregations of Poland-Chinas ever gotten together west of the Rocky Mountains, and if it had not been for rather of a bearish feeling in the purebred hog market lately, records would have been broken. As it was, the top of the sale for a March gilt, for which Wm. Haag & Son paid \$345. M. & A. L. Bassett paid \$335 for a gilt from the same litter. The top boar brought \$175. This was a March pig bred by N. Hauck, of Humboldt County, and was bought by J. L. Lane of Lemoore.

Thirty-seven bred sows and gilts, with some open gilts, sold for \$6145, an average of \$166.08. Fifteen weanlings and late gilts brought \$424, an average of \$28.26, and eight boars, an average of \$76.87. The grand total was \$7,184.

Cols. Geo. W. Bell of Tulare, and Cy N. Clark of Modesto cried the sale.

FIFTEEN PUREBRED SALES SCHEDULED.

Col. Ord L. Leachman, the livestock auctioneer of Sacramento, has just sent in a list of 15 purebred hog and cattle sales extending from Orland on the north to Los Angeles on the south, Santa Rosa on the west, to Reno, Nevada, on the east. The stock from Reno, however, will be brought to Sacramento, and the sale held there as this location is considered much better for a purebred sale. These include the famous Tagus Ranch two-day sale at Tulare, December 16, 17th.

The animals from Reno are Short-horns from the well-known herd of W. C. Short. These cattle are range-raised, and while they are in good condition they have not been pampered, and will give a good account of themselves either on the range or in the more intensive conditions of the valleys.

TULARE HOLSTEIN SALE.

Not as favorable results as are had at some sales of this great breed due to a great extent to unavoidable circumstances. One inconvenience was the lack of catalogues. Conducting a purebred sale without a catalogue is somewhat like teaching school without textbooks. It can be done, but is not at all pleasant.

The top of the sale was reached when R. L. Holmes of Modesto paid \$900 for a cow consigned by J. P. Phillips of Fresno. Fifty-nine head were sold in all and the average was \$275. The large number of young stock was accountable, it is said, for the low average.

The cattle were from the best herds of the counties of Tulare and Fresno that are noted for their blue-ribbon Holstein-Friesians. Among the breeders consigning were W. J. Higdon, Tulare; Alex Whaley, Tulare; R. C. Sturgeon, Tulare; J. P. Phillips, Fresno; and the Post Card Ranch, Corcoran. Cols. Ben Rhoades of Los Angeles and Geo. W. Bell of Tulare cried the sale.

HOW MUCH FOR A SWEETHEART.

(Written for Pacific Rural Press.)

Their worth is always rated high by the individuals interested, rather higher than uninterested parties place their value generally. One was sold at the Shorthorn sale at the Pacific International Livestock Show at Portland that brought a good price, but like all other sweethearts, not more than she was worth. This one was Little Sweetheart, grand champion female Shorthorn this year at the California State Fair, the Los Angeles Livestock Show, the California International Livestock Show, and last at the Pacific International Livestock Show at Portland, Oregon, and she sold for \$2200, the top female of the sale. Little Sweetheart was owned by T. S. Glide, the prominent stockman and Shorthorn breeder of Davis, California. She was sired by Golden Goods, Jr., the senior herd sire of the Shorthorn herd owned by the Ormondale Company at Redwood City. She was bought by the American Importation Company of Chicago.

The Shorthorn sale was a good one, held under the auspices of the Pacific Northwest Shorthorn Breeders' Association, with an average of \$782 for 33 cows, and of \$889 for 22 bulls sold.

Classified Advertisements

MISCELLANEOUS.

MAKE YOUR OLD ROOF NEW SUPERCOTE & PROTEX THE LEAK-PROOF TWIN

Absolutely guaranteed to stop all leaks in one application. Do it yourself. No need of an expert. Mail inquiries solicited. E. L. HUBBARD, Factory Agent, 175 Grand Ave., Oakland, Lakeside 2632.

FOR SALE—Sampson Tractor with John Deere 3-bottom power lift plow; distillate and oil wagon—all bought new by me and used but a short time. can be bought together or separate at a bargain. Owner, Fred H. Bente, 333 College Ave., Santa Rosa.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Welssbaum Pipe Works, 160 Eleventh street, San Francisco.

SHORTHORN HERDSMAN WANTED—Married man with experience in care and feeding of beef cattle and fitting for shows. State references and wages in first letter. Fair Oaks Ranch, Willits, Cal.

WANTED A MAN to fill position as herdsman. Must be experienced and wide awake. Steady position. Call or write, stating references. Shoreacres Dairy, San Leandro, Cal.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shelter Pipe Works, 304 Howard St., San Francisco.

LIVERMORE HAY FOR SALE—About 35 tons No. 1 wheat hay and 15 tons No. 1 wheat and oat hay. In warehouse at Livermore. Write R. F. D., Box 59A, Livermore.

\$2,000 HOLT "30" FOR SALE—in good condition; tracks almost new; and a five-Disk Moline plow. Address: J. M. Nelson, 16 N. First Street, San Jose, Calif.

HOLT 30-CATERPILLAR—new tracks, engine recently overhauled. 5 disc plow, 8-ft. double disc harrow. A bargain. \$2,000. Fair Oaks Ranch, Willits.

FIRST CLASS DAIRYMAN, married, wishes position as herdsman or dairy foreman. Lifetime experience; best of references. Box 1730, Pacific Rural Press.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

BURBANK'S Thornless Blackberry plants. Price reasonable. Orders taken for spring delivery. Variety Farm, Clovis, Cal.

FOR SALE CHEAP—K handpower stump-puller. New complete outfit. Edward Haven, Morrison Ave., San Jose, Cal.

SUDAN — We want to buy Sudan grass seed. Send us samples. Bomberger Seed Co., Modesto, Cal.

WANTED—Used 6-ft. Double Disk in A-1 condition. 142 R. B. Alum Rock Ave., San Jose.

COUNTRY LANDS.

200 A. MISSOURI FARM, \$5500, with Pair Horses, 9 head stock, complete farming implements, near R.R. town, creamery, etc. Productive tillage in rich bottom land, also 40 acres bench or 2nd bottom; good woodland, saw timber, several acres orchards; 6-room house, barns, corn houses, etc. Aged owner, to sell at once, sacrifices—\$5500 for all, easy terms. Details page 88 Strout's Fall Catalog Farm Bargains 23 States; copy free. E. A. STROUT FARM AGENCY, 831AF N. Y. Life Bldg., Kansas City, Mo.

FOR SALE—Choice 1919 crop alfalfa seed. Also 1919 crop black amber, Sorghum seed. E. D. Westfall, Grower, Colusa, Cal.

樓字寫工接 FIRST-CLASS CHINESE HELP Cooks, Porters, Farm Hands, General Housework OONG FOON, 1 Brenham Place, San Francisco TELEPHONES: KEARNY 3941. CHINA 190

Special Livestock Market Report

San Francisco, December 3, 1919.

CATTLE—The cattle market this week is steady and strong. The bulk of the receipts are from Nevada, and fairly good in quality and of desirable weight—running largely between 950 and 1100 pounds. Steers are much more plentiful than cows. Calves are somewhat scarce, and asking prices correspondingly stiff.

Steers, No. 1, 1000-1200 lbs.....10 1/2 @ 11c do, No. 1, 1200-1400 lbs.....10 @ 10 1/2 c do, 2nd quality.....8 1/2 @ 9c do, thin.....6 1/2 @ 7 1/2 c Cows and Heifers, No. 1.....8 1/2 @ 9c do, 2nd quality.....7 @ 7 1/2 c do, thin.....4 1/2 @ 6c Bulls and Stags, good.....5 @ 6 1/2 c do, Fair.....4 @ 5 1/2 c do, Thin.....3 @ 4 1/2 c Calves, lightweight.....11c do, medium.....10c do, heavy.....8 @ 9c

HOGS—The hog market is steady to slightly weaker. A large number of soft acorn hogs are being offered, principally from the Cottonwood and Red Bluff territory.

Hogs, hard, grain-fed, 100 to 150 lbs 14 1/2 c do, 150 to 225 lbs.....15c do, 225 to 300 lbs.....14 1/2 c do, 300 to 400 lbs.....13 1/2 c

SHEEP—Sheep and lambs are offered freely. There is a good demand for lambs, but the sheep market is weak, especially ewes. Lambs, yearling.....10c do, milk.....12 @ 12 1/2 c Sheep, wethers.....9 @ 9 1/2 c do, ewes.....6 1/2 @ 7c

Los Angeles, December 2, 1919.

CATTLE—Steers continue in very good demand and prices steady. Cows are plentiful and as a result a slow sale is reported for them.

Per cwt. f. o. b. Los Angeles: Beef steers, 1000@1100 lbs.\$9.50@11.00 Prime cows and heifers.....\$8.00@9.00 Good cows and heifers.....\$7.50@8.00 Canners.....\$5.00@5.50

HOGS—Hogs are rather scarce but prices the same as last week, with a fair demand reported for them.

Per cwt. f. o. b. Los Angeles: Light.....\$14.00@16.00 Heavy average 225@275 lbs \$13.00@14.00 Heavy average 275@350 lbs. \$11.00@12.50 Rough docked 20 lbs. piggy sows 40 lbs. and stags, 40 per cent.....

SHEEP—No change in prices reported. Sheep and lambs steady and selling fairly well. Prime wethers.....\$8.50@9.50 Yearlings.....\$8.50@9.50 Prime ewes.....\$8.00@8.50 Lambs.....\$12.50@13.50

Portland, Ore., December 2, 1919.

CATTLE—Steady; receipts, 20. Steers,

best, \$9.50@10.50; good to choice, \$9@9.50; medium to good, \$8@9; fair to good, \$7@8; common to fair, \$5.50@6.50; good to choice cows and heifers, \$8@9; medium to good, \$7@8; fair to medium, \$5.50@6.50; canners, \$4@5.50; bulls, \$5@7; prime light calves, \$12.50@14; heavy, \$7@12.50; stockers and feeders, \$8@9.25.

HOGS—Steady; receipts, 76. Prime mixed, \$15.50@16; medium, \$14.50@15.50; rough heavies, \$13.50@14; pigs, \$13@15.

SHEEP—Steady; receipts, 2045. Eastern lambs, \$12@13.10; valley, \$11.50@12.50; feeder, \$10@11.50; yearlings, \$8.50@10; wethers, \$7.50@8.50; ewes, \$6.50@7.50.

LIVESTOCK SALES DATES.

December 11th—W. C. Short, Shorthorns, State Fair Grounds, Sacramento.

December 16-17th.—Merritt-Bowers Co. Beef Cattle, Horses and Jacks. Tagus Ranch at Tulare.

December 18th—A. W. Morris & Sons Corp., Holsteins, Woodland.

1920 Sales.

January 14, 1920—Glenn County Poland-China Breeders' Association Sale, Orland.

January 15th—California Duroc Association, bred sows, Davis.

January 16th—Harvey M. Berglund, Duroc-Jerseys, Dixon.

January 17th—Bassett-Ross-Crawshaw, Poland-Chinas, Hanford.

January 17th—Hollingshead & Sons, Duroc-Jerseys, Orland.

January 24th—H. D. McCune, Poland-Chinas, Hanford.

January 27th—Geo. V. Beckman & Son, Poland-Chinas, Lodi.

January 28th—Diamond Bar Ranch, Spadra, Duroc-Jerseys.

January 30th—Winsor Ranch, Bonita, Duroc-Jerseys, sale at Los Angeles.

January 31—Ireland Ranch, Owensmouth, 50 bred Duroc sows and gilts.

January (date not set)—Charles Gatewood, Fresno.

February 3rd—Les McCracken, Poland-Chinas, Ripon.

February 6th—Tulare County Poland-China Breeders' Association, Tulare.

February 10th—F. D. Burr, Duroc-Jerseys, Orland.

February 11th—Fresno County Poland-China Breeders', Fresno.

February 12th—San Joaquin County Poland-China Breeders', Lodi.

February 14th—J. Francis O'Connor, Berkshires exclusively, Santa Rosa.

February 16th—Sandercock Berkshire Sale, Sacramento.

February 16th—H. C. Muddox & Son, Berkshires, Sacramento.

February 18th—Western Berkshire Congress Sale, Davis.

February 18th—Tulare County Duroc-Jersey Breeders, Tulare.



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GIVE your family a Christmas gift of "smooth roads" this year. Give them the new Overland 4 with Three-Point Suspension Springs, the greatest riding improvement since pneumatic tires. The Three-Point Springs dissipate jolts and reduce sway and vibration to a minimum. They make riding on any road smoother and more enjoyable.

With these springs Overland 4 seems to sail over bumps, cushioned from the shocks of the worst roads, with a road steadiness never before approached by a light weight car.

The Three-Point Springs are attached diagonally at the ends of a 130-inch Springbase giving long wheelbase steadiness and comfort with 100-inch wheelbase lightness, economy and driving ease.

By protecting the car from road blows they prevent excessive wear, give every part longer life and make Overland 4 very economical in up-keep.

A still further source of economy in Overland 4 is its light weight which saves in the consumption of oil and fuel.

With all these important features, Overland 4 is in addition a car of marked beauty and smartness of design.

Its equipment is carefully selected and complete from Auto-Lite Starting and Lighting System to Rain-Vision Windshield.

Ask the Overland dealer to show you this unusual car. Try its remarkable riding ease. It sets a new standard of comfort. Booklet on request.

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Willys-Overland, Limited, Toronto, Canada

THE PACIFIC RURAL PRESS

SAN FRANCISCO

DECEMBER 13, 1919.

LOS ANGELES

Apple Growing in Southern California

Written for Pacific Rural Press.

AMONG THE PIONEERS of commercial fruit planting in Southern California forty years or more ago there were many who came from the apple districts of the Central and Eastern States, who in the midst of their new-born passion for citrus and other semi-tropicals never quite forgot the loyalty of their childhood to the apple—king of northern fruits. And so they planted a few apple trees here and there throughout the southern half of the State. The outcome of this wide experimentation with the apple was a demonstration that

under certain conditions of exposure, temperature and moisture, dependent largely upon elevation and distance from the ocean, apples of good quality and long-keeping characters could be produced. Although it seemed to be a fair conclusion that situations and cultures which developed the best in citrus and other semi-tropical fruits were not favorable to the apple, it also became clear that proper soils and moisture conditions on the coast flats and uplands and in the mountain valleys would produce good apples. These early demonstrations have been reinforced by the experience of later planters, and now there are good commercial apple-producing enterprises in operation in all the southern California counties either above or below the slopes and mesas which are famous for their citrus fruits. A concrete instance of such well-planned and conducted apple enterprise is presented in the adjacent text and picture by Donald J. Dodge of Orange county, the grower who has made a success of it:

"A few days ago a representative of your paper, F. I. Cock, stopped at my ranch to solicit my subscription. I was busy at the time selling White Winter Pearmain apples from my fifteen-acre orchard, and he was quite interested when I told him that your book, 'California Fruits and How to Grow Them,' had been my guide in planning and planting my orchard. He thought you would be interested in a report of the enterprise, so I am sending you samples of fruit and a picture of one of my Pearmain trees, and am writing these few lines.

"The orchard is located on the Newport mesa, about two miles from the ocean, ninety feet above sea level, and the soil, according to the government soil survey of the Anaheim area, is 'Ramona fine sandy loam.'

"I have five varieties of apples: White Winter Pearmain, Bellflower, Winter Banana, Arkansas Beauty, and Delicious. The Pearmain and Bellflowers were planted in March, 1912, and the other varieties a year later. All the holes were dynamited the fall before the trees were planted, and filled with water during the winter. All varieties have good color, fine flavor, and are of good texture and firmness.

"I have sprayed for codlin moth since the trees started to bear, and have always gotten good control. Other pests and diseases have not been serious, though the 'Baldwin spot' has affected quite a percentage of all varieties this year, and to a less extent last year.

"Until last July I did not have all the water I thought the trees should have had, and I have not been particular about late fall and winter irriga-

tion. Most of the apples have had open calyx, and a small percentage have rotted at the core. Could lack of winter moisture have any effect on the above conditions? I would appreciate your opinion on the subject. (We are not able to trace such abnormality to the specific cause, but it is not impossible that such interference with good growing condition might result in almost any type of distortion—Editor.)

"I have sold practically all of my fruit here at the ranch, and am building up quite a business. Careful grading and culling of all wormy apples

has given me a reputation for 'Quality Apples.' I have not heretofore been a subscriber to the Pacific Rural Press, but expect to be a constant reader from now on."

Our apple-growing readers will welcome Mr. Dodge to their inner circle. A man who can grow a fruiting tree like that shown in the picture is a credit to our horticulture. The apples which he sent to testify to us the quality of his product are as large, handsome, and clean a lot of Pearmain as we ever saw. What he says of his enterprise for direct trade and the way he is building up a business by handling his own fruit and serving his customers nothing but the best, is very suggestive to those who plan to succeed, on the basis of good product and fair trade, with small, personally conducted orchards.

There is also another suggestion in Mr. Dodge's attitude toward this journal which we wish to point out. How interesting and inspiring it is to all readers to get a direct word from any one of their fellows about some concrete thing he or she is successfully doing! Such a direct word from one strikes another reader in the head, the heart, and the pocketbook—all in one shot. We have to preach a lot more than we like and often we think that our editorial shouting makes as little real noise as shaking a lamb's tail in a fur cap—as an old college president back East once said of a chapel-bell which was too small for its job of waking up the students. We would like to abdicate this pulpit altogether and sit down in front alongside the contribution-box all the time—if lay preachers would mount the platform and tell the congregation how they do good farming. We really do not care to preach all the



White Winter Pearmain tree seven years old grown by D. J. Dodge in Orange county. It is a striking instance of a well-shaped tree. The Pearmain, though not our most important commercial apple, is the winter apple which does best under the greatest variety of growing conditions and has advocates in all parts of the State.

time, showering blessings on the good and hurling anathemas on the bad like a self-constituted, editorial Jupiter. We have to do it sometimes to rebuke our rival journals for too much immorality and bumptiousness, and to make them take their proper places on the back seats, but if our readers will send us words and pictures about what they are doing with good results, as Mr. Dodge has done, we can give our readers such a good, useful journal of California farming that it will not matter what our rivals do or say about us. As for apple growing in Southern California, success consists simply in getting the right varieties in the right places and treating them right culturally. There are places which do not best the apple tree; others where early apples can be profitably grown and late varieties cannot; still other places where late apples will develop their highest excellence in crispness and long-keeping. Therefore, such local experience is of extreme value.

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EDITORIAL

BUD-SELECTION ASSOCIATION.

THE committee of the California Nurserymen's Association whose duty to organize for the standardization of fruit varieties to be used in the propagation of trees was prescribed by the recent Chico convention, as described in the Pacific Rural Press of November 22, held meetings in this city on December 8 and 9, and honored this writer with an invitation to participate in the meetings in an advisory capacity. We were glad to avail ourselves of such invitation, because it is our judgment that the movement to restrict growing of fruit trees to the varieties which best serve specific purposes, and to the best types of such varieties, on the basis of quality, form, size and productivity, is one of the most important which has arisen in the line of progressive fruit growing. And while it is too soon to undertake an account of the specific forms and ways of promoting this most desirable achievement in which the committee will proceed in the discharge of its duty, it is very timely to assure our readers that the proposition is going forward immediately and with most sincere purpose of attaining results which will be of incalculable value in promoting, propagating and planting fruit varieties which shall not only be good, but specifically good for something which will help the fruit producer to use his land, time and money with more certain outcome than previous propagation-policy has assured him. The representation of the state was very wide, for the following committee-men were present, viz.: President Bergholdt and Mr. Barnicott of Placer County; Past-President Kirkman and Mr. Roeding of Fresno County, Mr. Crow of Santa Clara County, Mr. Hyde of Santa Cruz County, and Mr. Armstrong of San Bernardino County. It was unofficially stated that these men represent about 85 per cent of the deciduous tree propagation of the state, and their complete agreement as to the desirability of the movement to give the public the very best stock of all deciduous fruits to plant and the general accord among them as to the ways to proceed to reach this end, surely warrants the anticipation that speed and efficiency would be attained. There will be an incorporation which will probably be known as the "Nurserymen's Bud-Selection Association of California," which will, through its experts and business conductors, decide upon best types of all commercial fruits, secure or develop supplies of budding, grafting and cutting wood, which the members of the association will bind themselves to use exclusively in propagation and, as fast as such certified wood is available, to restrict their growth and sale of trees and vines of such varieties to stock produced from it. The articles of incorporation will provide for organization with \$50,000 of bond issue—which will be open to purchase by growers and others not directly concerned in propagation, and \$100,000 common stock which nurserymen desiring to participate in the work of the Association will be required to buy—in amounts probably from not less than \$500 upward. The association will proceed in whatever ways seem

best, by leasing or buying property from which approved buds and cuttings can be taken, or may plant and grow such materials as its directors desire to certify. It will have its own protection in the form of certificates, trademarks, tags, etc., by which trees grown from such certified sources can be distinguished from all others, so that the planter can be assured of what he is getting. It will, of course, take several years to develop the plan so that all varieties of amateur and commercial superiority can be covered, but it is expected that a beginning will be made forthwith so that some fruits may be budded-in next summer with certified varieties. The whole undertaking looks to us like a very good work, very well begun, and we shall come through with the details of it as they take definite form.

WHAT TWO YOUNG MEN DID.

We like young men if they keep their collars clean and do not swear, we like them almost as much as we do young women. We have grown up among young people and nothing but the pesky calendar suggests that we have grown away from them. Because we like them so much, whenever we hear of any of them coming through on some job of great importance to California, we feel just as proud and happy as though we had taken a hand in it ourselves—and, in the normal selfishness and conceit of old people, that is about the highest tribute of appreciation which sunset can pay to sunrise. And now we have that sort of a tribute to pay. About a decade and a half ago there were two young men in the college of agriculture at Berkeley named W. H. Volck and E. E. Luther. They were not particular paragons or "teacher's pets." One of them had a laugh which could penetrate two plastered walls and disturb our lecturing so much that we had to send a janitor to "tie up the calf!" The other had "nerves" which would cause the blackboard figures to dance when we called upon him to explain them, and he gave us much mental anguish. What we liked about these two young men was their manifest purpose to discover something worth doing, and then go ahead and do it, and they did not care whether it was in the "course of study" or not—in fact, the regular course which other young men loyally pursued always seemed to make them tired. They persisted in doing stunts of original thinking and experimenting instead of rehearsing the wisdom which the teacher provided—and that is, of course, an unpardonable academic crime! And so it happened that when Professor Woodworth sent them down to Watsonville to do things to the apple worms, they would not kill them in the orthodox way, but proceeded to get up an "ortho" way of their own, and that consisted in devising a new process of combining arsenic and lead in such a way that while it would bite the insides out of a worm which ate it it would not bite the leaves which it was sprayed upon, and therefore the leaves could be sprayed with a stronger solution of it with better killing effect on the worms and without injury to the foliage. It was a discovery of incalculable value to fruit growing, and other manufacturers of arsenicals soon began to make their output that way—overlooking the fact that Luther and Volck were not working for the university when they discovered the process, but had finished the particular job which they were sent to do and had gone into business for themselves as insecticide manufacturers and had patented their process. In the regular course of their business they proceeded against the infringers upon their patent, and a long trial was held last winter in New York in the course of which the court went minutely into the validity of the patent. The court rendered its decision on November 26, upholding the right of Luther and Volck to their discovery, and now it is up to the transgressors to pay for the injury they have done and to pay a royalty on their future operations if they continue to do their chemical manufacturing in the way these two young Californians demonstrated to be the best way.

ANOTHER UNIVERSITY BY-PRODUCT.

Now that the ground is wet, squirrel-killing will proceed by pouring or exploding carbon bisulphide in the burrows of the varmints instead of tempting

them out to eat sugared strychnine. Many of this generation probably do not know that the availability of this material and the current use of it is traceable to the alertness of a young man to do something which was no part of his prescribed course of study. More than forty years ago carbon bisulphide was being used to kill the rats in the sewers of Paris, and to the late Professor Hilgard came the idea that if the vapor would kill rats in a sewer it would be as easy to kill squirrels in a burrow as to shoot salmon in a can, and Professor Hilgard tried it with notable success on the university grounds, and published a bulletin on the subject in April, 1878. The particular phase of the history of the affair which we would recall in this connection is the fact that while Professor Hilgard was making his experiments there was a young man in college named John H. Wheeler who had a great idea of doing things outside of the curriculum, and when it was apparent that squirrels could never be killed economically with the chemically-pure bisulphide then sold at high prices in the drug stores, Wheeler started a factory on the bay shore of Berkeley and was soon turning out commercial bisulphide at prices which made it available in all general stores for pest-killing purposes. And thus it was that a bright analogy drawn from European experiments was enabled to come through into common farm usefulness, and to result in larger manufacturing enterprise to make the material available, simply because a university student had the sense and sand to do something which prescribed studies did not require of him, but which practical operation made necessary to agriculture and ministering to the need made profitable to the originator. And now, though Wheeler is old enough to have a son graduated from the university several years ago, and though he has done many original stunts on his fine fruit farm in the Napa Valley, we always think of him as the youth who jumped a lecture course on the feasibility of perfume farming in California, and built a bisulphide joint on the bay shore which, though not much bigger than a dutch oven, made more smell than all the perfumes of Araby the blest, and was the foundation of the large business of carbon bisulphide manufacture in California. We like young men when they do things which their teachers do not know enough to teach them to do!

THE UNRULY MEMBER.

We notice that the cables are being kept pretty busy in describing the beginnings of Lady Astor's career as the first woman-member of the British Parliament. What amazes us is that that which was surely to be expected should surprise the reporters so much. It seems that there is a rule of the House of Commons that members must not indulge in side-talking among themselves within the bar of the house while the latter is in session. However, being a woman, Lady Astor must talk to somebody, and kept on doing it until the Speaker of the house nearly demolished the parliamentary furniture with his gavel in the effort to enforce the rule before some one informed the new member that the hammering was for her benefit. And then, the reporter says, "Lady Astor stepped outside the bar of the house and went on talking." Of course she did: how could she help it? Our surprise is not that she did, but that the Speaker should have thought he could prevent it. Of course, he was off his guard and did not realize that the effort to recall a primal privilege of the sex with a little wooden mallet was only adding to the racket; he could not have revoked the pristine right of woman-kind with a steam-hammer—and so Lady Astor talked on. In fact the right of woman to talk when no one wishes to hear came right out of Eden. Eve had it at the time of the lock-out, and what she said to the excluding angel was a few degrees hotter than his flaming sword. Eve had it also afterwards and Adam chopped all the more thistles, not because he liked to work, but because the crunch of his stone hoe upon the Mesopotamian gravel was to his tired ears more welcome music. And the right of Eve was bequeathed to the daughters of Eve to this very day and cannot be revoked nor its exercise repressed by any recourse to rule or argument. But there is, of course, a way to do everything under the sun—even to causing a woman to renounce her most ancient right to talk.

It is to be reached by a declaration that men desire to listen. If the gavel be dispensed with when Lady Astor begins to prattle, and the house be trained to shout "Hear! Hear," in true British fashion, silence will ensue. For it is a woman's joy to talk, not when men wish to hear but when they do not. The most surprising thing about the whole episode is that the Speaker of the British House of Commons did not know that simple fact.

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Wet or Dry Sprays.

To the Editor: I sprayed my apple trees with arsenate of lead powder, 1 part arsenate to 4 parts sulphur, for codlin moth and aphids. It was a complete failure for the moth. The late apples were fully 90 per cent wormy, but the early ones about one-third. Did the sulphur kill the arsenate? The apples were white with the powder, which was used dry.—J. K., Oakdale

No one can answer your questions confidently until a systematic test is made of wet and dry sprays under exactly the same conditions and expert observers, without prejudice, compare the results. We are not aware that this has been done, and so every one has to use his own judgment in choosing between ex-parte reports. The sulphur you used did not kill the arsenate and the two together did not kill the worms—perhaps because they did not get to the exact spot where the hatching from the eggs started to bite its way in. Evidently the eggs laid by the moths from the first brood which bored one-third of your early apples were not interfered with by your treatment, and there were enough of them to take nearly all the late apples you had. Your experience indicates that you cannot expect to get good fruit with your way of dust-spraying, but whether you did not dust at the right time and way, or whether dusting will not properly distribute the poison so that the young worms must eat it on their way in, we cannot tell. It is clearly the duty of some investigating institution to show us whether we should follow a wet or dry policy in fighting pests, or whether we can best fight some pests dry and others wet, and then each grower can amend the constitution of his business to meet such demonstration.

Dry Land Goat Pasture.

To the Editor: I am living on a homestead and want to plant some grass that is hardy for a goat pasture as it is very dry here. Would Johnson grass do? I have a piece of land not very good for anything else.—M. L., Saugus

Johnson grass would not do at all, for it will refuse to grow long in a dry, waste place. The game of Johnson grass is to get into the best moist land on the place and keep everything else out. If you have water you can grow alfalfa or rye grass, red top, orchard grass, etc. As you are on the edge of the desert and speak of dry conditions, none of these would probably hold on long without irrigation. You might get a lot of feed from smooth cactus. Your best chance for a grass is to look around you and find some of the desert grasses native to your region and gather their seeds for wider planting. You will often find them under the protection of your desert shrubbery, and you must keep the goats off until the plants have a chance to make seed. These plants are for growth during the rainy season. If you have a little summer water to spare you may get fullest returns for it with Napier fodder or elephant grass, and Sudan grass may be worth trying with a little water in the frostless period.

Methods with Rhubarb.

To the Editor: I am a new subscriber to your paper and like it very much. I am also new at rhubarb. I have a field of rhubarb about three years old. Many of the roots are much too large. The soil is sandy loam, sub-irrigated. I wish to get as large a crop as possible this year. What shall I do?—G. A. C., Marina

When rhubarb crowns really get too large some growers plow alongside and cut off part of the outer eyes of each crown with a sharp spade—using them for planting new areas. Turning back fresh soil against the old crowns gives them a fresh start. But we would have to be very sure that the crowns needed this treatment—they usu-

ally do not at three years old. To get the most salable product the coming year we would not reduce them, but would pile them over with fresh cow manure as soon as possible, so the rains can leach it out—and a little later rake the leavings to the middles and disk them in. If you are growing winter rhubarb you will have to hurry up with this treatment; if it is the old summer kind you can let the manure lie a month or more.

Sudan Grass.

To the Editor: What time of year is Sudan grass planted; what is an average yield per acre; what market is there for the seed; how often does it require water, and where is seed obtainable?—F. A. W., Escalon.

The seed is planted when danger of frost has passed: i. e., when you would plant corn or melons. The cut per acre depends upon the soil and moisture available; dry Sudan has cut a ton and a half per acre; irrigated, five or six tons. There has been a good market for the seed when free from Johnson grass seed, which is hard to distinguish from it. The amount of water required for a maximum growth depends of course upon how well the soil retains or loses moisture as for times of watering, an irrigation after each cutting is all right. Any seed dealer can supply the seed. We take it, you know, that the grass cannot grow in the winter and that it has to be resown every year.

Growing Feijoa Plants.

To the Editor: When is the best time to plant seeds of the Feijoa, and will they grow from sprouts and cuttings? It is a new fruit to me and any information will be appreciated as I like it.—M. L., Saugus.

The best time to start plants is when you have thoroughly ripened fruits from which to take the seeds. As the seeds are very small they should be started indoors in a shallow box or "flat"—using about three parts of clean sand and one part of rubbed-up moss or other light fibrous material; old sawdust which has been well weathered does very well. Cover not over a quarter of an inch and keep moist but not wet. The plants usually appear in about a month. Transfer the seedlings to pots or cans when small, and plant out later when they get some size. Starting from cuttings is practicable but not easy—though you may strike it right. Layering, or bending down and covering branches, is quite easy if the ground is moist and warm.

No Panacea for Pests.

To the Editor: Kindly inform me as to time and kind of spray to use, if any, for apple borers, caterpillars, and for aphids on prune and apple trees, which are found on the underside of the leaf and cause it to curl and also have a bluish powdery tint.—A. T. M., Herald.

We cannot; there is no moment of time, nor method, nor material which will serve all these pests. One has to study each pest according to its nature and the injury it does. For example, borers in fruit trees are prevented from getting in by whitewashing or other applications to the bark; after they get in they must be gone after by knife or wire. Caterpillars which eat leaves must be poisoned by covering the leaves when they are first seen with a spray of arsenate of lead; other caterpillars are fought in various ways. Leaf lice or aphids are best reduced by soap-tobacco sprays—first, as soon as they are seen and at intervals afterward. And each kind of all the other pests has its own time, method and munitions, at which and with which a war against it can be won. It is up to the grower to know individually each pest which bites him, how it lives, how it works and how to get ahead of it, and let us tell you it is no easy job.

Grain in Alfalfa.

To the Editor: We have alfalfa seven years old which is very thin and yielding very little hay. We propose to reclaim the alfalfa by seeding with barley and red oats, then spring-tooth harrowing it two ways, following this immediately by a drag harrow. To our knowledge the land has never been fertilized. What would you suggest along these lines? Is there any better way of bringing this alfalfa forward?—A. L., Merced.

Sowing grain on a scant stand of alfalfa is undertaken, not so much to improve or reclaim the alfalfa as it is to get something more from the land to make up for the small return of alfalfa. The way to get a good stand of alfalfa is to break up the

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land and resow the alfalfa—giving it the sole use of the land and all the water there is available to bring it along. By winter growing of grain you may get more feed or hay than you can get from a stand of alfalfa which does not fully use the land, but the longer you do it the less alfalfa you will have until re-sowing becomes imperative if you desire to stay in the alfalfa game. Your way of putting the grain into the alfalfa is good. There will be much advantage in fertilizing the land either with stable manure or a complete commercial fertilizer. If you wish to try reclaiming the alfalfa to see whether it really can come back or not, put on the manure now and just before the growth starts harrow as you propose to break the crust and kill foxtail and other weeds and keep the grain out. It is, however, likely that you will get more by putting in the grain and arranging to re-sow in a year or two.

Manuring Fruit Trees.

To the Editor: We have almond trees two and four years old. We have bought loads of manure to put about the trees. Now some one comes along and says: "You will be in for all kinds of trouble. Your trees will become infested with borers." Is there anything to this remark? We have an apricot tree and we put some half-rotten manure about it the first and second years. It is some tree! It looks about a four-year-old, so we wanted to feed the almonds too. Is it dangerous?—M. S., Merced.

Do not put manure too near to the trunks of your fruit trees; work it into the land between them, and it will promote root-extension. Too much heaped around the trees may kill the trees by burning the bark and then borers will take advantage of sick bark to get in. In the case of the apricot tree you fortunately did not use enough to hurt the bark, but the stimulation you mention was too great. There is no advantage in getting a two-year-old tree the size of a four-year-old. It postpones the fruiting usually and gives you a tree likely to break to pieces when it does set fruit.

CALIFORNIA WEATHER RECORD

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending December 8, 1919.

Stations—	Rainfall			Temperature	
	Past Week	Seasonal To Date	Normal To Date	Highest	Lowest
Eureka .....	.80	5.84	11.51	58	36
Red Bluff	1.12	2.50	6.64	56	36
Sacramento	1.31	2.31	4.44	56	34
San Francisco	1.26	2.39	4.97	57	44
San Jose	2.00	2.73	3.81	58	34
Fresno .....	.36	.98	2.36	66	36
San Luis Obispo ..	3.42	4.10	3.96	64	46
Los Angeles	1.70	4.01	2.77	66	44
San Diego .....	.20	1.94	1.61	62	46
Winnemucca .....	.36	2.45	2.18	40	6
Reno	2.03	3.14	2.71	40	6
Tonopah .....	.33	1.59	3.10	42	16

Farmers' Union Wants Japanese Excluded

Written for Pacific Rural Press by R. E. Hodges.

STRAIGHT FROM THE SHOULDER," and with little hesitation, several body blows were given to existing evils in our agricultural life by the Farmers' Educational and Co-operative Union of California at its convention in Oakdale, Stanislaus county, December 2-4, 1919. This organization, which seemingly has languished of recent years in California, is becoming very lively and is not hesitating to take a strong hand in the urgent questions facing California agriculture today. Its membership has increased twenty per cent during the past year, as reported by President J. J. Hardie. The farmers' part in the Industrial Conference, recently called by President Wilson, formed the theme of an extended address delivered by President C. S. Barrett of the National Farmers' Union at its national convention recently in Memphis. This address was read by Secretary Fred Millard of the State Union. The Japanese question received firm, fair and appropriate treatment. The activities of the State Department of Agriculture, as told by Director Hecke, held the big audience for more than an hour. Affiliation with labor unions in solving the problems of industrial unrest and the wasteful high cost of living absorbed a great deal of the time spent in consideration of public questions.

Asiatic Exclusion Endorsed.

Opening the convention, Rev. F. C. Farr epitomized the sentiment of the convention in a forecast. He said that he liked the way farmers approach the Japanese question. They do not want to banish Japanese from the earth, but they do want to keep out from our country all nationalities which admittedly cannot be assimilated into real American citizens. Senator J. M. Inman, president of the Asiatic Exclusion League, made one of the leading addresses of the convention in much the same spirit. He said that there is no need of abusing the Japanese—they stand convicted by their own utterances and by their own well-known and less-known practices and ambitions.

Japanese Colonization of California.

There is immediate danger and plenty of evidence that they will accomplish the colonization of California within a short period unless fundamental preventive measures are adopted without delay. "Picture yourself owning and living on a ranch, with Japanese owning or leasing the ranches on both sides of you, and figure out how soon you would 'blow' off that ranch with your family."

Showing a picture of the Florin school with the Japanese children comprising 71 per cent of all the pupils, Senator Inman asked the Farmers' Union members to picture their own children outnumbered in their schools by aliens incapable of becoming Americans.

Have They a Right to be Offended?

Efforts to curb aliens ineligible to citizenship first took form in 1907. The Japanese government bluffed our Governor and State Legislature then, and again in 1911. In 1913 the entire Legislature, in executive session with Governor Johnson and U. S. Secretary of State W. J. Bryan, was told by Mr. Bryan that it must not pass the Japanese legislation for fear of offending a friendly power. Governor Johnson replied that the question was not whether we would offend the Japanese, but whether they had any right to be offended. Japanese, or any other foreigners, have no rights except what we give them. They may reasonably expect the protection of our laws; and tolerant Americans generally give them more than that. So much for the fairness of exclusion.

The Menace at First Hand.

"I have but recently returned from Japan, where I lived for six years," writes a courageous woman now living in California. "My information has been gleaned mostly from the boys

and girls whom I was teaching English. Not from what grown folks tell me, but from the naive chatter of youths and children, can one ascertain what is being taught in schools in Japan. They are taught that they, being children of the 'Son of Heaven,' are superior to all foreigners and that their natural destiny is to bring all other peoples to subjection. They are all quite sure of the 'promised war' with America." The teaching of children today becomes the established fact of tomorrow; and Japan only waits the day to test America's strength. She will test the strength of the nations to the utmost in order to force the world to recognize her people as equals. The moment she accomplishes this, the end of the white man is in sight. When Japan has taken sufficient iron from Shantung; when she has amassed enough wealth from Siberia; when she has stored enough chemicals from Germany and China, Japan's day will have arrived. It has taken only forty years for Japan to push her way into a world power of the first class. How long will it take her to make ready for her day?"

It sounds like "der tag" of the Huns, from the "Son of Heaven" to the preparations for war.

"We can't avert the war. The causes are too well established. But we can

tries, recently told the American Legion: "Every Japanese born in America legally is an American citizen; divinely he considers himself a part of the Government of Japan ready to strike against his legal home at the word of the Mikado, the Son of Heaven, whose word is law and whose acts are infallible; others may err, the Mikado never! Such fealty to an infallible leader—this is the peril facing America."

More, much more, was said to show the success of Japanese in begetting American citizens to acquire our land and control our industries, finally to control our laws and our civilization.

Besides adopting the resolution set forth in the panel accompanying this article, the Senator proposed that National legislation was a necessary aid to State legislation, as follows:

1. Cancellation of the Gentlemen's Agreement." This agreement was entered into for the avowed purpose of keeping Japanese labor, skilled and unskilled, out of Continental United States. Its letter and its spirit are being grossly violated. Even if they were not, the fact that the Japanese population of the United States has increased six-fold since 1900, while the Chinese population has decreased over one-half, is sufficient proof that the agreement is not filling its avowed purpose of Japanese exclusion, and

Early Consideration of Japanese Problem Requested.

The Farmers' Educational and Co-operative Union of California, at its recent convention at Oakdale, Stanislaus County, adopted the following unanimously by standing vote:

Whereas, (1) Our recent study of the Japanese question in this State has convinced us of the evils from continued Japanese immigration; and (2) we realize that if this condition is permitted to continue it will inevitably lead to the absorbing of communities and industries by the Japanese; and (3) we further realize that the white race is helpless against the economic competition and high birth rate and unassimilable character of the Japanese; and (4) we realize that this evil can be checked to a great extent by appropriate State legislation; and (5), we are convinced that the people of this State have sufficient information concerning this question to justify them in calling upon the proper State officials for the enactment of such legislation as may be required;

Resolved, That we, the Farmers' Educational and Co-operative Union of America, California Division, in convention assembled this 3d day of December, 1919, ask Governor William D. Stephens to call a special session of the legislature at the earliest possible moment for the purpose of considering this question and enacting such legislation as may be deemed advisable tending to relieve the present situation.

avert some of the loss that will otherwise be ours, by driving the Japanese out now; by taking command of our own food supply and of that strong right hand of the navy, the fishing fleets which are the mine-layers and mine-sweepers in time of war. Our fishing fleets are entirely in the hands of the Japanese and practically controlled by them in Southern California. We are spending millions for a great naval base at Honolulu. There we have our fleet and 12,000 of our people, and a Japanese-manned fishing fleet ready to strew their mines before our war vessels, and 120,000 Japanese all more or less trained in the arts of war, at the rear of our tiny army. Remember that Japan sunk the Russian fleet before war had been declared."

A Japanese clergyman says, "In 1933 the Japanese will control the situation in Honolulu, an American city." The "Japanese-American," a Japanese paper of San Francisco, says: "I firmly believe that it is only by propagation of the great Yamato race that we can solve the anti-Japanese problem. For the next ten, twenty, fifty, or one hundred years—Beget, Beget! (Senator Inman has observed five children under school age in one Japanese home.) The American people have suddenly changed from opposition to Japan to fear of Japan."

The editor of the Japanese "New World" derides the efforts of the California Legislature and adds, "Even the laws of California are not forever unchangeable. The day will come when the real strength of the Japanese will make a clean sweep of all such laws."

Capt. F. B. Whittemore, who has spent many years in Oriental coun-

that it should be abrogated.

2. Exclusion of "picture brides." They are being used for breeding purposes in carrying out Japan's clearly defined policy of "peacefully penetrating" the United States.

3. Rigorous exclusion of Japanese as immigrants. Let us follow in this matter the example set by Canada and Australia, and keep them out.

4. Confirmation and legalization of the policy that Asiatics shall be forever barred from American citizenship.

5. Amendment to Sec. 1, of Article XIV of the Federal Constitution providing that no child born in the United States of foreign parents shall be considered an American citizen unless both parents are of a race that is eligible to citizenship.

It is certainly inconsistent to concede that a Japanese who comes to this country at one year of age is undesirable material for American citizenship, and yet confer such citizenship unasked on the Japanese who is born here.

Mr. Inman said the Legislature had asked the Governor to call a special session, but the Governor objected that he did not yet have enough facts. State Director of Agriculture G. H. Hecke later said that California must be cultivated by the Caucasian race and the Governor was collecting facts which would result in announcement of a definite policy in due time.

Farmer—Labor Alliance.

Of interest equal to the Japanese question was the one in regard to alliance with labor unions. Commonly at the convention, it was said that such an alliance worked fine locally, but a national affiliation was not de-

sired. It was admitted that the "Triple Alliance" of Farmers' Union, State Federation of Labor, and Pacific Co-operative League had not functioned very actively. But the idea of producers and consumers of farm products getting close enough together to eliminate wasteful middlemen was uppermost in everybody's mind.

Judge Griffin of Modesto pointed out that there are two major groups in America—farmers and laboring men. All other groups, including financiers, business men, professional men, etc., depend for their prosperity on the prosperity of the two major groups. All proposed legislation should be considered with reference to its effect on farmers and laboring men. The interests of these two great groups are in the long run practically the same, and what is best for one is best for the other. The high prices of farm products are not due to the delicate appetites of financiers—they are due to the husky appetites and big families of laboring men when they are prosperous enough to buy farm products in quantity. It is to the farmers' interests that laborers should have fair working conditions and wages.

President D. J. Murphy of the California Federation of Labor stated that the efforts of organized labor to get increased wages were always four or five jumps behind the increasing cost of living, and there seemed no end to the circle except for all groups to get together. It is realized that no group can get ahead permanently at the expense of other groups. All affairs of the nation should be run by representatives of all the groups.

Save the Progressive Constitution.

Secretary Paul Scharrenberg of the same organization pointed out that no labor law covers the farmers because the farmers asked to be excused. There is a useful two-thirds in America who are kept at odds with each other by a very astute one-third which fattens in the process. Perhaps the biggest reason for farmers and laboring men to get together right now is the probable Constitutional Convention which looms in the near future. Without co-operation of farmers and laboring men, that constitution will become a reactionary instrument and we may lose the reforms for which we have fought in recent years. There will be an effort to get rid of its progressive elements.

Graduated Land Tax.

The stability of the nation depends largely on farm-owners who live on their farms. We are drifting away from that condition. The Bureau of Immigration and Housing found that over half of the land in eight counties of Southern California is owned by 274 people. The Federation of Labor and the Pacific Co-operative League had adopted a platform which was presented to the Farmers' Union for endorsement. One of its planks is a graduated land tax which will discourage large holdings and encourage farm-owning farm-operating farmers.

The Japanese question originated in the cities as did the Chinese question, but now the former is more of a farm question which will need the help of labor to solve.

Employment Agency Fees.

School teachers now have to pay \$30 to \$100 to a private employment agency to get a job which ought to be furnished free by the State Board of Education. One of the planks in the platform mentioned is to limit the fee to be charged by any private employment agency to 10 per cent of the first month's pay.

University Regents Represent? ? ?

The State University is paid for by all the people, but is governed by a board of Regents appointed for 15-year terms. There is no adequate representation of wage-earners or farmers on that Board.

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The Bee and Orange Combination

The orange tree furnishes two liberal crops; first a generous flow of nectar, which if bees are present to harvest it may be stored up within the hive in the form of honey, and later a crop of fruit, says Frank C. Pellett in the American Fruit Grower. It has only been within recent years that the fruit growers generally have come to appreciate fully the importance of the presence of bees in large numbers in the orchards at blooming time. Many experiments have been conducted with various fruits to determine to what extent the pollination is dependent upon the honeybee. In most cases it has been shown that while under favorable conditions a fairly good pollination is effected by wild bees, the honey-bee is the only agency which can be controlled to the extent of insuring their presence in sufficient numbers to accomplish the desired result.

If weather conditions continue favorable during the entire period of blooming, a much smaller number of insects will be able to carry the pollen from flower to flower until enough are fertilized to insure a profitable crop. When, as often happens, especially with apples, weather conditions are unfavorable with only now and then a few hours when insects can be upon the wing, it is important that they be present in very large numbers if a full set of fruit is to be insured.

Value of Bees.

However, the time has long passed when argument was necessary to convince the progressive fruit grower of the value of bees in his orchard. The live question of late, is how to get the bees at the proper time. In many apple-growing sections the orchard-

ists are either establishing apiaries of their own or making some inducements to commercial beekeepers to locate bees in their orchards. These apiaries usually remain in the same location throughout the year.

In the California orange groves, however, there is usually sufficient forage to support the bees a limited time only. While the orange secretes nectar very freely during its period of bloom, it becomes necessary to move the bees to other fields as soon as the blooming period is over. Migratory beekeeping is the common thing in California and the man who keeps his bees in one location throughout the year is rather the exception than the rule. Some of the extensive beekeepers move as many as three or four carloads of bees to the orange groves for the spring crop. This moving is very expensive but the returns under favorable conditions are such as to make it profitable.

Strong Colonies in Spring.

The great difficulty with the beekeeper is to get his colonies sufficiently strong to store surplus so early in the season. Some beemen take their bees to the orange in a weakened condition and build them up on the orange flow while harvesting little surplus. Even this is a profitable arrangement for both fruit grower and beekeeper. The presence of the bees serves the purpose of insuring pollination, while the bees build up in fine shape for the next honeyflow. However, when the great possibilities of surplus honey from a good orange flow are considered it falls far short of the ideal. More and more are the better beekeepers wintering their colonies with a large reserve supply of

honey to enable the bees to start brood-rearing earlier in the season. By this means they are able to get the bees built up in advance of the flow from orange and thus harvest a good crop of surplus honey from this source. It is only the strong colonies of bees which store the big crops, and it helps the beekeeper but little if his colonies become strong after the flow of nectar has ceased.

The flow from orange is remarkable at times. The nectar is secreted in such abundance that horses and men at work in the orchards are drenched with it. According to California beekeepers with whom the writer has talked, it lasts about three weeks, sometimes slightly longer. It takes 21 days from the time the egg is laid for the worker honeybee to reach maturity, and several days more elapse before she goes to the field to gather nectar. It will thus be seen that the beekeeper who comes to the orange flow with weak colonies cannot rear young bees in time to profit much from the nectar available. To quote George De Muth of the U. S. Department of Agriculture, he rears his bees on the honeyflow, instead of for the honeyflow. For this reason but a small part of the possible honey from orange is ever harvested.

Some Honey Records.

In 1918 a beekeeper near Porterville extracted 171 pounds of orange honey from one colony in ten days' time. In addition more than half as much more was extracted before the flow was ended. Four hundred colonies of bees in one yard averaged sixty pounds each of surplus from orange.

A flow of nectar of this kind is sufficient to induce a beekeeper to move his bees a long distance. Some California beemen move three to five times in a year. One man moves from the almond belt to orange. From there he moves to the Sacramento or San Joaquin valleys where seeds are grown commercially and later again moves the bees to the alfalfa fields. While the honey crop is never certain, there are few years that the beekeeper fails to get a profitable return from one or more sources, where so many are available.

The interests of the beekeeper and fruit grower are mutual. Without the bees the nectar becomes a waste product, doing nobody any good. Not only this but the pollination of the fruit trees is never certain without their assistance. The prosperity of beekeeper and fruit grower are therefore interdependent. While at times their interests clash, there is a growing tendency for each to appreciate his dependence upon the other and manifest a willingness to meet the other fellow half way. The time has long past when indifferent methods at either fruit growing or beekeeping succeed. Each is a highly developed specialty requiring the most expert attention for best results. With better methods comes greater prosperity to both.

Fertility of the farm means more success in farming, and this fertility depends upon the proper use of fertilizers. Manure, both liquid and solid, should be taken care of carefully and hauled to the fields often.

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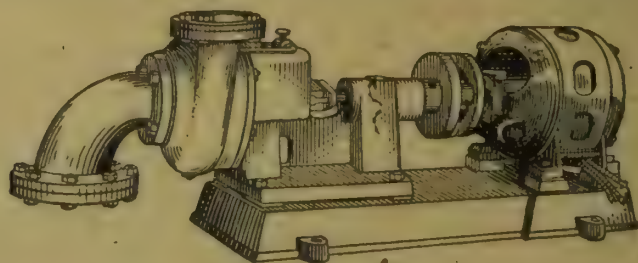
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Fine Valencia Orchard in Tulare County

(Written for Pacific Rural Press by D. J. Whitney.)

Valencia orange trees are naturally alternate-year producers as are some other fruits; that is, a big yield will be followed by a smaller yield, that by a big yield again, and so on, unless unfavorable weather or other conditions step in. Last season was the low year on one of the oldest and finest Valencia orchards near Lindsay, but in 1918 21 1/4 acres brought in \$34,072.44, and it now has a crop coming of similar size—whatever prices will be. This year the returns were \$17,000, round numbers. This orchard is 23 years old and was planted the second year of Tulare county's citrus development. For the past five years the ranch, of which the Valentias are

merely a part, has been managed by McKee Mhoon of Lindsay.

It is on sandy loam 10 feet deep, and it is irrigated with approximately an inch of water per acre. For several years back, 10 tons of stable manure, costing \$4.00 per ton, has been applied per acre every other year; also a half-ton of commercial fertilizer. Recently the amount of commercial fertilizer used has been greatly increased. Steamed bone meal and tankage are especially favored for commercial fertilizer.

Like most early plantings part of the Valentias are only 20 feet apart, and so are crowded. A couple of years ago Mr. Mhoon tried taking out half of the trees on part of the orchard, removing alternate trees on alternate rows, and the yield per tree on this part was not only much greater, but the yield per acre was increased. No comparative records were kept upon this matter, but more boxes seemed to be pulled out than on the rest of the place. The skirts of the uncrowded trees were well filled with fruit; and before, this part had been too shaded to have much of anything upon it. Low fruit is high quality fruit and a good set there means a heavy yield.

This orchard has what is considered the bonanza tree of the variety. Naturally, it is a border tree, where it has plenty of room; but most of the trees around it are good too. Last year it bore 24 boxes; 22 boxes in 1918; 12 boxes in 1917; and 15 boxes in 1916. It is a very large tree and has a tremendous bearing surface.

SETTING TREES STRAIGHT.

(Written for Pacific Rural Press.)

One of the finest looking orange orchards in the district in which it is located had a peculiar start. The owner wanted things done right and had the rows staked beautifully—in perfect line in every direction. Next, he had the greatest care taken to have the trees set exactly in the place of the stakes. Then he had a stream of water run down each row to settle the dirt around the trees, just as was required. But—as the dirt settled when the water went around it, the trees bent this way and that way until they were a terrible looking lot, and he was too busy elsewhere to have them straightened until it was too late to straighten them. For two years the rows were an eye-sore, but as the branches grew and drooped the slope of the trunks was hid and now nothing can be seen but trees a man could be proud to own. With most fruit varieties the irregular slant of the trunks would still be apparent.

Moral: When starting a young orchard don't do two jobs well and neglect a third, but look after every job. Be sure in particular that if you get the trees lined well, the settling irrigation does not undo your labors.

PLANTING FRUIT FOR SUCCESSION OF RIPENING.

(Written for Pacific Rural Press.)

In planting an orchard, it is well to consider a succession of fruits which will keep the same-sized crew busy from early summer until fall. Thus one family may care for quite an orchard. Mrs. E. V. Coleman of Stanislaus county has sixty acres, most of it planted many years ago, which illustrates this point. A few cherries and "French" apricots are first to be harvested here. When they have been dried, Crawford peaches were ready, but these have been taken out. Muirs followed the Crawfords, and Salways then came on for canning or drying. Sugar prunes are being put on a block to just precede the French prunes. Nonpareil, Ne Plus, and Drake almonds come in the order named along with the French prunes. Olives follow them and are being picked as this is written. For picking and drying equipment, 2,400 boxes and 3,600 six-foot trays have

been ample. Three horses do all the work with occasional extra hired horses. The succession has proved

very satisfactory from the standpoint of keeping a moderate-sized crew busy the entire harvesting season.

[This is one of a series]

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A varnished horse would soon die.

A tree sprayed with a material Leaving a sticky, gummy, non-porous residue, Or caustic deposit year after year, Will feel the effects sooner or later; Its proper functioning is arrested, Or its bark is hardened and "bound".

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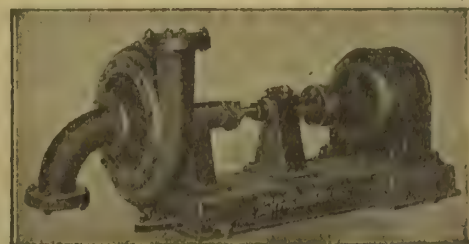
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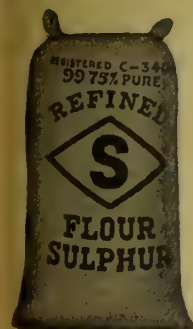
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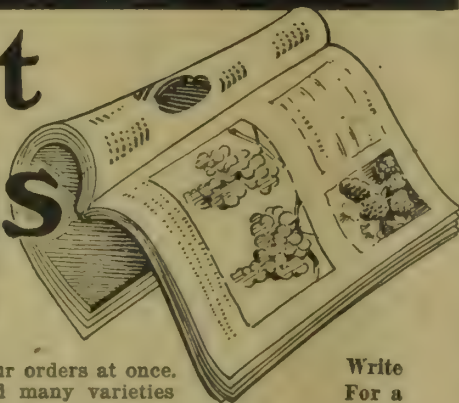
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Is Nursery Stock Scarce?--Plant Alfalfa

(Written for Pacific Rural Press.)

As a result of war conditions, the supplies of most kinds of nursery stock are so limited that many persons who would like to plant fruit trees will be unable to do so next spring unless they have been fortunate enough to get in their orders early. In spite of that fact, there is still the possibility of substituting alfalfa, not as a permanent crop, but as a preparation for fruit, in a way that may mean bigger dividends in the long run than immediate tree planting.

For example, at the Fresno Farm Bureau picnic, a group of fruit men were discussing raw land and one mentioned that well leveled new land near him was selling at \$200 per acre, but that the same kind of land in alfalfa was selling for \$300 per acre. The price in each case was based on its value for trees or vines. Wylie Giffen, head of the Raisin Association and a very extensive rancher, remarked: "I would say that the alfalfa land was a better buy at \$300 than the new land at \$200." The chorus echoed, "You bet it is."

Therefore, if a person cannot get the nursery stock he wants, common sense suggests that he will add a full \$100 per acre to the value of his land by planting alfalfa as soon as possible and plowing it under in the winter of 1920-21 before tree planting time. Forgetting about what the alfalfa brings in during the summer, the increased fertility, the way the roots will have opened the soil deeply, and mellowed it up, it will be like making \$100 per acre, less expenses. In addition, the more rapid growth of the trees or vines, on account of the increased soil fertility, will nearly make the later planted trees catch up with the early planted trees on raw soil, so the income will be nearly as quick in coming after all.

There is also the alfalfa crop of the summer to add profits to permanent value. Fall planting on good land

would have given nearly as much hay next year as a two-year-old stand. Early spring planting may run only two or three tons short, depending upon location, care, and the nature of the soil. The yield certainly ought to be enough to pay all expenses, including labor, and some profits besides. Where growth is slow in starting there is all the more reason for putting some life in the soil by growing a deep-rooted legume like alfalfa.

Also, the proposition of growing alfalfa in an orchard is meeting more and more favor. With this in prospect it would be feasible to plant the orchard land solid to alfalfa, irrigating in the direction of the rows, then next year, before planting the trees, plowing a strip eight to twelve feet wide where the trees are to be planted, throwing the soil toward the center to make levees, with the dead furrows where the trees are to be, harrowing and cultivating to get the soil in nice shape before planting.

In many orchards it is the rule, instead of checking up, as one would do in a regular alfalfa planting, to lay out deep furrows down each tree row and irrigating through them. Sow the seed and harrow it in, then as the last thing, run the furrows. These furrows flatten out in time, but still carry the water nicely. Irrigating is done exactly the same as in a cultivated orchard, only no cultivation is needed. Mowing the alfalfa is more difficult than without these furrows, but under any conditions it is harder to handle alfalfa in an orchard than in the open.

Whether it is planned to keep alfalfa in the orchard or not, the good that alfalfa does to the soil, and the income it gives in the meantime, make it well worth while figuring on putting out alfalfa where trees are to be, in those places where no trees can be secured for a year.

Walnut Growers' Spray Company

(Written for Pacific Rural Press.)

The codling worm and walnut aphids have been spreading from district to district. If they haven't reached your section, the most profitable insurance you can take out is to join all other walnut growers in an effective campaign to control these pests where they exist already. This is the philosophy of the California Walnut Growers' Association in asking its affiliated local organizations to subscribe pro-rata for stock in the "Walnut Growers' Spray Mfg. Co.," which is to have the same board of directors as the Association. Since the sales department obtained better prices than they expected for some walnuts which were still on hand when final settlements for last year's crop were made with the Associations, they have \$25,000 on hand for which they have no specified use other than to distribute pro rata to the locals. They now propose to make it easy for the local associations to subscribe for stock in the spray company by suggesting that each one take a block of \$10 shares to equal its proportion of the unexpected \$25,000 surplus. So the new enterprise will cost the growers nothing, from one viewpoint. Its authorized capital is \$50,000, but the \$25,000 already on hand is believed to be enough for present purposes.

The spray company is to manufacture dust sprays under the superintendency of Prof. R. E. Smith of the University of California, who developed this system of controlling walnut pests. He has been making various

dust sprays for experiment and commercial use, especially with reference to aphids, with a mill of seven tons' capacity per day in the Goleta Walnut Growers' warehouse in Santa Barbara county. It is considered certain that next season a great deal more than twice as much dust spray will be used as ever before. To provide it requires enlarged capacity. The Goleta people need their floor space and freight is unnecessarily burdensome to and from that point for dust spray purposes. So the new project is getting quarters large enough in Los Angeles to take care of any immediate growth in the demand. The Goleta machinery has already been shipped.

Dust sprays are to be sold to everybody, the outsiders paying a price that will reduce the cost to members of the Association. The codling worm has not yet proved controllable by this method, but there is reason to expect next season's work to show satisfactory results. The same is true of red spider. And there is a possibility of finding a way to control walnut blight.

Similar materials will be manufactured for use of vegetable growers who are troubled by aphids, thrips, etc. Since nicotine sulphate seems the most promising and effective property of the sprays, Prof. Smith hopes to start some tobacco growing in Southern California to provide one of the raw materials for the new spray.

WHICH ZANTE CURRANT DO YOU WANT?

There are two common varieties of Zante currants, the black and the white. The Service Department of the California Associated Raisin Co. points out the superior quality of the Black Corinth and the better demand

—two reasons for recommending this variety. All growers interested in Zante currants of any variety should send their names to the Raisin Co., or to the U. S. Department of Agriculture at Washington, D. C. The Department will shortly issue two bulletins on cultural information that will help greatly in making this new grape profitable in California.

STRAW A VALUABLE FERTILIZER FOR ORCHARDS.

(Written for Pacific Rural Press.)

Wheat straw in large quantities is being purchased by the noted Merryman fruit ranch in Tulare county from a grain grower in the vicinity for the sake of the way it can be used to provide fertilizer. Its value is such that a price of \$8.50 a ton, delivered, is paid for it.

This straw is first used for bedding in the stables and then hauled out in the orchard. In this way the fertilizing value of the liquid manure is added to the plant food in the straw and the liquid manure helps to rot the straw too. New bedding is put in the stables every afternoon and the stalls are cleaned out the next day. None of the liquid manure goes to waste under this method, and most of the potash and a great deal of the nitrogen that would otherwise be wasted is saved. This is considered of such high value that hay would likely be used as bedding if straw or other cheap stuff was not available.

Fertilize in Furrows.

The method of using barnyard manure on this ranch is to apply it in deep furrows, where it will certainly get to the roots and loss of ammonia in the air will be prevented. A lister on a subsoiler is run down and back in a tree row, making two furrows from 14 to 20 inches deep not far from the drip of the tree, and the manure as it comes fresh from the stable is thrown right in this furrow. The dirt is then thrown back upon it, either with a plow or an inverted V, and quick and complete decay takes place.

One of the main troubles with broadcasting fertilizer in orchards is that the plant food stays too close to the surface where the tree roots cannot reach it. By the method used here the roots can get everything.

An immense amount of barnyard manure is purchased by this ranch, in addition to what is secured from the ranch livestock. As much as 20 tons per acre is put on at an application.

The furrow system of fertilization has proved a great success in developing new growth and strengthening the trees. It has proved as good in practice as in theory, and after all, results are what counts.

INTEREST IN PITTED PRUNES.

(Written for Pacific Rural Press.)

Pitted prunes have never become so popular as seeded raisins, though they have been on the market at least a decade, according to Geo. D. Gilman, Santa Clara manager for Guggenheimer Co. His firm and Rosenberg Bros. began pitting prunes about 1908 or 1909. One firm pitted a lot and lost heavily because the fruit soured.

Better methods seem to have been found, however, for something around 100 to 200 tons a year have been marketed in this form ever since. Last year the business increased greatly on account of the Government demand. Some of the prunes pitted then are still in Mr. Gilman's possession, in good condition. Most of them generally go into immediate consumption. Not many except the smaller sizes are pitted, and the chief reason for the process seems to be to help market the small prunes. The loss in weight is estimated at only 30 per cent on the 80-90 size. The California Prune and Apricot Growers, Inc., have announced that they intend to put in the most up-to-date machinery for this purpose. Perhaps with their advertising campaign, consumption of pitted prunes will be greatly increased.

PEAR TREES MADE TO BEAR EARLY.

Fruit spurs were encouraged on young pear trees grown by W. A. Caldwell of El Dorado county, so that at five years old the trees bore an average of 2½ boxes per tree; and last season at six years old they bore three boxes average of standard Bartlettts. The system is to bend the canes over and tie them there when the trees are two years old and thereafter. This checked the sap from its vertical career and induced fruit buds and spurs to start much earlier than normal.



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Warehouses for Grain Sorghums

(Written for Pacific Rural Press by Manager Geo. H. Emery, Alfalfa Growers of Calif., Inc.)

That many of the most important and productive sections of California where Milo Maize and Egyptian Corn are grown will have extensive warehousing facilities for taking care of these two crops during 1920, is the present indication from advices reaching officials of the Alfalfa Growers of California, Inc., with headquarters in Los Angeles.

Growers of grain sorghums throughout the State have felt the necessity for warehouses for the proper care of their crops after harvesting, for years; and during the last few months definite action has been taken by growers in several sections to establish permanent warehouses in such a way and in such locations as will benefit the greatest number of growers in each district.

The warehousing move is being given every encouragement by the Alfalfa Growers' Association, not only among its own members, but among all growers of Corn and Maize, in the interest of increasing the annual yield of these two crops and of steadily improving the grade of both the Corn and Maize.

It is pointed out that consumption

of grain sorghums, as produced in California, is practically constant. On the other hand, production is seasonal, and therefore it is highly important that the growing sections of the State have storage facilities that will permit the maintenance of sufficient stores of these crops to meet the demand of consumers during those seasons of the year when neither Corn or Maize are being harvested.

The growers point out, as one of the advantages of a system of warehouses owned and operated by themselves, that such a move will permit the handling of the crop each year on the most economical basis possible, and will tend greatly to eliminate the middleman's profit and to stop speculation in these two crops on the part of food speculators.

It is for this reason that officials of the Alfalfa Growers of California are encouraging the construction of warehouses for grain sorghums among their membership, as the Association is a non-profit organization interested only in increasing crop production and bettering the grade of products grown, together with the elimination of food speculation in these crops.

Co-operative Store Makes Good Money

(Written for Pacific Rural Press.)

The increasing H. C. L. has lost some of its terrors for the citizens of Riverbank, Stanislaus county, and farmers in the surrounding country. Their "Producers' and Consumers'

Co-operative Store" has just cut a melon of more than \$590 dividends to its patron members, dividing it pro rata according to the amount purchased by each. The poor man with a big, husky, hungry family that wears out shoes, etc., like ice cream melts on a hot day, gets the biggest part of the dividend, because he has bought more from the Store. The original investment when the Store opened July 28 was less than \$5,000. They are today about \$2,000 better off than when the store opened. They started with 100 members and now have 138. The original capital is composed of subscriptions by members not less than \$40 nor more than \$500 each. This investment gets 5 per cent interest out of the profits of the store. Then any surplus, not needed to enlarge the business, is divided on the pro rata patronage basis mentioned. But, regardless of capital invested, no member has more than one vote.

The Store buys everything for cash and sells everything for spot cash or cash in advance. It owes nobody and nobody owes it. There are no bad accounts. The cash business enables it to buy at lowest prices and gets all the cash discounts. Farmers bring produce of all kinds from hides to cauliflower and they frequently get much higher cash prices than they expect. When the store was organized, the merchants of Oakdale nearby were paying 46 cents in trade for eggs. The Co-operative Store immediately sent its motor truck out to gather eggs at 50 cents.

Railroad Men with Farmers.

The Riverbank Farmers' Union, under the presidency of T. Birnbaum, was talking of a co-operative store. The railroad men's unions of Riverbank also realized the need and they joined in carrying out the project. Officials of the Store are President L. H. Collett, Secretary-Treasurer E. P. Condrey, and Manager Jos. Trevelli.

A strange type of alga, which forms a perfect Maltese cross, has been found on the water in the rice fields. According to Lieutenant W. C. Purdy, in charge of malaria control, this is a new form of alga which has never been revealed in investigations carried on by the United States Public Service. The purpose of so detailed an investigation in the rice fields is to ascertain why mosquitoes do not breed in Butte rice areas when they breed in Louisiana and Arkansas rice fields under like conditions.

Cotton from the Tagus ranch in Tulare County is being shipped in carloads to Los Angeles unginned. Their 860 acres are expected to yield over a bale per acre.

DORMANT SPRAYING PAYS

Dormant spraying, it has been proved, is the most successful means of controlling many injurious diseases and insect enemies. Fruit trees at this time, devoid of foliage, are hardened for the winter and can withstand applications of strong sprays.

UNIVERSAL BRAND CRUDE OIL EMULSION

properly applied, prevents the accumulation of insect and fungous enemies. It keeps the trees in better health, vigor and fruitfulness. It cleans the trees and disinfects bark wounds.

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Significant Agricultural Pointers

Fresno Vine Pruning Demonstrations.

Vine pruning demonstrations will be held in Fresno county by Prof. L. O. Bonnet and A. E. Way as follows: Caruthers, Dec. 15, 9:15 a. m. in N. P. Hammond's vineyard; Raisin, 1:30 p. m. in Hildebrand vineyard; Selma, Dec. 16, 9:15 a. m., Edward Dudley vineyard; Clovis, 1:30 p. m., Geo. A. Cate vineyard; Fowler, Dec. 17, 1:30 p. m., Cecil Feaver vineyard; Bowles, Dec. 18, 9:15 a. m., G. A. Pell vineyard; Kingsburg, Dec. 19, 9:15 a. m., C. E. Ericson vineyard; Reedley, 1:30 p. m., H. E. Wuerth vineyard; Easton-Oleaner, Dec. 20, 9:15 a. m., Thos. Rogers vineyard; Easton, Dec. 22, 9:15 a. m., J. A. Poytress vineyard; Kearney Vineyard, 1:30 p. m., 8 miles west of Fresno; and again Jan. 2 at 1:30 p. m.; Sanger, Jan. 12, 1:30 p. m., at Lef-fel's vineyard and 3 p. m. at Grand-raus vineyard. Sanger demonstration will be conducted by Prof. F. T. Bio-letto.

Barley Yield Doubled.

Alfalfa, beets, and irrigation made a difference of more than 25 sacks of barley per acre for W. J. Woodward & Sons of the South San Joaquin Irriga-tion district. He had three pieces of twelve acres each. One had never raised anything but grain. It pro-duced fifteen sacks per acre. Another

had been in grain until a year ago when a crop of sugar beets was raised. It produced between 20 and 25 sacks of grain following the beets. The other had been in alfalfa eight years, then in sugar beets one year. It pro-duced close to 50 sacks of barley per acre. This piece grew the heaviest straw and suffered most for water un-til it was irrigated while it was nead-ing. About one-third of an acre was lodged by the rush of irrigation water. But, say, even though it was not in very good shape for irrigation, that watering paid well.

Cantaloupes Netted \$1.17 per Crate.

Three hundred and eight thousand crates of cantaloupes were shipped this season by the Turlock Merchants and Growers, Inc., in the weekly pools which closed August 26, and about 40 carloads were shipped in later pools according to General Man-ager F. W. Hosmer. Prices on the first setting were the best, but the late pools brought better than the average which was \$1.17 net to growers f. o. b. Turlock. The second setting came in heavy while the strike was on in the East, otherwise the average would be much higher. The car shortage caused some loss.

Alfalfa Meal Favored.

Alfalfa meal seems to be increasing in local importance. One firm at Man-teca has sold about 1,500 tons this season. A great deal went to Peta-luma, some to San Jose and some to one of the big milling companies. The No. 1 meal has recently been selling at \$35 per ton with alfalfa hay at \$25.

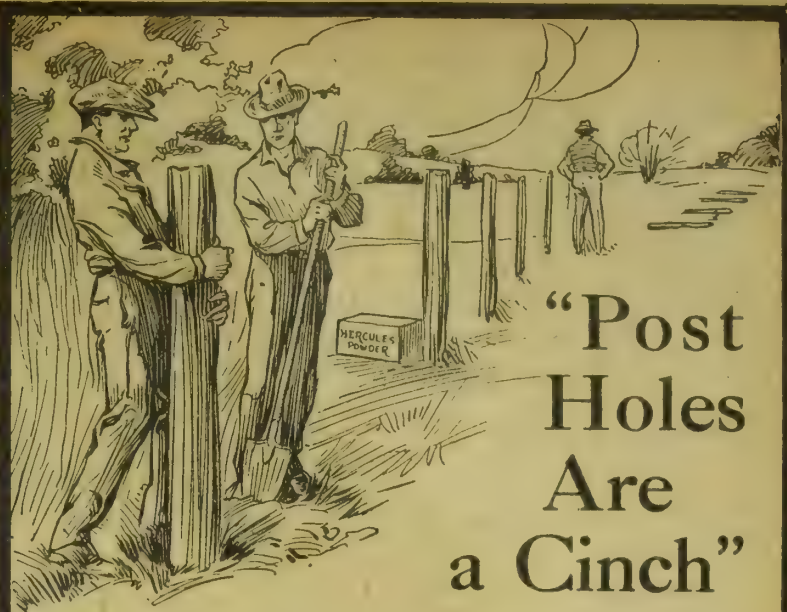
Alfalfa Land in Big Demand.

There is an insistent demand for alfalfa land at high prices in southern San Joaquin county, according to W. J. Woodward. Alfalfa seed is so scarce that many who expected to plant this fall and next spring will be disappointed and some of them are looking for stands already established.

Outworn Truck Tires are Expensive.

Tires are worth more to a truck than they cost because they take the sharpness out of most shocks. Use of old truck tires too badly worn to take these shocks will jolt the ma-chinery of the truck and probably make repairs cost more than new tires. Mileage gained on tires after they have served their usefulness is most expensive gain.

Which is the best tractor? It de-pends on your conditions.



"A half a mile of post holes is no joke when you dig 'em by hand—but with the help of dynamite it's a different story. Blasting the holes is a cinch and it saves more than half the work on a job like this. We've saved hundreds of dollars and days of back-breaking work this year by using

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"You'll never know *all* the ways in which explosives can help you in farm and orchard work until you've read 'Progressive Cultivation'. This book tells all about the uses of dynamite for tree planting, draining, clearing land, digging post holes and cellars, road build-ing, grading and many other purposes.

"This 68 page illustrated book will be sent free to any farmer or orchardist who signs the attached coupon and mails it to the Hercules Powder Co."

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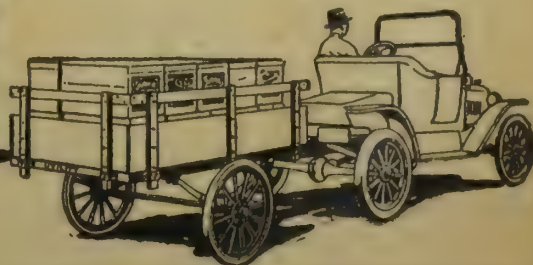
—are adapted to meet every road condition. Actual tests prove that less drawbar pull is necessary than for any other kind of trailer.

Running either light or heavy, Utility Trailers will never wobble or sidesway. The patented steering device keep them under control.



Our catalog, "TRAILERIZED TRANSPORTATION," will interest you. Write for a copy.

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CAPACITIES

2 and 4-wheel trailers and semi-trailers, ranging in size from 500 pounds to 10 tons capacity.

FARMERS' UNION RESOLUTIONS.

(Written for Pacific Rural Press by Secretary Fred Millard.)

At the Farmers' Educational and Co-operative Union Convention in Oakdale, December 2-4, resolutions were adopted as sketched below, in addition to the resolution printed elsewhere calling for a special session of the Legislature to enact Japanese legislation.

Following the suggestion of Mr. Hecke, in his address the previous day, the convention voted unanimously to appoint a representative on the general legislative committee from the farm organizations. L. Woodward of Campbell, chairman of the State legislative committee of the Farmers' Union, was appointed to serve in this capacity.

A resolution, urging the membership to support all co-operative business enterprises that tend to shorten the road between the producer and consumer, was adopted. The preamble of this resolution cited the Co-operative Store at Riverbank, and the Stanislaus County Farmers' Union as examples of true co-operation.

The action of the Government in continuing permanently its war loan thrift movement in the sale of thrift and war savings stamps and treasury saving certificates was endorsed.

A resolution was adopted expressing disapproval of the custom of using the public schools of the country to collect money for various purposes. This custom has become so general and the calls so numerous as to become a nuisance, inasmuch as it causes embarrassment to those patrons of the school whose financial position does not warrant their responding.

Other resolutions adopted urged our representatives in Congress to work for the passage of the Capper-Herman Bill, known as H. R. 7783: The appropriation by Congress of sufficient funds to enable the department of Agriculture to compile data on the cost of production of all food products, and that the Secretary of Agriculture shall make them available for the same calendar year; the enactment into law of the Kenyon Bill (S. 2202), providing for control of packers. The convention voted unanimously to oppose the Chamberlain-Kahn Bill, providing for the establishment and maintenance of a large army and navy in times of peace.

Among several recommendations from the national convention of the Farmers' Union recently held in Memphis, Tenn., and endorsed by the California convention are the following: An amendment to the federal farm loan act that will enable a man without a farm, but having an established reputation for honesty, frugality and industry to secure loans from the federal land banks up to 75 per cent of the appraised value of the land; that the secretary of agriculture shall be a practical farmer and that the endorsement of farm organizations should receive due consideration in the selection of men for that office; continuation of the highest rates of taxes levied during the war, on incomes, corporations and excess profits until the full cost of the war has been paid, and that the government levy a tax on the value of land and other natural resources held for speculation; reclamation of waste lands of all sections of the country for the purpose of enlarging the area of agricultural production; the rigorous enforcement of all federal laws to prevent the immigration of undesirable aliens; application of principles of co-operation as solution of marketing and industrial problems.

RHUBARB WORK.

To the Editor: How should we treat rhubarb plants now?—M. M. L., Owensmouth.

Transplanting may be done any time now, but avoid transplanting to waterlogged areas. On old stands it is a good idea to plow a furrow away from as close to the rows as possible without injuring the plants and apply as much cow manure as may be available. Plow the furrow back over the manure. Cut out all seed stalks if this has not been done previously.



Clean Plowing for Clean Crops

CLEAN plowing is the only kind of plowing the E-B 102 tractor plow ever does. It is the plow for clean crops.

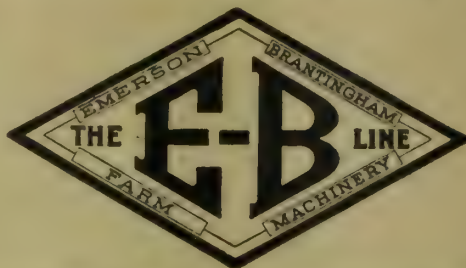
It buries every spear of stubble—even on the driest, toughest soils of California. For this plow cuts deep enough to make a clean furrow slice, and the moldboard is shaped so as to turn the land clear over in a continuous, smooth ribbon.

The E-B 12-20 tractor and 102 plow can turn over the heaviest as well as the lightest soils. Together, they make an unbeatable plowing combination for an economical quality job.

The E-B 102 Tractor Plow

The shares on the 102 tractor plow can be changed in 5 seconds, without tools of any kind. The clean plowing of sharp shares is the mark of the E-B 102.

The weight of the plow is all carried on the wheels. Their bearings are dust-proof and anti-friction. And the E-B 102 is a one-man plow, easily operated from the seat of the tractor.



Emerson - Brantingham Implement Co., Inc.

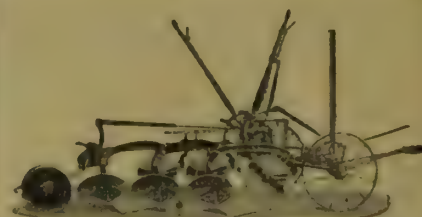
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E-B 102 Tractor Plow equipped with quick detachable shares, lever-operated.

One-man size, light draft and easy handling.

The E-B 12-20 Tractor

Lightness, reserve power, fuel economy, dependability—these are features that have made the E-B tractor famous.

And every accessory, every construction detail, of the 12-20 is chosen to make this tractor give the right service.

All working parts are enclosed; Hyatt roller bearings; K-W magneto; Bantam ball-thrust bearings; Modine Spirex radiator.

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Buy only Melilotus seed that has a quality tag on each sack. It protects you against the low germination seed so general on the market this season. This seed is above 99 per cent pure and above 90 per cent germination.

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Cheapest and most efficient fertilizer—Highly concentrated—Dry, Odorless—No weed seed or foreign matter—a natural fertilizer.

Contains plant food as follows:

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30x3 3/4	6.50	1.75	34x4 1/4	10.00	2.09
31x3 3/4	6.75	1.85	35x4 1/4	11.00	2.15
32x3 3/4	7.00	2.09	36x4 1/4	11.50	2.40
31x4	8.00	2.25	36x4 1/2	12.50	2.50
32x4	8.25	2.40	36x4 1/2	12.75	2.65
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SOME SUGGESTIONS ON ALFALFA SEEDING.

(Written for Pacific Rural Press.)

For good reasons a large new alfalfa acreage will be put out in California before real hot weather comes again, and as seed is scarce, it has to be used wisely. One good rule is to put on as little as can be, although enough to make a good stand. If two pounds of seed were planted evenly over an acre and every seed came up a perfect stand would be secured. Unfortunately, a perfect distribution can not be made and a few seeds of the finest lot of alfalfa seed obtainable will not sprout, so enough extra always has to be used to fully overcome faulty seeding and faulty germination. Twelve pounds of high-class seed ought to be ample for broadcasting on properly prepared, properly handled land. A drill will do good service with as little seed as it can be adjusted to plant with proper spacing.

Last season on a big California ranch there was a fine illustration of the wastefulness of using too much seed. The foreman provided 15 pounds per acre and examined the ground carefully when the job of broadcasting was done. Seeing what he thought was too few seeds, he had the same amount put on again, and in a short time the field looked like a young lawn, the plants were coming so thick. To prevent overcrowding he had to have the field spring-toothed to pull up a lot of the young plants. It then looked like a wreck, but in a week it was as nice a looking young stand as a man could find. The extra seed and extra work was just thrown away.

Some people advise keeping the water off young alfalfa as much as possible in order to force the roots to go down. It is surprising how young alfalfa can endure with almost no irrigation. People who figured that their seeding was a failure have found they had fine stands in prospect a week after an irrigation. Checks of young alfalfa that seemed almost like a road have looked beautiful in a month.

Although this is so, it is wasteful and foolish to keep young plants half dead from thirst. The alfalfa might better be growing and making a good top and root too. The roots will get thick and long quicker when they have moisture than when they are suffering from drouth. As fine stands as can be found have been sowed in early spring, mowed for a light crop in June, and given nearly as heavy and abundant later cuttings as adjoining old stands. A great deal depends upon location, soil and care.

Under any conditions as light a seeding as will fully serve is satisfactory, and as much irrigation as will bring the field along quickly to production and strong growth.

GAS TRACTOR COURSE, FEBRUARY 23rd TO 28th.

Do you operate a tractor? Are you thinking of buying a tractor? Do you wish to learn something about gasoline engines?

Attend the gas tractor short course at the Citrus Experiment Station, Riverside, California, from February 23rd to 28th. You will learn the principles of the gas engine, how the valves and ignition should be timed, how to adjust a carburetor, and many other things which will help you to be a better operator.

You will learn the advantages of the various types and styles of tractors and have an opportunity of studying and operating every one of the ten or more makes of tractors which will be used in the course.

Every minute of your time will be spent in absorbing tractor knowledge. Lecture-demonstrations are scheduled every morning from 8:00 to 9:15 and every afternoon from 1:00 to 2:15; practice work or demonstrations during the remainder of the time. Several evenings will be devoted to showing motion pictures of various tractors at work.

The only charge for the course is a registration fee of \$1.00. If you are interested, write to the Citrus Experiment Station, Riverside, California. The course is limited to 180 students."



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Fires Cold Engine

Champion Dependable Priming Plugs are better than priming cups. The gas trickles down the core of the plug and directly over the points where and when the spark jumps. The explosion is instantaneous and sure.

For the hundreds of thousands of automobiles which have no priming cups Champion Dependable Priming Plugs are imperative.

For sale by all auto parts dealers.

Price \$1.50 Each

Champion Spark Plug Company, Toledo, Ohio

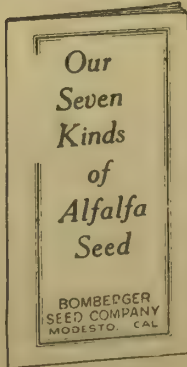
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That is Adapted to Your Soil

Your land planted to certain kinds of alfalfa may be practically a failure; yet planted to other kinds it may be a complete success.

Our new booklet tells you what kind of alfalfa seed to plant to get the best results under all conditions.

It tells you how we grow particular kinds of seed to meet the various soil and moisture conditions on the Pacific Coast, and just why Bomberger's Tested Alfalfa Seed is best. Send a postal for your copy.



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Convention of Insurance Companies

The National Association of Mutual Insurance Companies held its 24th Annual Convention at Des Moines November 17-21. Over 630 delegates from 26 different states attended. A majority of them were representatives of state, county, or farm mutuals. The farm mutuals were reported to furnish sound protection at a cost generally running about 40% of the stock company rates. Better mutual service, inspection and improvement of risk methods to enable further decrease in cost were noted.

The 100% Americanism of mutual insurance was emphasized by the speakers. They called attention to the fact that the mutual companies are American institutions of and for their policyholders and are a potent factor in keeping insurance money in this country. That 25 foreign companies, doing only a reinsurance business, received more than \$50,000,000 in American premiums during 1918 was cited in this connection.

The Association was incorporated during the session under the laws of Indiana and the honor of being incorporators was accorded to Messrs. Rutledge and Heming of Iowa, two of the original members, and C. M. McMillan of Illinois, the retiring President. At the conclusion of the session W. A. Rutledge of Des Moines was elected President, and Harry P. Cooper of Crawfordsville, Indiana, Secretary.

Along with the National Association there was the annual meeting of the Federation of Mutual Fire Insurance Companies. This organization of 50 general writing mutual companies with an annual premium income of over \$13,000,000 took important action with regard to rating and fire prevention problems. These companies save their policyholders by reduced rates or refunds 25 to 55% of the usual cost of insurance in stock companies.

In a resolution, they took the position that rating bureaus are engaged in a public service and their services should be available to mutual companies as well as to stock companies. In certain parts of the country rating bureaus refuse to furnish their rates to mutual companies because of their dividend or premium refunds to mutual policyholders.

Both associations gave attention to the resolution of the September Convention of National Association of Insurance Agents at Louisville, in which the stock company agents denounced mutual insurance as a menace to their business in the following words:

Exterminate Mutual Insurance.

"The mutual and inter-insurer is a menace to our business. The time is at hand for a united and aggressive campaign on the part of the stock companies and agents against the socialistic mutualization of insurance.

"It is therefore resolved that this Association respectfully protest against the practice by any stock company of granting reinsurance to mutuals or inter-insurers and we are bound to regard the continuance of such practice as evidence that such stock companies fail in fidelity to their own corporate class.

"Further be it resolved that the National Association of Insurance Agents urges the stock companies to institute a campaign of publicity to the end that this common enemy may be combatted definitely, systematically, and in a spirit of patriotic determination, and that we pledge them our hearty co-operation."

Mutual Companies' Resolution.

Unnecessary loss of life and property by fire, accident, and other casualty, is a menace to the public welfare and constitutes an enormous loss that can by united action be prevented and mitigated in greater part, therefore be it

Resolved, that this National Association of Mutual Insurance Companies institute a campaign of education and prevention to the end that all preventable loss may be combatted definitely, systematically, and in a spirit of patriotic determination, and be it

Further resolved, that we invite all other interests both public and private to co-operate with us to the end that the continued loss of life and property may be reduced to a minimum and that all carelessness, waste, and extravagance may be eliminated as factors in the cost of insurance protection, and to accomplish this purpose we pledge our hearty co-operation.

SEED POTATO SITUATION.

At the meeting of the California Certified Seed Potato Growers' Association in the office of State Director of Agriculture G. H. Hecke last week, plans were laid for a campaign intended to show the advantages of growing certified seed potatoes under the law passed by the Legislature last spring. Some of the most potent arguments in favor of seed potato certification are indicated in figures given by W. V. Shear, as reported by R. E. Jones. Mr. Shear performed the inspection under the former cer-

tification law, and has been appointed for similar duties under the new law.

"California plants about 85,000 acres of potatoes each year. This acreage requires about 750,000 bags of potatoes for seed. Two-thirds of the seed used in California is grown in the state. One-third of the seed is imported, mainly from Oregon and Washington. In addition to its home production, California imports annually, on the average, 400 cars of potatoes from Idaho, 400 cars from Washington and 750 cars from Oregon. None of the Idaho potatoes are for seed, however. Some few seed potatoes have been imported from Wisconsin, but the major portion of the seed potatoes, approximating 250,000 bags, come from Oregon and Washington.

Pure Strain Needed.

"But most of the home-grown seed, which the growers have been forced to use, is undesirable because of disease and lack of uniformity and productivity. What is needed in seed is freedom from disease, uniformity and prepotency of the strain. In other words, the strain must be pure and

must be able to perpetuate itself. Seed potatoes are much like seed livestock; if they do not represent purity of desirable strain, they soon "run out." Quality and quantity of production is lost."

There is plenty of room and market for certified seed potato growers in California.

One of the finest frigation systems in the world is on the Bastanchury ranch at Fullerton. Although this ranch has been owned by the Bastanchury family for the last thirty years it was just a short time ago that Mr. Bastanchury decided to develop an improved ranch. He started these improvements with a \$250,000 irrigation system and about \$200,000 worth of the best and finest equipment he could buy. There are over 3,000 acres of land in this ranch, about 2,000 acres in oranges and lemons and about 500 in walnuts.

It is reported that the Conaway Ranch has bought the Coil Ranch just north of Woodland. This ranch has a large acreage of alfalfa, well equipped with silos and other buildings,

Built to meet the work—not to meet a price



Sowing Success

FARMERS who use the Twin City "12-20" are Sowing Success. This tractor is designed and built to work on schedule as dependably as a fine watch keeps time. For Twin City engineers have built into it every element of reliability.

The 16-valve motor, valve-in-head type, burns *all* the kerosene that goes into it, so complete is the clearing due to the double valve capacity. And the power delivered gives a surplus far beyond the rating.

Just as the 16-valve design guarantees its economy of operation, the construction assures steady service for a generation. The cylinder sleeves are removable—reboring never necessary. The "whip" of vibration is reduced to harmlessness by the finely counter-balanced crankshaft, drilled for force-feed lubrication.

The transmission, mounted on Hyatt roller bearings, runs in a bath of oil. It uses only 3 reductions to deliver the power at the drawbar. The gears are machined to absolute accuracy, and heat-treated.

On motor and transmission mainly depend the life and service of the tractor. But every part of the Twin City "12-20" is designed and built up to the same rigid standards of excellence.

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Twin City 40-65



Twin City 25-45



Twin City 16-30 Tractor



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TO DECREASE H. C. L. INCREASE PRODUCTION

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GOLD BEAR FERTILIZERS

Are scientifically manufactured to meet California soil conditions and crop necessities. They are made from animal products containing the necessary elements to feed your crops.

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Western Meat Company

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PURE ANIMAL MATTER
AMMONIATES



HORTICULTURAL JOTTINGS.

The Reedley District figures on shipping more than 60 cars of navel oranges to market this year.

With approximately 1,045 acres in oranges in Kern county the estimated yield of the fruit is 114 carloads, which will be shipped to different destinations.

Plans for organizing the cherry growers of Santa Clara valley, who are said to produce approximately one-third of the annual output of the State, in connection with the California Co-operative Canneries, are being considered.

The Placer County orange crop is light and in some groves there are a good many splits. The fruit is well colored, better than shown in the plate of the 70 per cent colored orange issued by the Office of Standardization.

The grapefruit shipments from Florida for the season up to November were 1,600 cars—about the same as last year. The orange movement this year to the same date was only 627 cars compared with 1,124 cars to the corresponding date last season.

At the second annual meeting of the Central Valley Honey Producers Co-operative Exchange, held at Modesto recently, General Manager F. W. Burch reported a successful year with 4,000 cases of honey valued at about \$85,000 handled through that city. This was nearly half a million pounds.

Practically all the olive crop of Yolo county remaining on the trees was destroyed for pickling purposes by the recent high wind and is fit only for oil, according to the statements of County Horticultural Commissioner William Gould. Between 25 and 30 per cent of the crop had been picked and picking was in full progress when the storm came.

Frederick Maskew, in charge of the Plant Quarantine Division at Sacramento, says: "State Quarantine Guardians in the citrus producing counties should anticipate the requirements on export shipments of citrus fruits, and provide themselves with the necessary certificates required in such instances. A supply of these certificates in blank form can be obtained from the office of Standardization, Department of Agriculture, Sacramento.

According to the estimate of Horticultural Commissioner Jno. P. Coy, the orange yield of 1919 and 1920 in San Bernardino county will be approximately equal to that of the season just closing, which was one of the biggest crops on record. Last season this county produced 10,907 cars of oranges, or about one-third of southern California's total crop shipped to date, which was 35,320 cars. Mr. Coy's estimate is that the crop for the coming season will approximate 10,718 cars.

The raising of early table grapes is enlisting the interest of growers in the Imperial Valley. It has been known for years that Malagas and Thompson Seedless ripen in the Imperial Valley from two weeks to a month earlier than in other localities in the State, with perhaps the exception of the Coachella Valley, where the acreage is small. Years ago grapes were yielding as well as at the present time, but the growers were unable to market them.

HAY SHRINKAGE IN STACKS.

To the Editor: We sold 36 tons of alfalfa hay (scale weight) 30 days after it had been in the stack. The party who bought it claimed that we should discount the weight on account of its being in the sweat only thirty days. In your opinion, how much would it shrink in weight at the end of sixty days. How many tons of alfalfa hay will a stack contain that measures 29 feet wide, 37½ feet long, 61½ feet overthrow, 17½ feet in height?—P. J., Mendota.

Our estimate has been corroborated by hay men—in your district during summer, with hay that was fairly well cured before stacking, the shrinkage in weight should be less than ten per cent in the first sixty days—still less if cured as thoroughly as your climate

is likely to cure hay. With about a dozen variable factors in estimating the weight of hay in stacks, we estimate that your stack contained 41.4 tons. If you weighed 36 tons into that stack, our estimate shows the unreliability of figuring weights on measurements or your hay must have been extra dry.

BIG WHEAT YIELD.

Twenty-nine sacks of wheat per acre, each sack weighing 133 pounds, was the crop T. J. Crispin took from 65 acres in Stanislaus County in 1918. The land was rich, having been in alfalfa previously with a crop of beans following the alfalfa. The seed was of the "Salt Lake Club" variety furnished by the Government. It is the only kind that would have made grain on this land in the opinion of Mr. Crispin. It makes short straws, stooling very nicely. The heads are longer than "the old Club we used to sow." The kernels are small, so that 70 pounds per acre drilled in gave a good stand. The ground was well plowed in December. It was worked down and the wheat was drilled in January. Mr. Crispin has none of this wheat for sale.



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DENVER COLORADO is the Closest for Western Trappers and Fur Shippers. Stephens of Denver is the largest exclusive buyer of Western Raw Furs in the world.

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—Made in all sizes, single or double.

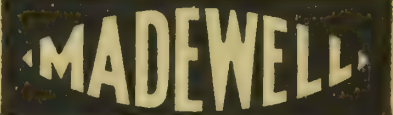
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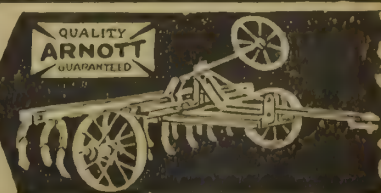
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Folder No. 413 explains other "Caterpillar" Tractor points of superiority. If you are interested in tractors you should send for it.

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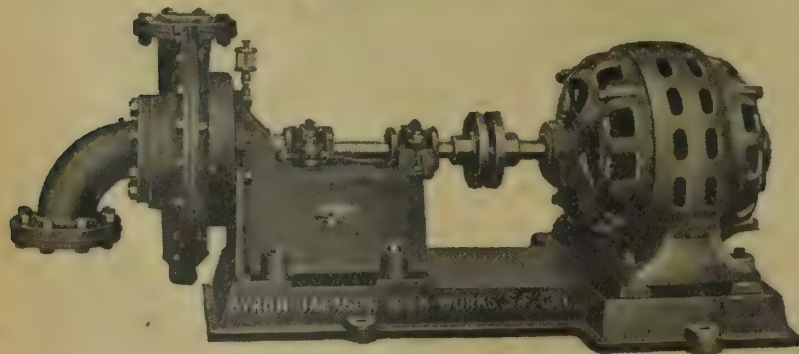
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Mechanical Power on the Farm

BIG TRACTOR FOR BIG ORCHARD.

For orchard cultivation on a big scale, a big tractor is more economical, does better work, and experiences proportionately less upkeep cost and depreciation than small ones, in the opinion of the Manager of the Patterson Land Co. of western Stanislaus county. This company has about 200 acres of prune, apricot, and peach trees six or seven years old. They have three medium-sized tractors. The manager points out that for smaller orchards they would be most economical. But on the Land Company's orchards the smaller tractors were tried and found too expensive and unable to get the work done properly within the time limit set by Nature for the work to be done. This refers particularly to cultivation which, on this rather heavy soil, must be done within a short period. The smaller tractors had to be crowded and the engines developed trouble quickly on that account. It was also found, according to the Manager, that the big tractor required less space to turn than the others. Owing to its great power, it easily pulled cultural implements which worked the ground within six inches of the trees while the tractor ran well clear of the branches. The smaller tractors had to run too close to the trees or else do a poorer job and run over the ground more frequently. With the big tractor a heavy double disk a little wider than half the distance between the rows cultivated practically to the bottom of the plowing because it was angled to the limit and weighted in addition to its own heavy weight. Following the disk and hitched to it was a three-section clod masher, which smoothed the surface into a fine tilth. Thus at one operation moisture was thoroughly blanketed in the soil where roots grew undamaged by the summer sun; and while it was well conserved by quick action before it could evaporate much, the ground was also put into shape to take water most freely at the next irrigation. No "irrigation plowman" here during the summer as there is when cultivation is done less deeply with less power available. The fruit on this young orchard developed great size; and especially with cling peaches, the soft fine surface given by the double cultivation to the soil enabled a great deal of the fruit which dropped to be sent to market with unbroken skins and unbruised flesh. This counts up in profits when fruit is large.

While the big tractor has been used only for cultivation this season, many tractor users would expect a considerable repair bill after cultivating 200 acres to the bottom of the plowing three times. Repairs on this tractor have been only nominal because a good man was in charge of the tractor. The Patterson Land Co. manager believes that the greatest per cent of tractor troubles are due to negligence.

A TRACTOR FOR ALL WORK.

(Written for Pacific Rural Press.)

Fruit trees should have water when they need it. C. C. Turner's orchard in eastern Stanislaus county got the water, even though the 15 h. p. engine which normally runs the irrigation pump was out of commission. Fortunately Mr. Turner has a medium sized tractor. 'Twas no trouble to run it down to keep the pump going while the engine was being fixed.

Always until the past season Mr. Turner has used his spray pump engine to saw up the winter's wood. This season it was found much handier to hitch the tractor onto this job and a great many cords were sawed. Clarence Van Norman, who handled the tractor a great deal, tells of cutting 40 tiers of stove wood (a tier is a stove-length 4 feet high and eight feet long) in one job. Two men were kept busy putting the wood to him while he put it to the saw.

A neighbor had four tons of beans to thresh. The tractor operated the thresher all right, but curiously it

was not hard enough work to keep the engine warm enough to burn the coal oil for which it was designed. Distillate had to be used on that job.

A small house was wanted at a point about eighty feet away from where it was built. It was pulled there by the tractor in low gear and without any stopping for lack of power. It happened that a prospective tractor buyer came to the place just as the house moving started. He bought a tractor.

Ordinary double-disk cultivators are not suitable for the deep cultivation Mr. Turner and Mr. Van Norman give their 65-acre orchard. They figure that it works more like a packer and is not good for the trees. So they had a seven-foot single disk made of 24-inch disks—a whale of a machine which required five horses to pull it. This disk follows the tractor easily cutting to the bottom of the plowing.

The tractor was bought before plowing commenced in the bottom land last spring. It is rated at 12-20 horsepower, and it plowed 25 acres a day. In one place Bermuda sod had not been plowed for seven years. The tractor turned this seven inches deep with two fourteen-inch bottoms. Mr. Turner figures the engine can do the work of a dozen horses.

When he was planning to buy it, his wife being a great lover of horses, objected, but the answer was, "I can't afford to keep and use horses when I can plow 25 acres a day alone." Repairs have cost \$16, including labor, and the machine is in shape for the coming season's work.

DYNAMITE DOUBLED PRUNE CROP.

How a prune crop jumped from 3900 pounds to over 8000 pounds in the dry year of 1913 is told by Geo. N. Tyler of Santa Clara county, who did the dynamiting which resulted in not over 5 per cent dropping, as compared with 30 or 40 per cent in neighboring orchards. Dynamiting broke up the hardpan, accepted and saved what rain fell during the winter of 1912-13, pruned the roots and started new ones which actively fed the doubled crop in 1913. The orchard was dynamited in the fall. Trees were 16 feet apart and shots were placed in the center between each four of them. The mistake was made at first, of boring through the hardpan and exploding the shot under it. A pot-hole was thus made, but the hardpan, 12 to 24 inches thick and 18 to 36 inches under the surface, was not much affected. The successful system breaks up the hardpan, throws up the ground for ten feet around the shot, and cracks it 16 feet away, as shown where some of it had been uncovered that far from a shot. The successful way was to bore a test hole to see how far it was through hardpan, then bore another hole nearby but only two-thirds through it. A 1½-inch cartridge of 25 per cent dynamite was used in each hole.

PNEUMATIC TIRES FOR TRUCKS.

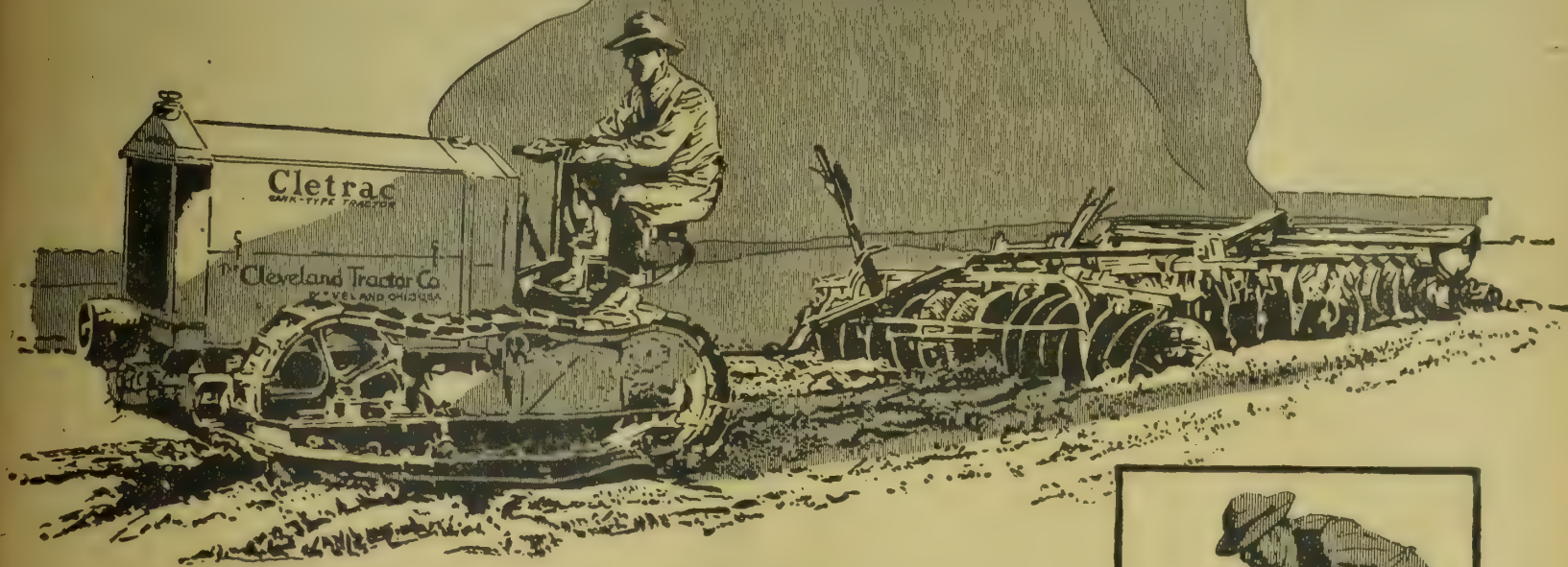
"The life of a motor truck is perhaps the greatest factor in determining the cost per ton-mile for hauling," says the representative of a well-known tire company. "Pneumatic tires certainly lengthen the life of a truck, besides reducing upkeep costs. Pneumatic tires will be adopted almost universally on trucks up to at least the three-ton size, as we figure it after three years' of investigation." Various trucks are already putting on pneumatics as standard equipment. Not only do they give greater mileage to the trucks and greater safety to the load, but they also permit heavier loads to be hauled on our highways. The state law fixes the weight to be hauled proportional to tire surface bearing on the roadway.

"Gowag" is the name suggested by G. W. Morrison to help the motorist make certain that he will have no troubles away from home. G—gas, O—oil, W—ater, A—air, G—grease.

Cletrac

TANK-TYPE TRACTOR

(Formerly known as the Cleveland Tractor)



It runs on tracks as a wheelbarrow runs on a plank

TRY to push a loaded wheelbarrow through soft plowed ground. You have to exert every ounce of your strength. The wheel sinks in deeper and deeper and you finally get "stuck" altogether and have to take off your load.

But lay a plank over the same soft ground and you can roll the same wheelbarrow over it with the same load—but with only a fraction of the effort.

It was the plank that made the difference. Its broad flat surface distributed the weight of the load so that there was very little pressure at any one point.

And right there you have the principle back of the Cletrac Tank-Type Tractor. It runs on broad flat

tracks in much the same way as the wheelbarrow runs on the plank. No power is wasted. You can pull a bigger load. Fuel and oil go further. And more work can be done in less time—at less cost.

Because you can work so efficiently on soft soil with the Cletrac you can go through with the entire preparation of the seed bed—a most unusual thing for a tractor to do. The Cletrac doesn't sink in and doesn't leave two hard trails of packed down soil behind it.

Order your Cletrac now. There is plenty of work for the Cletrac to do, like getting out wood, hauling logs, grinding feed, breaking roads, hauling manure, etc., during the winter months and when Spring work comes along you will be fully acquainted with your Cletrac.



Pushing a wheelbarrow through soft soil is almost an impossible job. The wheel sinks in and gets stuck.



Lay a track of boards over the ground and you can roll along easily enough. It is this principle that has made the Cletrac Tank-Type Tractor so marvelously successful. It doesn't push through the soil; it rides on top on its own tracks.

Tractor Book Free

We have an interesting 32-page book entitled "Selecting Your Tractor" that will be sent free upon request. It discusses tractor farming problems on a "brass tack" basis. Write for your copy today.

The Cleveland Tractor Co.

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The largest producers of tank-type tractors in the world

COULDN'T GET ALONG WITHOUT THE RURAL PRESS.

San Rafael, Cal., December 4, 1919.

Dear Rural Press:

I am positively ashamed to find that I am in default in the matter of the renewal of my subscription for your most valuable and interesting publication, which has been a vade mecum with me for more than a quarter of a century and which my bulky files indicate. Why, bless you, I could not keep house without you! Frequently the information contained in a single issue is worth many times more than the annual subscription price. I don't see how any Californian who is engaged in farming of any sort can get along without the Rural Press.

Yours very truly,

MAJOR CHAS. CHRISTENSEN.

WOOL IN THE MIDDLE WEST.

(Written for Pacific Rural Press.)

The last issue of the Breeders' Gazette says that the wool pooled in Wisconsin, Iowa, and Illinois, has been cleaned up at an approximate average of 58 cents. The results have been very gratifying this season with this method of marketing the crop, and is encouraging for the outlook in the future. Fine and fine medium staple sold for 78c; half blood clothing, 63c; medium clothing, 61c; half blood western, 62c; three-quarter blood western, 61c; and quarter blood western, 61c; these western wools being farm shorn. The market for fine and fine medium is strong, with coarse grades hard to move at any price. Foreign markets report strength in fine wools with prospects of further advances. This is for wool of good length with short clothing hard to move at any price.

The United States Tariff Commission is engaged in a systematic study of the sheep and wool industry, relative to future tariff legislation. They recently held meetings open to the public at Columbus, Ohio, and Chicago, Illinois, with the object in view of giving all those interested in any way a chance to present their views to the Board.

SANTA ANITA RANCHO LOSES W. H. TAYLOR.

(Written for Pacific Rural Press.)

When a livestock breeding establishment like the Santa Anita Rancho loses a manager like W. H. Taylor, the vacancy is not easily filled. Mr. Taylor has been with the rancho for several years, and during that time has had the honor of breeding, developing and exhibiting some of the finest stock ever seen in the great country west of the Rocky Mountains.

There has just been completed on the ranch a Club House for the benefit of the employees, that is complete in every particular, being equipped with every modern device for the comfort and entertainment of the help. This is the culmination of an idea of Mrs. Baldwin, and worked out and finished under the supervision of Mr. Taylor during his stay.

Mr. Taylor is going into the oil business, and if he makes as great a success of that as he has of the livestock business on the Santa Anita Rancho, he will soon be listed among California millionaires.

THE FIRST LIVESTOCK SHOW OF 1920.

Either the first of the year or the last of the season are two ways of designating the National Western Stock Show to be held in Denver, Colorado, January 17th to 24th, 1920. Some building and ground space have been added, but for all this, the number of cattle of the Shorthorn and Hereford breeds are to be limited. What might be called a "plucking" committee will inspect the entries and any found unworthy will be withdrawn. A unique feature will be that no free tickets will be issued, even the exhibitors will be required to pay admission. This experiment will be watched with interest by the rest of the stock show interests. The State of Colorado and city of Denver contribute \$5000 each toward the support of the show.

FARM BUREAU PUREBRED HOG SALE.

The first San Diego County Farm Bureau Purebred Swine auction sale, held at San Diego, December 4th, was a success from both the breeders' and buyers' viewpoint.

The consignors were Bellar & Borden, Carlsbad, Duroc-Jerseys; Cloverdale Ranch, Escondido, Poland-Chinas; Winsor Ranch, Bonita, Duroc-Jerseys.

This was really a promotion sale, and not a high average was expected, but the bulk of the hogs sold from \$70 to \$100. The top of the sale was a Duroc-Jersey bred gilt, consigned by Winsor Ranch, which brought \$265, going to Mr. Rudder of the Rudder Grill in San Diego.

The offerings went almost entirely to small farmers in San Diego county, which was the primary object of the sale. Almost every buyer expressed the determination to bring pigs to the San Diego Fair next Fall.

AGRICULTURAL NOTES.

Three squirrel inspectors, whose expenses are to be paid by the Santa Cruz county supervisors, will be stationed at Santa Cruz, Watsonville, and Davenport.

Insect pests injurious to cereal and forage crops are receiving exclusive attention from T. D. Urbahns of the U. S. Department of Agriculture, whose office is in Berkeley, but will be moved to Sacramento early next year.

A 30-foot channel for ocean vessels to Sacramento is to be the chief aim of the Sacramento Chamber of Commerce for 1920. They have been getting what they go after under the secretaryship of H. S. Maddox. Such a tidewater connection would mean cheaper transportation for California rice, grain and fruit.

Eastern politicians thought they did not need tariff protection for beet sugar from Cuba. But it transpires that the Sugar Equalization Board has recently moved 30,000 tons of beet

sugar from mid-western States to the East to partially relieve their shortage. Now let the Eastern politicians

take a hump and put through some measure to build up the beet sugar industry.

-the solution of the Alfalfa problem!



After a thorough investigation the Southwest Cotton Company purchased 50,000 pounds of Germain's Proven Hairy Peruvian Alfalfa to Plant on their own Arizona ranch. What MORE proof of the SUPERIORITY of Germain's Proven Hairy Peruvian Alfalfa do you need?

Buy NOW—before the supply is gone.

Write for free folder and testimonial letters.

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Established 1871
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25 Cords a Day

Easily Sawn By One Man.
Easy to move from cut to cut. Make big profits cutting wood. Cheap and easy to operate.

OTTAWA LOG SAW

Does 10 men's work at one-tenth the cost. Makes work easy. Engine can also be used for running pumps and other machinery. Saw blade easily removed. Write for our low price. Cash or Easy Payments.



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If you have MONEY to save, you will find it to your advantage to write for our folder that tells you all about banking by mail.

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It's up to you to get the full market value for every skin you ship. Don't be misled by high quotations. It's not the prices quoted in a price list that count—it's the amount of the check you receive that either makes you smile or swear. "SHUBERT" checks will make you smile. That's why Fur shippers never change after they have once given "SHUBERT" a trial. Join the happy crowd of satisfied Fur shippers. Ship your Furs direct to "SHUBERT." You take no risk. "The Shubert Guarantee" protects you absolutely. Why not give "SHUBERT" a trial today?

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Dealing Exclusively in
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Is Alfalfa Meal a Concentrate?

(Written for Pacific Rural Press.)

This seems like a queer question to ask about a substance that has come to be one of the near-standard feeds of livestock throughout the alfalfa growing regions of western United States. Statements of approval, and otherwise are made regarding it, and now comes the query, "Is alfalfa meal a fattening ration for hogs?" There seems to be doubt in the minds of some feeders as to just what it is fit for, and just how it should be fed. Therefore, it seems best to discuss the question in a short article.

Alfalfa meal is alfalfa, ground more or less finely, and generally packed in large sacks holding 100 lbs. each. If (notice the "if") nice, bright, clean alfalfa hay is ground, and is ground properly, the meal has practically the same composition as wheat bran, although it is not as rich quite as the bran. It has more fibre, and its digestibility is not quite as high. In this form it is not liked by stock as well as wheat bran.

If the alfalfa has been damaged in any way, or has more or less foreign matter, like weeds, foxtail, etc., incorporated in it, then its feeding value is lessened, as well as its palatability. Animals, either fed for milk or meat, must like their feed, or they will not eat enough for maximum production. We often hear it said, and it is true, that a change, or variety, of feed produces better results than one or two feeds alone. This is because the one feed becomes tiresome, and there is a lack of appetite.

Alfalfa meal is not a concentrate, or adapted for fattening purposes. Hogs fed on alfalfa meal alone would almost starve to death. The hog's digestive apparatus is not adapted for handling large amounts of roughage; in fact, this is the reason why a hog will make such rapid gains. He lives largely on concentrated feeds like corn, milo maize, Egyptian corn, barley, wheat, middlings, etc. These may be profitably supplemented by alfalfa pasture, alfalfa hay, or alfalfa meal. Alfalfa pasture is the best way to use this great forage plant for swine, making them do their own harvesting, grinding, and feeding.

However, it is not always possible to have alfalfa pasture, and then the next best thing for the hog family probably is alfalfa hay or meal. Feeding work carried on with swine at various state experiment stations, proves quite conclusively that long alfalfa hay fed in racks, so that the hogs could not waste it, gave as good results as alfalfa meal, or at least the expense of grinding was saved. Again, where the long hay is fed, effort is made to get good hay for piggy, and he responds by eating freely of it and thereby saves considerable more expensive feed.

There is an old saying that "charity covereth a multitude of sins," and so-called alfalfa meal seemingly covereth a multitude of weeds and foreign matter in many cases. Piggy knows, though, and while he may eat it mixed with other things, the results will be lacking.

Alfalfa meal is not a concentrate or

TULARE HOLSTEIN FARM BREAKS RECORD.

Ruby Pietertje of Forest Hill 2nd, owned by Tulare Holstein Farm at Tulare, has broken butter production records of the Pacific Coast for 7 days. The amount of butter produced was 39.74 lbs. from 667.9 lbs. milk. The 15-day record is 81.7 lbs. butter, and 1451.6 lbs. milk. This record is the third highest in the world for 7 days. A six-year-old cow, Faye Tritomia Hengerveld, in the same herd, produced 30.55 lbs. butter from 560 lbs. milk in 7 days.

The first daughter by Prince Riverside Walker, first time freshening, has made over 17 lbs. butter in 7 days, 33 days after calving. She is milking over 50 lbs. daily, and is being continued on semi-official test.

W. H. Redd, the well-known herdsman at this noted farm, has so much testing work on hand that he has W. L. Kingsley as his assistant.

fattening ration, as it is simply good or poor hay ground more or less finely. Hogs do not like it when fed alone as a single article of diet, and would not do well on it. It has its place to feed with some of the grains, and will give good results when so combined, in promoting digestion, and helping to produce bone and lean meat.

HOLSTEIN SALE SUPREME.

The A. W. Morris & Sons Corp. sale of December 18th at the State Fair Grounds, Sacramento, will be an opportunity for Holstein fanciers to buy animals of supreme merit. They are selling 60 head of cows in milk, most of them under 6 years of age—among the younger ones are a number of undeveloped cows, all out of high-record dams, which have not as yet been given a chance to show what they can do. These naturally will not sell as high as the cows of record, and will present an opportunity seldom encountered for buying animals of great merit.

All the cows are bred to bulls of

unusually long distance record breeding, including the grand champion son of Tilly Alcartra, son of Miss Valley Mead De Kol Walker, the 1100-lb. junior 3-year-old that won the California State Dairy Cow competition, and a full brother of Aaggie Acme of Riverside 2d, a world-record cow.

All the serviceable aged bulls they have on hand will be sold, including a 2-year-old they had selected for their own use, whose 3 nearest sires are the best known bulls in the Holstein breed.

TAGUS RANCH SALE REMINDER.

One of the largest farm auction sales to be held in the San Joaquin valley this year will occur December 16-17th. The offerings are so varied and extensive that anyone wishing to do so could about stock a farm from tools to mules on the agricultural day, and Shorthorns, Milking Shorthorns, and Herefords on the cattle day. The Shorthorns of the beef strains are strong in Scotch blood, and present a stock that will not last long when the sale has once started. Those who want cattle that will produce milk, and are of a size and conformation that will grow good steers, should

be there when the Milking Shorthorns pass through the ring.

Anyone needing range bulls should find what they need in the Hereford offering. They are not registered, but are from registered stock.

The draft horse offering includes a fine lot of stallions and mares of three of the leading breeds—Percherons, Belgians, and Shires—just the kind that will breed the kind that bring the money in the markets of the world just now.

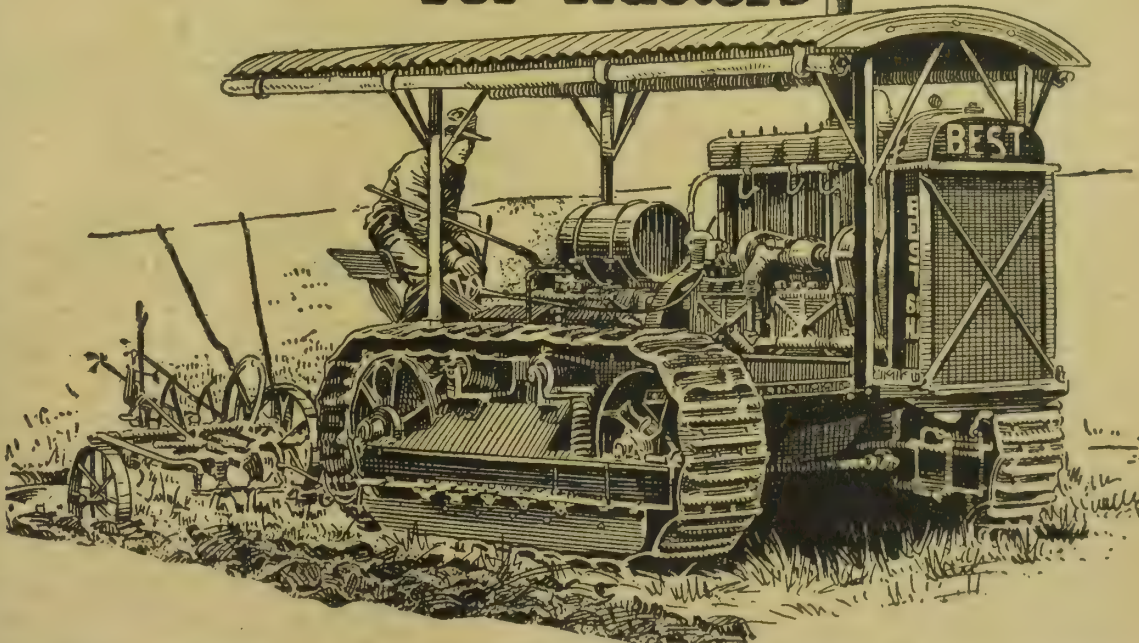
SPOTS DRIED-UP IN ALFALFA.

"When I started putting in alfalfa, I used to notice spots within a check where the alfalfa dried up after the second cutting," says M. J. Kline of eastern Stanislaus county. "I thought it was where we had scraped off the good dirt, but I've found those spots were where we filled-in. An irrigation would settle the dirt, water would stand there, the soil would bake on the surface and cement together underneath, moisture would evaporate too freely, and the alfalfa roots could not supply their tops. After the plants become old enough to pierce the sub-soil while it was still soft from the winter rains, they did not suffer so much on these spots during the summer."

HYATT

ROLLER BEARINGS

For Tractors



As Tractor Design Advances

The best knowledge of how to build a better tractor comes from actually building tractors and having their dependability proved year after year in actual farm work.

Whenever a manufacturer, after years of experience in tractor building, puts the unequalled value of that experience

into a new and better tractor, the decision to use Hyatt Bearings is practically unanimous.

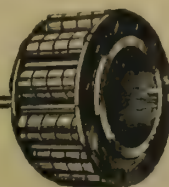
Time has proved that for the better construction of tractors, plows, separators, grain binders, wind-mills, feed grinders, and all agricultural machinery, Hyatt Bearings should be used.

HYATT ROLLER BEARING COMPANY

Tractor Bearings Division, Chicago

Motor Bearings Division
Detroit

Industrial Bearings Division
New York City



The Judging of Livestock

(Written for Pacific Rural Press by Thos. F. McConnell.)

Does any one ever really become an expert judge of livestock? If not, then the colleges of agriculture all over the United States had better revise their curriculum to some extent, and eliminate the large amount of time devoted to teaching this prominent part of animal husbandry. The writer would very much dislike to see this done, as he does not want to think the long hours wasted that he spent in the cold barns of the Wisconsin College of Agriculture, twenty-five years ago before they had their present elaborate and well-heated stock pavilion. There the late John A. Craig, Professor of Animal Husbandry, than whom there never was a greater, instilled in the minds of his students a love for farm animals and an ability to recognize at least the principal good and poor points of the different breeds. This was done then, and has been the constant practice in all other schools of agriculture teaching animal husbandry in the country.

Now has this time all been wasted? No, of course not, but when we see what has happened twice recently in the Extension Department of the California College of Agriculture at two widely separated points, we wonder what is wrong. Ever since, and somewhat before the time mentioned in the beginning of this article, people have been hearing about the "3 wedge shapes" of a correctly formed dairy cow, the distance apart of the vertebrae and ribs, the width of the hips, length of the rump, the size and shape of the udder and milk veins, with many other points to be taken into consideration in estimating the worth of the dairy animal. Another thing that we had to look out for, and that was the nervous or dairy temperament. This was an elusive proposition like a California flea in that we would think we had it, but many of us were never exactly sure about it after all. We have been sure though that we were pretty good judges of dairy cattle and other kinds of livestock, particularly sheep, as well.

Placing According to Production.

To illustrate what we are driving at. At the Los Angeles Livestock Show held this fall, after the judging of some of the dairy classes, the on-lookers, who were no doubt good judges of dairy cattle, were asked to remain a short time. Assistant Farm Adviser F. H. Scribner of Los Angeles County had led into the ring 5 cows that had been under official test for one year. The spectators present were asked to place the three best cows according to their economic production ability as evidenced by their appearance. After some discussion this was done. The five cows all had about an equal number of supporters with the grade Guernsey a slight favorite, and the grade Jersey having the least number of supporters. According to their net returns the grade Jersey was placed first with a profit of \$392.50, and the grade Guernsey fifth with a net profit of only \$23.50, with the others scattered along between. Of course, it will be said that all the crowd were not educated judges of livestock, but it is safe to say that a large proportion of them had received some instruction.

Kings County in Same Class.

Kings County dairymen took an automobile excursion through the county, stopping at many prominent dairy ranches, investigating methods and inspecting the stock. The last place visited was the Post Card Ranch of which Roy M. Filcher is manager. Here the dairymen were asked to place a class of 5 cows according to their merit as producers as indicated by appearances. Twenty dairymen participated, and after they had all made known their decisions, Mr. Filcher announced their production records. The best cow, according to her records, had but three supporters among the 20 dairymen working on the class. Here the best cow, according to the scales and Babcock test, was considered the poorest by the majority.

Would 20 so-called experts have done any better if they had been asked to pass upon the class? It is easy to say "yes" or "no," but there is no way of actually finding out except we take the evidence before us. No doubt many of the people asked to pass upon these two classes had imbibed some of the ideas of modern stock-judging, and were guided by them more or less in arriving at their decisions. Are we placing too much stress upon mere conformation? If we are, some must have mistaken ideas about conformation as in the Los Angeles classes the people placing the animals were about equally divided, and at the Post Card Ranch only 3 out of 20 placed the first cow.

Either we are placing too much stress on conformation in judging dairy cows, or only a few are real judges. If the first is true, then more attention should be paid to the dairy temperament or ability of the cow to turn feed into milk, to "deliver the goods" as the world says. This dairy temperament is an elusive thing for most individuals to determine, and the question is often in the writer's mind if there are enough physical indications of the qualification for it to be definitely determined by a physical examination. In the score cards there are a certain number of points allowed for this elusive qualification, but just how to recognize them is a hard thing for most people. Either we shall have to find out just what constitutes this dairy temperament, or say that it is not a safe thing to buy dairy cows without using the scales and Babcock test. The writer is frank to say that if he was going to buy a herd of dairy cows, that the Babcock test would be his main reliance with the reservation that in making the selections animals would be given the preference that had excellent production records and also good dairy conformation.

Records Count.

Therefore, the dairymen who are breeding cattle for sale should pay more and more attention to keeping records of performance. Records that are official, if possible, as they are of more value to the world at large, but keep records anyway. The cow-testing associations are the cheapest for the grade herds, and all purebred herds that are not doing official testing, should be in a testing association. It is very evident from the two cases cited that physical characteristics, as understood by dairymen generally, will not determine the highest producers, nor the most economical ones.

Judging Fat Stock.

So far it has been dairy cattle that we have had under consideration, and their ability to produce, as evidenced by physical conformation. This class is not the only one that has had its troubles in the past, as whenever fat barrows, wethers, or steers are judged and slaughtered, the placing in the ring seldom corresponds to the placing on the block. Why is this? has been asked many times. The answer lies in the fact that the man judging in the ring is governed by the outside appearances entirely, and on the block by the quality and percentage of salable meat.

Another phase of the meat-producing animal judging should be considered also. It sometimes happens that fat classes and carlots are judged by men trained in the stock-judging schools, and place the awards according to their best judgment, but when the animals are auctioned off, and bought by representatives of the meat-packing industry, the animals or lots placed "down the line" bring the highest prices. An illustration of this occurred in the carlot classes of fat hogs at the recent California International Livestock Show. The carlots of Poland-Chinas that were second in the heavy and light divisions respectively, sold for a higher price than the grand champion carlot of Berkshires. Were the judges who awarded the prizes wrong, or were the men buying for slaughter and consequent profit wrong? It is not for the writer to

say, but it is the business of the agricultural colleges and managers of the livestock shows to study these ques-

tions, and see if theory and practice cannot be brought so close together that they will finally meet.

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and backing of an unbroken line of great producing dams are hard to beat. Come and see the result of this breeding, or write us for further particulars.

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are combined in the get of Prince Riverside Walker Aggie Acme of Riverside 2nd and Miss Valley Mead De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

KING KORNDYKE PONTIAC 20TH

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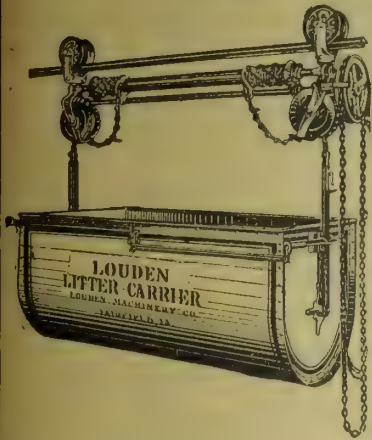
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For 30 years I have been devoting my entire time to purebred beef cattle. I know the kind of cattle California needs and where and how to buy. I make regular trips to the great producing centers and will buy on order. Best of references. Satisfaction assured. Correspondence invited.
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6 miles east of Sacramento.

Perkins, Calif.

CHICAGO INTERNATIONAL GREATER THAN EVER.

(Written for Pacific Rural Press.)

While we have no detailed report of the whole show, enough has come by wire to tell us that the above heading is no exaggeration.

Little Sweetheart, exhibited by T. S. Glide of Davis, the grand champion Shorthorn heifer of the Pacific Coast, was made grand champion Shorthorn female of the United States. This is a great thing for California Shorthorn breeders. We have known for a long time that we could raise the stock, but now the world is finding out that we can raise the top-notch cattle as well as the best oranges, prunes, and raisins.

The University of California won even more than in the past two years. The decision of the judge placing California Favorite Lady third in class, and therefore eliminating her chance of competing for the grand championship, was not popular with some at the ringside. However, U. C. Jock 3d was champion Angus steer and reserve grand champion. Their sheep winnings were also excellent, and the hogs were right up near the top in their classes.

Mark Bassett of Hanford, as usual, has as good hogs as almost anyone in the United States, as he had second prize pen of 5 Poland China barrows, all over 6 months, and under one year. It is hard for any one to see how there could be any better hogs than those Mr. Bassett had, but as there was only one pen better in the country that is something indeed to be proud of.

The grand champion Shorthorn female, Little Sweetheart, was bred by the Ormondale Company of Redwood City, and sold by them to T. S. Glide of Davis, who fitted and exhibited her at all the leading shows this year. The Ormondale Company have a full sister, Little Sweetheart 2d, that looks mighty good to Shorthorn men. She is liable to be heard from in the future if she should come along properly this winter.

ANDERSON BERKSHIRE SALE.

The rainy weather that California has been looking and hoping for reduced the attendance at the F. B. Anderson Berkshire sale, but for all this the average of the bred sows and gilts was \$120.71. The top of the sale was Natomas Beauty, out of a grand champion sow and by the sire of the grand champion sow of the world. This sow was bought by E. S. Train of San Francisco for \$240. The top of the boars was bought by George Meister of Sacramento, when he paid \$140 for Ames Rival Natomas. The sire of this boar was grand champion of the Berkshires at the California State Fair of 1918.

Among the prominent Berkshire breeders present were A. B. Humphrey of Escalon, H. C. Muddox of Sacramento, Geo. Murphy of Perkins, and R. C. Gruhlke of Dixon. J. Francis O'Connor of Santa Rosa drove all the way from his home in the rain in order to get one or two good ones.

Among new breeders present and buying some of the good ones were Ray Mead, Manager of the Whitney Estate of Rocklin, and E. Swift Train of San Francisco, with a ranch in Contra Costa County.

More activity in the importation is manifest in swine than in any other class of livestock, with Duroc-Jerseys, Poland-Chinas and Berkshires leading in the estimation of the swine breeders of the country. Where any of these breeds have been used in crossing on the native breeds, the results have been very favorably received and a continuance of the importation of these breeds can be looked for.

CLOSING OUT!

Public Auction Sale

Wednesday, December 17th

At 10 A. M.

Having sold my ranch and entered other business, I will sell to the highest bidders my entire herd of

REGISTERED O. I. C. SWINE

Together with stock, implements and miscellaneous articles.
My ranch is

Two Miles South and 3-4 Miles West of Wasco Union High School

HOGS

Herd of hogs consists of 12 brood sows that have just weaned their fall litters. These sows are all proven breeders and have raised an average of eight pigs.

Nineteen gilts from 6 to 9 months old.

All selected from the spring litters.

The sows and oldest gilts will be bred to my new herd boar, recently purchased from Oregon.

One hundred pigs ranging from six weeks to three months old. Some dandy sow pigs in this lot.

One 8-months-old boar; one 1-year-old boar; one 1½-year old boar.

Certificates of Registration given with all sows, gilts and boars.

Pedigrees furnished with all young pigs where requested.

Any stock purchased by buyers from a distance will be crated and put F. O. B.

TERMS CASH.

FREE LUNCH AT NOON.

JAS. LITTLE, Owner

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LAST CALL

FOR THE GREAT

TAGUS RANCH SALE

Tulare, December 16-17

THE LARGEST AUCTION OF THE YEAR

SHORTHORNS, HEREFORDS, PERCHERONS, BELGIANS, SHIRES, JACKS, WORK HORSES, MULES, WAGONS, HARNESS. COMPLETE ASSORTMENT OF IMPLEMENTS.

Tuesday, Dec. 16, 9:30 a. m.

Wednesday, Dec. 17, 9:30 a. m.

Gang Plows, Walking Plows, Subsoilers, Grain and Alfalfa Drills and All Kinds of Implements, like new, too numerous to mention, being the modern equipment on one of America's largest farms. Implements sell first on Tuesday morning.

25 Farm Wagons; 20 Sets Harness; 15 Registered Percheron, Belgian and Shire Stallions and Mares; 5 Registered Jacks; 25 Mules; 30 Work Horses; 25 Unbroken Saddle Horses.

58 Registered Shorthorn Cows and Heifers, bred to Scotch-topped Bulls.

25 Registered Shorthorn Scotch-topped Bulls.

13 Registered Milking Shorthorn Cows and Heifers.

6 Registered Milking Shorthorn Bulls.

30 Unregistered Hereford Two-Year Old Bulls.

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ORMONDALE SHORTHORNS

All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, winner of 1st premium in two-year-old heifer class, and also awarded grand championship at State Fair and all Coast livestock shows, and sold at auction for \$2,000, the record price of the Coast; sire also of Ormondale Maid 2nd, winner of 2nd premium in the strongest junior yearling class ever shown at the California State Fair.

Every animal positively guaranteed.

Prices on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

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REDWOOD CITY, CAL.
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Livestock and Dairy Notes

SALES DATES.

1920.
 Jan. 10th—Fred Gatewood, Poland-Chinas, Fresno.
 Jan. 13th—Glenn County Poland-China Breeders' Ass'n Sale, Orland.
 Jan. 14th—California Duroc Association, bred sows, Davis.
 Jan. 15th—Harvey M. Berglund, Duroc-Jerseys, Dixon.
 Jan. 17th—Bassett-Ross-Crawshaw, Poland-Chinas, Hanford.
 Jan. 24th—H. D. McCune, Poland-Chinas, Hanford.
 Jan. 27th—George V. Beckman & Son, Poland-Chinas, Lodi.
 Jan. 29th—Winsor Ranch, Bonita, Duroc-Jerseys sale at Los Angeles.
 Jan. 30th—Ireland Ranch Sale, Duroc-Jerseys, Owensmouth.
 Jan. 31st—Diamond Bar Ranch, Duroc-Jerseys, Spadra.
 Feb. 3d—Les McCracken, Poland-Chinas, Ripon.
 Feb. 6th—Tulare County Poland-China Breeders' Association, Tulare.
 Feb. 10th—F. D. Burr, Duroc-Jerseys, Orland.
 Feb. 11th—Fresno County Poland-China Breeders' Association, Fresno.
 Feb. 12th—San Joaquin County Poland-China Breeders' Ass'n, Lodi.
 Feb. 14th—J. Francis O'Connor, Berkshires exclusively, Santa Rosa.
 Feb. 15th—Sandercock Berkshire Sale, Sacramento.
 Feb. 16th—H. C. Muddox & Son, Berkshires, Sacramento.
 Feb. 18th—Western Berkshire Congress, Davis.
 Feb. 18th—Tulare County Duroc-Jersey Breeders' Association, Tulare.
 Feb. 21st—Merced County Poland-China Breeders' Ass'n, Merced.
 Feb. 23rd—Kings County Poland-China Breeders' Ass'n, Hanford.
 Mar. 13th—Haag & Bernstein, Poland-Chinas, Hanford.
 Apr. 6th—N. K. Horan, Poland-Chinas, Lockeford.

Dairy.

H. G. Ball of Tulare, a new breeder of purebred Holstein-Friesians, is about starting some of his cattle on semi-official test.

Gotshall & Magruder, Holstein-Friesian breeders of Ripon, have recently completed several excellent 7-day records in their herd, and expect several more later.

The A. W. Morris & Sons Corp., owners of Tilly Alcartra, are going to have one of the greatest offerings of Holstein-Friesians ever seen in the

United States at their sale in Sacramento, Dec. 18th. This herd is known all over the world, and the sale ought to be a record breaker.

Twelve high-grade Holstein-Friesians were shipped to the Hawaiian Islands from the herd of H. E. Vogel, of Fresno. These heifers are about the last of the grades from this establishment. In the future nothing but registered cattle will be bred at this well-known farm.

Jane Garden Farms, of Sacramento, are still getting good records from their Holsteins. Oakfield Adele 2d has 28.27 pounds of butter to her credit for 7 days; Mansel Frances Korndyke, a junior 2-year-old with over 18 pounds for the 7 days. Another junior two-year-old has just completed a 7-day record, but the figures were not available.

Beef Cattle.

The California Cattlemen's Association is having its annual meeting today. A further report of the Marketing Committee will be heard, and two amendments to the by-laws will come before the meeting. Methods of gaining new members will be considered.

Carruthers Farms have just sold a carload of Shorthorn bulls to stockmen about Fall River Mills. These bulls were a fine lot, sired by Count Glory and Hallwood Villager, two of the best Shorthorn sires ever brought to California, either from the standpoint of breeding or conformation. Also two heifers, sired by Hallwood Villager, to James Day, Fall River Mills.

A record Shorthorn sale was held at Anoka Farm, Waukesha, Wisconsin, November 29th. Fifty-four head sold for \$142,150, or an average of \$2,632. The attendance was very large, bidders coming from states from the Atlantic to the Pacific, and from the Canadian line to the Gulf of Mexico. There never, perhaps, was as strong a lot of cattle of the breed offered in a sale on the North American continent.

Swine.

Dr. E. J. Weldon, the Duroc-Jersey breeder, is getting 2 well bred sows ready for the State Association sale on Jan. 14th.

Clayton Slocum, junior member of the firm of H. P. Slocum & Son, expects soon to start on his annual Eastern trip, purchasing Duroc-Jerseys.

All the hog men, both Red and Black breeders, in Fresno, Kings, Merced, and Tulare counties, are evincing great interest in coming auction sales scheduled for January and February. They are already preparing their stock for them, and buyers can expect a great lot of animals from which to make their selections.

The red hogs come to perfection in the hands of H. M. Berglund, the Duroc breeder of Dixon. The recent sale of two bred gilts to Wm. Collins of Dixon, and a service boar to J. R. Jeffrey of Vacaville, shows that he stands well with the breeders at home. Breeders at a distance need not hesitate to send Harvey mail orders, as they will be treated right.

Canna Rose Farm, Riverdale, E. S. Myers & Son proprietors, report the sale of one of their finest young Poland-China boars, "Myers Wonder," to O. M. Myers of the same place; also the cracker-jack gilt, "Violet Girl," to (Mrs.) Helen Van Ness, Laton. This firm is coming right to the front with their hogs. They have bought several good ones this year, and now have an excellent herd.

Duroc-Jersey breeders from all over the State are taking keen interest in the coming consignment sale to be held at Davis, Jan. 14th. Consignments from the following noted herds are already in evidence: H. M. Berglund, Diamond Bar Ranch; V. F. Dolcini, F. W. Gardiner, J. Boyd Harrold, W. H. Hollingshead & Sons, Fred M. Johnson, H. P. Slocum & Son, Smith of Hanford, R. C. Sturgeon, J. E. Thorpe, W. M. Way & Son, Dr. E. J. Weldon, Hazel Louise Farm, Winsor

Ranch, H. C. Witherow. Collectively these breeders have consigned 40 head of bred sows. All those who desire Duroc-Jersey swine should attend this sale, as it will be the greatest collection of red hogs ever seen west of the Rocky Mountains in a sales ring.

The Inglewood Union High School has purchased from Geo. A. Stingle, Lark Meadow Ranch, Berkshire breeder of El Monte, an Ames Rival Brood sow and a young Masterpiece boar. The High School Boys' Pig Club selected seven bred gilts and four open gilts from the same herd. The boys originally intended getting grade pigs, but when they saw the

purebred Berkshire herd, the "grade" idea went glimmering. Mr. Stingle is donating a purebred gilt to the boy that makes the best record with his hog. The boys are planning to hold an auction sale of Purebred Berkshires in May when their agricultural term ends.

A three-months-old Model Defender Lady boar and three sows, one by Great Sensation, one by Great Wonder I Am, and one by Orion Fancy King, is a recent sale by the Winsor Ranch of Bonita to Walter H. Dupee, of the Edgemoor Farm at Santee. Mr. Dupee evidently means to have as good Duroc-Jerseys as he has Guernseys.

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MORRIS' SALE

STATE FAIR GROUNDS, SACRAMENTO

December 18, 1919

The sale includes all the serviceable aged bulls that we have in the herd and among the lot is the outstanding young sire—

KING CLORINDA SADIE VALE

whose seven nearest dams average 31.94 pounds butter in seven days. A wonderfully fine, growthy bull carrying the blood of the three great sires, KING KORNDYKE SADIE VALE, KING SEGIS PONTIAC and KING OF THE PONTIACS. He is ready for heavy service and will prove a winner for the lucky purchaser.

This sale includes many highly bred cows with good records and bred to great bulls, which we anticipate will sell far below their value. We do not anticipate a high average and believe it will be a bargain day for Holstein buyers.

In many cases the calves dropped by these cows will be worth more than their dams will cost you. We know of a number of instances where heifers dropped from cows purchased in our previous sales at \$200 to \$400 are now being held at \$500 to \$1500. Don't miss this opportunity, as it may not come again for some time.

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Winter Work

Are your horses always ready for heavy work, cows giving lots of milk on the coldest days, hogs putting on pork? It all depends upon their condition.

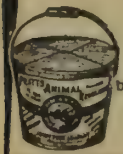
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The Tulare County Poland-China Breeders' Association will hold another consignment sale of bred sows and gilts Feb. 6th, 1920. Secretary Shinn says that the quality of the stock in this sale will be even better than in their previous one. Mr. Shinn will have some gilts in the sale bred to his great herd sire, "The Californian," that is one of the leading Poland-China boars of the State.

H. C. Shinn, of Tulare, recently sold the Poland-China sow, Babe's Giantess, that was grand champion at Tulare, for \$500. She was sired by the \$10,000 boar, Harrison's Big, and was carrying a litter by "The Californian." Mr. Shinn also sold his junior herd boar, Fortuna Bob, to the prominent Poland-China breeder, W. H. Rough of Arlington.

The offering of Duroc-Jerseys by the Winsor Ranch at the Los Angeles sale of the 29th of January, is the best bunch of sows and gilts ever put in a public sale in the West according to those who have seen them. They will mostly be bred to Winsor's Giant Orion, the largest boar on the Pacific Coast, and a son of the world's champion, Orion Cherry King, Jr., and to Great Sensation 3d, a son of Great Sensation, the best big type sire in the world, and out of Unedda Lady, the highest priced sow ever sold at auction.

The Fresno District Duroc-Jersey Breeders' Association will hold a bred sow and gilt sale on February 4, 1920, at Fresno. There are many breeders of the popular red hog in this district, consisting of Madera and Fresno Counties, so that the sale will be one worth attending by those wishing Durocs. All popular blood lines will be represented in the offerings.

Merced County Duroc-Jersey breeders have organized for breed promotion and sales purposes, according to Jack Borge, the prominent West Side Duroc breeder located at Dos Palos. Mr. Borge reports a very good business, and says he will have a good show herd out next season. The new highway, slated for the West Side, will put the breeders of that locality "on the map" and boom their business immensely.

Nate Hauck, the well-known Poland China breeder of Alton, Humboldt County, reports a very good business last month. Among the sales reported are eight spring gilts to J. F. McSwain of Merced, two spring gilts to De Forest & Horr of Susanville, and an extra fine spring boar to William Westbrook of Smith River, California. Mr. Hauck has just received a very promising spring boar from Henry Fesemeyer, Clarinda, Iowa, sired by F's Big Jones and out of a daughter of Fesey's Timm. This young boar is from one of the most noted herds of big type Poland Chinas in the corn belt, known as the "Mastodon Type."

Miscellaneous.

California breeders have been liberal buyers of livestock at the Chicago International and American Royal. Romeo Jacks of Monterey bought Herefords at Kansas City; C. Harold Hopkins buying Shorthorns, and Butte City Ranch, Shropshire sheep at Chicago, are all those noted to date, but there are rumors of many more.

LIVESTOCK DIRECTORY.

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SWINE.

Berkshires.

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MONEY-MAKING BERKSHIRES—The prolific, easy-feeding kind that make the highest priced pork from the lowest priced feed. They will increase your profits. Prices reasonable; satisfaction guaranteed. Write for free booklet, describing our world's reserve champion STAR LEADER. We are now making a special offering of classy boar pigs. Anchorage Farm, Orland, Calif.

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are in demand. They have consistently won during 1919 the highest honors in the show ring. Baron Duke 201st is a Grand National Champion. He is the sire of champions. His 15-month-old son was Grand Champion at Sacramento and San Francisco. The San Francisco judge said he was the best boar of his age that he had ever seen. I have 3 of his spring boar pigs for sale. Sandercock Land Co., 401 Market St., San Francisco, in charge of Natomus Land Sales Co.

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GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write me. Geo. A. Stingle, El Monte, Cal.

Poland-Chinas.

ELDERSLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our 1/2-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

EL PROFITO Poland-Chinas mean bigger profits for you. This great herd sire puts easy-feeding, money-making qualities into his offspring. Get stock sired by him or bred to him. Prices right. Correspondence cheerfully answered. V. L. Renwick, Hollister Ave., Santa Barbara, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superior breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D. Box 180.

POLAND-CHINAS—Young boars ready for service; also a few gilts, sired by California Big Bone Bob and Ursus Jr., real 1,000-lb. boars. Prices and descriptions on application. Eugene Miner, Rt. 2, Box 105, Lodi, Calif.

TOHOQUA POLAND-CHINAS—Strictly big type. Junior and Grand Champion sow at Glenn County Fair. Young breeding stock to sell; bred right, grown right and priced right. Ferguson & McKaig, Orland, Cal.

TWO SPECIALLY GOOD Poland-China boars, May 25th farrow. \$45.00 each. A few choice gilts, June 29th farrow—\$20.00 each. Edward A. Hall, Rt. 1 Box 39 Watsonville Cal.

J. F. McSWAIN, Breeder of Poland-China hogs. Herd headed by Big Model Fellow. Reserve grand champion 1919 State Fair. Boar for sale. R. 3, Merced, Calif.

THE PACIFIC HERD of big-type Polands. Herd Sire, Hadley Wonder and an outstanding boar by Golden State King. Nettie E. Andrews, Modesto, Cal.

ONBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

WAUKEEN HERD POLAND-CHINAS—Home of Kings Big Bone Leader. A few service boars for sale. Les McCracken, Ripon, Cal.

A FEW BOARS of May farrow. Grandsons of Big Bone Bob. R. B. & L. J. Montgomery, R. F. D. No. 1, Walnut Creek, Calif.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

10 SPRING BOARS—Tops from herd, will be sold at very low prices to close up partnership. Young and Clark, Lodi, Cal.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

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REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

POLAND-CHINAS—Young stock for sale. H. E. McMahan, Lemoore, California.

LARGE TYPE POLAND-CHINAS—Winton Poland-China Farm, Winton, Cal.

POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Duroc-Jerseys.

"MAY ROSE" DUROCS are the classiest pigs in the West. Take a look at them—seeing is believing. Our junior boars have been first and champion at both the California State Fairs and the Los Angeles Show—nothing better. We have a few dandy boar pigs by them out of our great "May Rose" sows ready for sale. Grab one, if you want the real thing. Corkers, not plugs. Also booking limited number of outside services for champion boar May Rose King. The cheapest way to get his blood, but only a few more sows will be accepted. Elliott-Brant Rancho, Owensmouth, Cal.

WHAT DO YOU NEED IN DUROCS?—A few corking good fall pigs of either sex, weighing 50 to 75 lbs. apiece; two late spring gilts better than 200 lbs.; one June boar nearly 200 lbs.; one mature herd boar about 600 lbs.; two yearling sows 350 and 450 lbs. each. Every animal is priced to move this month. Write for copies of pedigrees and photos. Guarantee satisfaction or money back. Geo. L. Horine, Winton, Merced Co., Cal.

FOR SALE—Two Spring boars by 1918 Grand Champion of Missouri, High Orion (221329), dam by Pathfinder, a good one. One fall boar by Grand Model's Type (244719), dam Col. bred. Midvale Farms Corp., Ethnaac, Cal.

DUROC-JERSEYS AT IRELAND—Sows sired by Cherry Volunteer 2nd and Reformer, bred to Ireland Joe Orion at public sale, January 30, 1920. Write for catalogue. 1219 Brockman Bldg., Los Angeles, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Address R. K. Walker, Winsor Ranch, Bonita, San Diego Co.

BIG-TYPE DUROCS—Herd headed by California Orion King. Am offering excellent young boars at right prices. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

TOP-NOTCH DUROCS—Booking orders for weanlings, for February delivery, from Orion Cherry King and Golden Model breeding. Harry W. Buerer, Dos Palos, Cal.

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WEANLINGS—Gilts open or bred to a son of Great Wonder I Am. Service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento.

DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

HEAVY-BONED DUROCS—A few service boars for sale. Ormondale Co., Route 1, Redwood City, California.

BIG-TYPE DUROCS—Gilts and boars of Orion Giant breeding. Falfadale Farms, Peris, Calif.

REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

A FEW A-1 MARCH BOARS—Jack London Ranch, Glen Ellen, Sonoma Co., Calif.

REGISTERED DUROCS—All from prize-winning stock. W. P. Harkey, Gridley, Calif.

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BILLIKEN CHESTER WHITES—Entire herd for sale. Every animal is listed and priced for immediate movement. Herd boars; young service boars. Bred sows. Seven litters of fall pigs, by four different sires. Write for special price list. C. B. Cunningham, Mills, Cal.

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REGISTERED HAMPSHIRE—"Belted Beauties." Weaned pigs a specialty. Unedda Hampshire Swine Farms, Gardena, Cal.

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SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

FOR SALE—Purebred Jersey bull, Noble of Oakland blood. S. B. Campbell, Ripon, Cal.

Holsteins.

THE LEWIS COMPANY BAYWOOD HERD OF REGISTERED HOLSTEINS

Herd sire Ormeby Segis Marie Lad, whose dam has produced in two years, beginning as a three-year-old, 57481 lbs. of milk and 2243 lbs. of butter.

First National Bank Bldg., San Jose, Cal.

FOR SALE—2 bulls ready for service from A. R. O. dams up to 29.61 lbs. butter in seven days. Sired by best bulls in California. Also 2 bull calves. Every one splendid individuals—mostly white. Write for photos and prices. J. H. Posty, Box 15, R. F. D., Atwater, Cal.

REGISTERED HOLSTEINS for sale. Seven bred cows, one Pontiac bull, 5 years old; also two heifer calves. Subject to registry. Wm. M. Little, Box 76, Snelling, Cal.

REGISTERED HOLSTEIN BULLS—All ages. Choice individuals from best blood. Tuberculin tested. N. E. Mulick, Willows, Cal.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spiree, Hillcrest Farms, Caruthers, California.

A FEW YEARLING registered bulls by King Marco Alcatraz 2nd, from good producing cows. H. M. Cross, Merced, Cal.

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TWO EXTRA GOOD Holstein Bull Calves—Well bred, well grown and priced to sell. E. M. Morrow, Modesto, Cal.

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YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

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GOTSHALL & MAGEUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

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EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. B. Freeman, R. B., Modesto, Cal.

REGISTERED HOLSTEINS—Best blood lines of the breed. R. L. Holmes, Modesto, Cal. Ayrshires.

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INNISFALL DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

DUAL-PURPOSE SHORTHORNS—registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BEEF CATTLE.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara, or Lompoc, Calif., John Troup, Supt.

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THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REGISTERED HEREFORDS—H. H. Gable, Diamond G Ranch, Esparto, California.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willets, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Carruthers Farms. Live Oak, California.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillet, Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

HARVEY S. VAN VLEAR, Lodi, Cal. Breeder of registered Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH—SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks.

Stock for sale at all times. Third sale at the Ranch—all breeds—April 17, 1920. W. P. Dwyer and W. S. Guilford, Box F, Butte City, Glenn County, California.

HORSES FOR SALE—40 head of 3 and 4-year-old Percheron horses. Price from \$250 to \$300 for span, beautifully matched team of very kind disposition. S. L. Skaggs, four miles south of Madera, Cal.

FOR SALE—25 head of bred sows, some of them have pigs; balance to farrow about February 1st. Also 2 fine boars. J. J. Flannery, Kifer Road, Santa Clara, Cal. Telephone S. C. 185F4.

Livestock Queries and Replies

(Written for Pacific Rural Press.)

Drying Up a Cow.

To the Editor: I have a cow that will freshen in 6 weeks. She is still giving nearly 6 quarts of milk daily, and does not seem to be failing in her flow. When fresh she gives nearly 6 gallons. How would you manage to dry her up, or would it be advisable to milk her until time to freshen? She is a high-grade Jersey, about 4½ years old, a good producer.—G. W. W., Modesto.

(Answered by the Livestock Editor.)

It is not considered good practice to milk a cow on through the period of freshening. It is thought best, by most authorities, for a cow to have from 4 to 6 weeks' rest. It takes a little clever management sometimes, with the most persistent milkers, to handle the animal in a way so that the elaboration of milk will cease naturally, and without injury to the udder of the animal. Remember that the modern dairy cow has been developed into what is termed a "milk machine," producing more or less economically from the feed consumed the lacteal fluid forming such a large proportion of human food. Some of the animals are such good machines that they will continue to produce milk as long as they are fed even a small ration of the best milk-producing feed, such as alfalfa hay, corn silage, wheat bran, etc. Stop feeding the cow everything except a small ration of grain hay, or better yet, wheat or oat straw. Also stop milking twice a day, soon after putting the animal on a restricted diet. After about a week of once-a-day milking, skip and milk only once in 48 hours, and then not at all unless too much distension of the udder is noticed. After the cow is dry, then a return to a better ration would be in order, with some green feed like roots or silage, to prevent constipation at this period. It may be necessary to mix a small handful of Glauber's salts with the feed once a day for two days. A little extra care at this time may save considerable trouble at freshening time.

Disposition of Tuberculous Cattle.

To the Editor: We are subscribers of your paper and like to read it as it contains much valuable information for the farmer and stockman. I would like to have you answer a question for me. I have read considerable in different papers about inspection of cows that have tuberculosis and have heard many different opinions expressed. Some say that milk cows that have the disease may be sold for beef provided they are fat and others say that such cattle are killed on the spot and burned. It is also said by some that cattle that are so killed and burned are paid for and others to the contrary. Please let me know if such cattle are paid for if they are slaughtered, and if meat from cattle so infected is fit for human food?—Subscriber, Vinton.

(Answered by the Livestock Editor.)

In the slaughter houses where there is government inspection of cattle slaughtered for human food all carcasses found infected with tuberculosis are condemned as unfit for that purpose. There is no law in California compelling owners of animals found to have tuberculosis to slaughter them, much less burn them after such killing. In fact, animals are

sold every day we suppose that have the disease. It is possible and has been done, to offer animals for sale at public auction that have reacted to the tuberculin test. Cows are not paid for in California that are slaughtered because they are diseased, and there is no law compelling such slaughter. Meat from diseased animals is considered unfit for food. No charge is made for answering questions from our subscribers through the columns of the paper.

Warbles.

To the Editor: I have a cow which has several sores on her back. These sores are open and running, and are about as large as walnuts. The cow seems healthy. Please let me know what this is, and what to do for it.—W. C. C., Waukena.

(Answered by the Livestock Editor.)

This trouble is caused by the larval stage of the "heel fly" or "warble fly." This fly cannot bite, but deposits its eggs on cattle, fastening them to hairs. Many of them are fastened on the hair just above the hoof, hence the name "heel fly." Cattle evince great terror when this fly is about, and staid, quiet, old cows will curl their tails over their backs and develop a speed that would attract the attention of a hardened motor "cop." The eggs hatch and gain access to the muscular tissues of the body in various ways, and finally show up on the backs under the skin, causing the "warbles" or sores mentioned. The best way to get rid of them is to squeeze them out by pressing with the fingers on each side of the open "sore." If the "warble" is old enough the larva will pop out, and should be crushed. If it cannot be pressed out, the hole should be enlarged with a small, very sharp knife, and then the larva will come out easily. After removing all that are in evidence, washing the sore spots with a coal tar disinfectant, strength 1 to 50, is advisable. Go over the backs of animals infested at intervals of 2 or 3 weeks during the winter months, or until no more appear. Cattle in small herds that are treated with fly repellants during the summer months are not apt to have many "warbles" in the winter.

"Putting Down Butter."

To the Editor: Will you please give me a receipt for putting down butter.—C. D., Arboga, Yuba County.

(Answered by the Livestock Editor.)

If by "putting down butter" is meant putting it in some form of jar or tub so it will deteriorate as little as possible, you should proceed as follows. In churning bring the butter to granules about the size of No. 6 shot. Wash thoroughly or until water runs clear from the churn. Salt 1 to 1½ ounces to the pound, and work so as to express as much of the water content as possible, and secure a perfectly even distribution of the salt. Have the tub or jar in which the butter is to be packed perfectly clean and sterilized with boiling water or live steam. Earthen crocks or jars are excellent in which to pack butter, for a long period, as they can be made absolutely clean and sterile. Select a size which may be filled at one churning. Pack or press the butter in the jar, so that it is one solid mass with no small holes or spaces left. Fill to

within one-half inch of top, cover with a circle of clean cheese cloth or parchment paper, and sprinkle over with clean salt, store in a cool, airy

place. Good butter in roll form may be stored for some length of time by immersing the rolls in strong brine, and placing in a cool, airy place.

Promote Pork Profits

With Better Poland-Chinas breeding

I have a few young boars by Joe's King just ready for service. They will make your spring crop of pigs profitable in spite of high price of feed and labor. They are the big type, with easy feeding and quick-maturing qualities. I have priced them very reasonably for a quick sale. Write at once for prices and particulars or call and see them.

WAUKEEN FARM

LES McCracken, Prop.

RIPON, CAL.

WINSOR RANCH DUROCS

Home of

WINSOR'S GIANT ORION

We won at Los Angeles Live Stock Show

GRAND CHAMPION SOW

"Model Defender Lady"

And be sure you look up our other winnings

Bonita, San Diego, Co.



Address R. K. WALKER,

BIG BOAR BARGAINS

We are dissolving our partnership and we have a few spring boars, weighing 250 pounds, the tops of the season, sired by Big Bone Bob Jr. To close out quickly have priced them at \$50 to \$75. This is away below their value.

Write at once, or call and see them.

Young & Clark - Lodi, Calif.

BIG TYPE POLAND-CHINAS

Every Hog on the Gardiner Ranch is Cholera Immune.



Has the frame to build on and the legs and feet to carry it. The best boar we have ever seen.

TOMMY TUCKER

Is the model you can all build by. You won't go wrong if you do. We have the right type. We aim to produce breeding stock for the best breeders. We have hogs of all ages and both sexes for sale. Write us your wants.

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SACRAMENTO, CAL.

JOHNSON'S DEFENDER JR.

Owned by GREENWOOD FARM, Live Oak, Cal.

Is California's greatest representative of Defenders, the greatest Duroc family. At the State Fair he was the smoothest boar shown, weighing 700 pounds at 17 months and carrying it on a perfect set of feet and legs. He won second in the strongest class of boars ever shown on the Coast and was a popular favorite. Three of his brothers won ribbons in the same class, showing the strength of this line of breeding.

H. C. WITHEROW, Mgr.

Five Ribbons Won on Five Entries.

LIVE OAK, Sutter Co., Cal.

RANCHO DEL SUR DUROCS

ORION'S KING GANO, a wonderful grandson of Orion Cherry King and Col. Gano, and the greatest Duroc boar in the State, heads this select herd of sows.

Have some spring Boars at attractive prices. Young stock for sale.

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Lancaster, Cal.

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

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HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

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LOS ANGELES

KEY HERD OF THE PACIFIC COAST

Duroc-Jerseys

The kind you have been wanting to get. The greatest profit-making hog. They make good everywhere. We deal fairly and our prices are always reasonable.

Let us know today what you want.

H. P. SLOCUM & SON

Willows,

California



GRAND CHAMPION STATE FAIR, 1919

TAMWORTHS

(The Bacon Hog)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes.

Sure to please.

SWINELAND FARM

W. O. Pearson, Prop.,

Woodland, Cal.

Lump Jaw

The farmer's old reliable treatment for Lump Jaw in cattle.

Fleming's Actinoform

Sold for \$2.50 (war tax paid) a bottle under a positive guarantee since 1898—your money refunded if it fails. Write today for

FLEMING'S VEST-POCKET VETERINARY ADVISOR

A book of 197 pages and 67 illustrations. It is FREE. FLEMING BROS., Chemists, 327 Union Stock Yards, Chicago

Condemned Meat Sold as Food

(Written for Pacific Rural Press.)

H. C. of L. is responsible for much controversy in almost every walk of life just at present, and all people are complaining about it from the poorest to the richest. Is it probable that

this high cost is due to scarcity of the staple articles, or is it due to a great extent to "profiteering"? It would seem to a great extent to be due to the so-called "profiteering," and greed seems to breed greed. The human race is not content with ordinary profit, and has been adding on and adding on, until it seems as though the burden is greater almost than the people can endure.

A Criminal Practice.

How unjust and villainous the ordinary run of this excess profit taking really is, no one is prepared to say perhaps, but there is a kind that can not be condemned in too strong terms. This is selling condemned meats as pure and wholesome products. It is criminal in that it not only markets a food product for what it is not, but it actually threatens the life and health of young and old alike in a stealthy, secretive manner, when they are not suspecting an attack of any kind.

A recent copy of the Fresno Republican prints the report of the City Veterinarian in which sensational charges are filed against slaughter-house owners doing business in the city of Fresno. In this report this firm is accused of dressing hog carcasses condemned as cholera infected; the making into sausage carcasses that had been condemned, and placed in the digester tanks to be made into fertilizer, these carcasses being removed after hours, when the inspector was absent. The Veterinarian's report goes into detail, and mentions a number of instances of this gross infringement of ordinances, laws, and common decency.

"Eternal Vigilance" Necessary.

The above is not written for the purpose of condemning the particular firm mentioned in the report, nor the City of Fresno in any way, for all who know anything about this fair city, can vouch for the high quality of the food products on sale in the markets and stores there. A noted American once said "eternal vigilance is the price of liberty," and it is true also that eternal vigilance is the price of good food and clean food. The immense profits to be obtained will tempt the unscrupulous in other places, as well as Fresno, and it behooves the inspectors in other places to be on the lookout, and if they have no system of inspection in the slaughter-houses, to see that one is established.

How does this affect the farmer and stockman? Just in this way. If they do not want their reputations individually and collectively to suffer, then refuse to sell stock for food that is known to be diseased to any but reputable packers, who will use such animals only for fertilizer or tankage. Make the name "honest farmer" a true one, and not one of reproach. Do not think, and say, "Oh, well! Jones over the hill sold his sick hogs for a good price, why shouldn't I do the same?" When did two wrongs ever make a right?

NATIONAL FEDERATION OF CO-OPERATIVE LIVESTOCK SHIPPERS.

This organization, with headquarters in Chicago, but covering a large portion of the livestock country from the Rocky Mountains east, is certainly going after the business in a way that will put it on the livestock map of the United States for all time to come.

In order to put men of ability in the field as managers of the branch organizations, they are establishing Short Courses at the various stockyard centers. These so-called Short Courses extend over a period of about 3 days, during which time the manager students follow the buyers for the various packers, and get their ideas as to what constitutes the different grades of meat-producing animals. The buyers, at certain times, make special effort to communicate their knowledge to the manager students when animals exemplifying certain types are encountered. The chief fault with the method is the brevity of the course.

A CALCO feeder is a self-feeder

The Calco Hog Self Feeder allows hogs to feed at will—

Grain need not be carried for every meal. Container delivers it automatically into the feeding trough as used, and it never overflows. Hogs cannot root grain out on the ground.

Feeders are made of "Armco" rust-resisting Galvanized Iron with Cast Iron bases. Sanitary and clean. Strong and durable. Will last a life time.

Write today for folder and prices.

California Corrugated Culvert Co.

LOS ANGELES
417 Leroy Street

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406 Parker Street



01-28

The self-feeder system, which permits hogs to eat grain at will, either in pastures or dry lots, is becoming more and more popular in the corn-belt states, and more seems to be no valid reason why self-feeders should not prove equally successful in all parts of the country.
—Western Empire & Rural World.

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STANDARD MAKES

These tires are all new, fresh goods and NOT retreaded or so-called rebuilt tires.

Plain Tread	First Non-Skid	Tubes
Seconds Guaranteed	Standard Guaranteed	Gray
28x3	\$10.75	\$2.05
30x3	\$9.20	2.05
30x3 1/2	11.50	2.50
32x3 1/2	12.85	2.70
31x4	16.30	3.15
32x4	16.60	3.25
33x4	17.30	3.35
34x4	17.80	3.45
36x4	26.60	
34x4 1/2	24.00	4.20
35x4 1/2	25.00	4.30
36x4 1/2	25.45	4.45
37x4 1/2		5.10
35x5	28.70	5.25
37x5	30.25	5.40

All other sizes in proportion.

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NON SKID

While They Last

30x3\$ 9.25	34x4\$19.90
30x3 1/2 11.75	34x4 1/2 25.35
32x3 1/2 13.65	35x4 1/2 26.60
31x4	..... 18.15	36x4 1/2	..... 27.00
32x4 18.55	35x5 31.25
33x4 19.45	37x5 33.20

Automobile Tire Co.

Sixth and Olive Sts.

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The Oldest Automobile Tire Jobbing Concern in the United States and the Largest in the World.

Open Sundays and Evenings

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Caustic Balsam

IT HAS NO EQUAL

For the Human Body
—It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for
Sore Throat
Chest Cold
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Diphtheria
Sore Lungs
Rheumatism
and all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES
Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."
Price \$1.75 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet R.
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

PURE HAWAIIAN CANE MOLASSES

PORK PRODUCTION

By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

MILK PRODUCTION

One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars for shipment anywhere.

W. H. YOUNG COMPANY

Holbrook Bldg.,

San Francisco

WILL YOU WANT THEM?

SOWS, GILTS AND BOARS

Sired by or bred to

MATCHLESS BIG BOB

LAKESIDE DEFENDER

LIBERTY BOND and

MAJOR HADLEY WONDER

The offering at our next sale will represent some of the most noted blood lines of the Poland-China breed East or West.

Watch for further particulars.

LAKESIDE STOCK FARM

GEO. V. BECKMAN & SONS,

LODI, CAL.

Poultry and Rabbits for Profit

WHAT IS GOOD EGG PRODUCTION?

More than 72,000 eggs were produced on the poultry farm of the University of Missouri College of Agriculture in the last year. Reckoning the entire flock, the average per hen is about 150 eggs. This doesn't sound so prolific when you recall stories of 200-egg hens and better, yet 150 eggs a year is nearly twice the production in the average farm flock and ninety eggs more than the average for the United States, according to the last census. If it were not for the fact that a certain proportion of the flock is kept for experimental work and that some of the uncommon varieties are kept for student judging work, the flock average would probably run close to 160 eggs.

The production of the Single Comb White Leghorns on the University Farm is excelled at one experiment station only. This is at Oregon, where Prof. James Dryden has developed an exceptionally high-producing strain. During this past year over ten per cent of the University Leghorns have produced two hundred eggs or more. One individual registered 226 eggs. Another has laid 225 to date and has until December 15 to complete her pullet year. One pen of eight White Leghorns has averaged more than 170 eggs apiece.

The high-producing strain of Leghorns on this farm is the result of nine years' constant selection and breeding by Prof. H. L. Kempster, chairman of the poultry department, who believes that his birds have reached a point in high egg production where a number of different family lines can be established and that production next year will be higher than ever before.

SOMETHING FUNNY SOMEWHERE.

(Written for Pacific Rural Press.)

About Thanksgiving week eggs were selling at about 95c in San Francisco retail stores and the wholesale, or dairy exchange quotation price, was approximately 85 cents. At the same time grocers in many interior California towns were allowing ranchers only 70 cents a dozen for eggs. They were good eggs, too, for the weather at the end of November is cool enough to prevent decay from developing in the ordinary journey from hen to ultimate consumer.

In other words, there is at present a full 25 cents a dozen difference in what the farmer (not the poultry farmer, but the general farmer), is getting for his eggs, and what the city resident is paying for them. Twenty-five cents is as much as that same city resident paid for eggs a couple of years ago. It seems to take as much to get eggs from the average farm to the kitchen door of a San Francisco flat, as it used to cost to produce those eggs three or four springs ago and to transport them to the same place, with everybody handling them getting a reasonable margin of profit. Can you beat it?

That is not the end of the funny facts. The interior grocerymen—in Visalia, to be explicit—were retailing the eggs for which they paid 70 cents, for 80 cents, which is 15 cents less than city stores were selling for, yet apparently that 15 cents a dozen difference would not justify the transfer from country store to city home. If not, the cost of doing business must be terribly high. Some wise man, figure it all out.

POWER IN PURE BLOOD.

(Written for Pacific Rural Press by D. J. Whitney)

Several months ago an article appeared in the Rural Press about the strength of pure breeding in poultry, showing how a pullet from a good Barred Rock rooster and a mongrel hen followed the Rock type strongly. This fact of heredity was verified when eggs, from hens of mixed breeding, mated with a fine White Rock rooster, were hatched. The rooster, though white, had, like all of his

breed, a lot of Barred Rock in his ancestry. The heavy hens, mostly colored, were enough to give some color to the chicks, especially since a large portion of the rooster's remote ancestry were colored also, but his type was so strong that practically every colored chicken had the color of the Barred Rocks. The others were white like him, and, presumably, like their mothers.

In other words the original Plymouth Rock blood, so strong in the rooster's ancestry, was strong enough to predominate in crossings with hens having no known Rock blood whenever any color showed at all. For example, in a hatch of 18, four were white and 9 colored like Barred Rocks. This might be worth noting as to the power of good blood lines if the rooster was a purebred Barred Rock. As a purebred White Rock derived only partly from the barred variety, the illustration is more striking.

THE LOS ANGELES POULTRY SHOW

The Twenty-second Annual Show of the Los Angeles Poultry Association opened last Saturday with more than 3,000 entries for prizes aggregating \$3,000. Included in the program was the eighth annual show of the Los Angeles Pigeon Club, the State meeting of the California Ancona Club and the annual convention of the International Single Comb Black Minorca Club.

A series of talks of interest to fanciers was delivered through the week, and the judging was done by competent experts and was instructive and satisfactory.

EARLY HATCHES MAKE BIGGEST RETURNS

In the State Egg-Laying Contest, conducted by Enoch Peterson, Poultryman of the Agricultural College, it is only the early hatched birds of both the general purpose and laying breeds of fowls that are giving any creditable return in eggs so far. This demonstrates the fact that any who are interested in having their chickens pay for their feed during the winter by laying eggs, should hatch them as early as possible in the spring, so they may get their growth and be prepared to start laying in the fall.

A CORRECTION REQUESTED.

Bert P. Ward, President Northern California R. I. Red Club, writes that a mistake was made in our report of the winnings in the Rhode Island Red class at the California International Livestock Show. He cites the winnings as follows: "M. E. Jeter won 1st cock; 3rd hen; 3rd pen. Oak Shadows won 2nd cock; 1st cockerel; 1st hen; 2nd pullet. F. M. Lail won 1st and 3rd pullet; 2nd pen; 3rd cockerel. Ward's Poultry Farm won 1st pen; 2nd cockerel; 2nd hen; Special for Best Display."

Do not overlook the fact that the chicks must have shade. If there is no natural shade for them to stay under during the heated part of the day, be sure and provide sufficient for their needs.

Infertile eggs will withstand marketing conditions much better than fertile eggs.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

JANUARY, FEBRUARY chicks are money-makers, if you are equipped to handle them right and can put good stock into your brooders. That's our part—supplying them. Well bred and hatched right. Why not buy where quality, service and economy are to your advantage? Our breeds—White, Brown and Buff Leghorns, R. I. Reds, Barred and White Rocks, Black Minorcas. Write us your needs. Circular free. Mission Hatchery, Box 17, Campbell, Cal.

BABY CHICKS from selected S. C. White Leghorn hens. Write for prices. Tupman Poultry Farm, Box 7A, Ceres, Calif.

"GOLDCROFT" BUFF ORPINGTONS—Fine, well-developed cockerels; also cocks and hens. Prices reasonable. Samuel Abrams, Los Altos.

CHICKENS, DUCKS, GESE, GUINEAS, Pea Fowl, Pigeons, Wm. A. French, 545 W. Park St., Stockton, California. Stamps.

WHITE LEGHORN BABY CHIX—Heavy laying, Hogenized stock. —March \$15.00 per 100; April and May, \$13.50 per 100. Safe arrival of strong live chix guaranteed. Pioneer Hatchery, 408 Sixth St., Petaluma, Calif.

BABY CHICKS—From my Single-comb White Leghorns, bred for heavy layers, which have been in the race for 12 years, and today is among the leaders. You don't go wrong by placing your order with me. Write for prices and terms. H. A. Schlotthauer, Exeter, California.

BROWN LEGHORNS—Light or dark—the farmer's fowl. Best foragers. Females, \$3.00; males, \$5.00 each and upwards. MAHAJO FARM, P. O. Box 597, Sacramento, Calif. At 1919 Oakland Show won 1st, 2nd cocks; 1st, 3rd, 4th cockerel; 1st, 2nd hen; 1st, 3rd, 4th pullet.

LAYING LEGHORNS AND BARRED ROCKS—A few dozen A-1 White Leghorns and Rocks of February and March hatch for sale. These birds are guaranteed layers and are shipped on a money-back basis. Prices \$3.00 and up. Geo. L. Horne, Winton, Merced Co., Cal.

TURKEY BREEDERS TAKE NOTICE!—My new Eastern Mammoth Bronze Toms have proved to be grand breeders. I raise quality, not quantity. Every bird guaranteed; return C. O. D. if not as I represent, so you run no risk. R. M. Dodge, E. D. 2, Bakersfield, Calif.

THOROUGHbred S. C. White Leghorn chicks in 100 and 1000 lots from Hogenized and trapped stock. Order early for spring delivery. Inventors and Distributors of "Forbes" Separator and trapnest combined. Forster Brothers, 2018 Otis St., Berkeley, Cal.

FINEST HATCHERY IN THE WORLD—Chicks—White Leghorns, Rhode Island Reds; Settings—100's, 1000's; hatched right in \$60,000.00 Brick and Concrete Hatchery from our Quality Heavy Layers. Reasonable prices. Pebbleside Poultry Farm, Sunnyvale, Calif.

LIGHT BRAHMAS—Large stock direct from the East. Cockerels, \$5.00 to \$10.00 each; pullets, \$5.00 to \$8.00, non-related. Golden Sebright and Black Cochins Bantams, Rouen Ducks. All prize stock. Emma V. Miller, E. D. 2, Box 534, Santa Cruz, Cal.

AN EVER-INCREASING DEMAND finds us better prepared than ever before to take care of our day-old chick business. Hatching White, Brown and Buff Leghorns, Anconas, Minorcas, Rocks, Reds and White Wyandottes. Interesting folder now ready. B. W. Archibald, Soquel, Santa Cruz Co., Calif.

BABY CHICKS—Order now for 1920 and get what you want when you want them. White and Brown Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for free circular. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto.

ANDERSON'S PEEPLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels \$5 and up; 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

BABY CHIX—We specialize in R. I. Reds, Barred Plymouth Rocks, Black Minorcas. Bred and mated for eggs, size, color. Dates made by us are kept, so order early. Popular price, any number. Denton Poultry Yards, Campbell, Cal.

CHICKS — EGGS — Hogenized White Leghorns, Brown and Buff Leghorns, Black Minorcas, Rhode Island Reds, Barred Rocks, Anconas, Blue Andalusians. Free circular. Order early. McDonald Poultry Ranch, King Road, San Jose, Cal.

"WATCH US GROW"—Baby chicks. Booking orders now for January and February delivery. White and Brown Leghorns, R. I. Reds and Barred Rocks. Safe delivery guaranteed. Order early. E. W. Ohlsen, Campbell, Cal.

HOLLISTER HATCHERY—Day-old chicks of quality from selected stock. White Leghorn, Black Minorca and Plymouth Rocks. We guarantee safe delivery. Free circular and price list. Box 693, Hollister, Cal.

MODEL POULTRY FARM—White Leghorn specialists—our fifteenth year. Baby chicks and hatching eggs for sale. Also first-class breeding cockerels and cocks. W. C. Smith, Prop., Corning, Cal.

RED CARNEUX for sale. I have about 50 pair of splendidly bred and mated working birds at a reasonable price. For particulars address Alfred Lindsay, care Humboldt Times, Eureka, Cal.

BABY CHIX—Hatched from our own stock in our hatchery. Hens are of S. C. White Leghorn Utility stock, bred for commercial laying. H. A. George, Petaluma, Cal., E. D. 2, No. 20.

HART'S BRONZE TURKEYS—Large, vigorous young stock of both sexes for sale; also year-old hens. Eggs in season by the setting or hundred. Albert M. Hart, Clemente, Cal.

MAMMOTH BRONZE TURKEYS—Order now for immediate or future delivery. Choice young stock from prize winners. Prices reasonable. A. W. Ganger, Rt. 1, Dos Palos, Cal.

FOR SALE—White Holland Turkeys, S. C. Rhode Island Red cockerels. Guinea roosters. One Golden Seabright cockerel. Send stamp. B. A. McKinley, R. D., Ukiah, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. E. Voden, Box 3, Los Gatos, Calif.

"EASTMAN'S BRED-TO-LAY" Hogenized and trapped Barred Plymouth Rocks. Eggs; cockerels. January chicks. Fairmead Poultry Farm, Fairmead, Cal.

LARGE BRONZE TURKEYS FOR BREEDING—Toms, \$8.00; hens, \$6.00. Order at once, stock limited. Address Chas. Dunlap, Box 31, Yreka, Cal.

FOR SALE—Large Bronze Turkey Toms from good laying hens. Also baby chicks. M. H. Taylor, Box 219, Ceres, Cal.

WHITE LEGHORN BABY CHICKS—Farris and Tanager strains. Circular free. Henry Tarratt, Corning, Cal.

FOR WHITE HOLLAND TURKEYS write J. L. Fulton, Glenn, Calif.

BOURBON RED TURKEYS—Mr. Geo. F. Smith, Hardwick, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

WHITE HOLLAND TURKEYS—A few choice purebred hens and toms. Earl V. Smith, Loma Vista Ranch, Willows, Calif.

MAMMOTH BRONZE TURKEYS, Embellish Geese and Collie Dogs for herding purposes. John G. Moo, St. Helena, Cal.

BABY CHICKS—(Thoroughbred White Leghorns). No weak ones charged for. Schellville Hatchery, Schellville, Cal.

BRONZE TURKEYS AND EGGS—Limited number of breeders. Eggs by settings, hundred or thousands. M. M. Reiman, Placenda, Cal.



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have championed the cause of high mileage. On the most rugged mountain roads they excel. Try a Norwalk and watch your mileage grow.

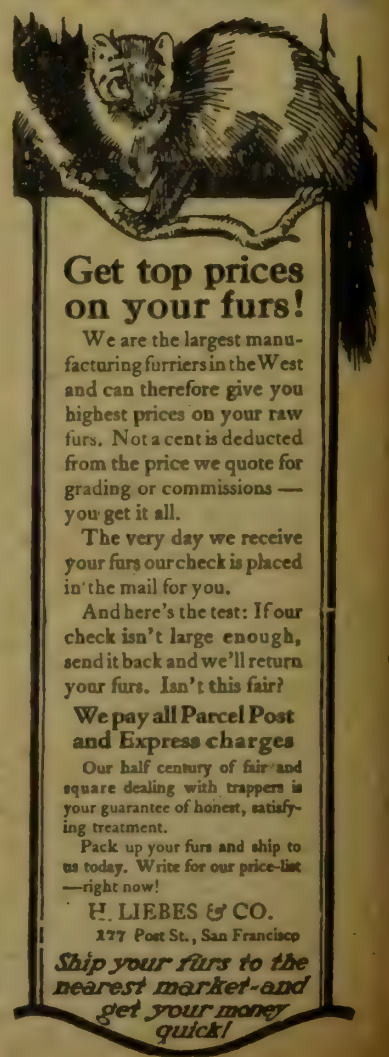
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We are the largest manufacturing furriers in the West and can therefore give you highest prices on your raw furs. Not a cent is deducted from the price we quote for grading or commissions — you get it all.

The very day we receive your furs our check is placed in the mail for you.

And here's the test: If our check isn't large enough, send it back and we'll return your furs. Isn't this fair?

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Our half century of fair and square dealing with trappers is your guarantee of honest, satisfying treatment.

Pack up your furs and ship to us today. Write for our price-list — right now!

H. LIEBES & CO.
177 Post St., San Francisco

Ship your furs to the nearest market and get your money quick!

BIG BUSINESS IN EGG PRODUCTION.

Members of the Poultry Producers of California received \$283,881.70 for their eggs during the four weeks from October 1 to 29, according to auditor's condensed financial statement of the association, dated November 29. The concern handled for its members during the four weeks covered by the report 14,378 cases of henneries, an av-

erage of 3595 cases a week. During the thirty-nine weeks from January 29 to October 29, 265,728 cases of eggs were handled, for which a total of \$3,746,224.85 was received. Total cost of operation (per cent of sales) was 5.91 per cent for the four week period and 5.15 per cent for the thirty-nine weeks. The report of operation of business follows:

Operation of Business.

	Oct. 1 to Oct. 29 4 weeks	Jan. 29 to Oct. 29 39 weeks
Total eggs handled, cases	14,378	265,728
Total operating expenses (including legal expenses and depreciation)	\$9,760.49	\$75,025.65
Total supplies (cases, fillers, etc.)	7,043.31	118,035.20
Total all expenses	\$16,803.80	\$193,060.85
Operating expenses (see above) per case	.678	.282
Cases, fillers, etc., per case	.489	.444
Total all expenses, per case	1.167	.726
Income from selling cost (2c per dozen)	\$8,940.54	\$161,247.38
Income from other sources	328.50	7,627.02
Total income	\$9,269.04	\$168,874.40
Total expenses (as above)	16,803.80	193,060.85
October income fell short of expenses by	\$7,534.76	

Cost of Operation.

	October 4 weeks	Total 39 weeks
Total eggs handled, cases	14,378	265,728
Total receipts for eggs	\$283,881.70	\$3,746,224.85
Operating cost, per cent of sales	3.43%	2.00%
Cost of cases, etc., per cent of sales	2.48%	3.15%
Total cost, per cent of sales	5.91%	5.15%

CONTROLLED PRICE OF EGGS IN GREAT BRITAIN.

According to a cablegram from the Agricultural Trade Commission at London, dated October 1, 1919, the British Food Controller resumed the control of eggs and has set the following maximum prices, per dozen: Fresh eggs, domestic or imported, wholesale \$1.04; retail, \$1.14; preserved, wholesale 83c; retail 93c; small eggs, wholesale 56c; retail 62c.

POULTRY NOTES.

The annual poultry show, to be held under the auspices of the Kings County Poultry Association, is scheduled for three days, December 18, 19 and 20. It is believed that the show this year will be one of the largest ever staged by the association. Robert V. Moore, who has a national reputation among poultry men, will do the judging during the exhibition.

Poultrymen throughout the San Joaquin Valley are giving a new interest to the raising of rabbits, with indications that many thousands will be added to the total number of breeding animals. Students of the rabbit market declare prices will be high for a number of years and that for the present at least there is no danger of an oversupply.

IS IT ROUP?

To the Editor: Can you tell me what to do for roup where sores form in the ears? I have some fine Leghorns and this disease is spreading among them. Some of them seem to entirely recover, then take a second attack. Can anything be put into the ears? The discharge forms in hard, yellow cakes. I have worked faithfully with these chickens and so far have lost none; but seem to be unable to either control or cure the disease.—R. K. H., Pomona

Unless there is that unmistakable rouncy odor, and about the mouths of these fowls, we doubt if they are suffering from roup. We are inclined to the theory that they have been fed a ration too rich in carbohydrates and fats and may not have had a sufficient amount of green feed. This unbalanced feeding results in a condition of the blood favoring the development of a form of catarrh that is not contagious. Fall weather helps to develop this complaint. If our theory is correct we advise the addition of more nitrogenous material to the ration; or to reduce the amount of the kind of feed now supplied; and using every method possible to induce the fowls to eat an unusual amount of green feed. An application of vaseline to the ears to soften the solidified discharge may be advisable but not necessary. With the chief cause of the trouble removed the fowls recover rapidly.

NOT SO BAD!

At the recent poultry show held in the Auditorium, Oakland, Chas. H. Voddan of Los Gatos, who sent seven of his Barred Plymouth Rocks, made the following winnings: First, third, fourth and fifth on cockerels. First hen—second and fifth on pullets, every bird winning. Mr. Voddan has "swept the boards" at all the poultry shows this season with his superb "Rocks." Not so bad, Mr. Voddan thinks.

COMPARATIVE POULTRY RECEIPTS.

According to a statement issued by the Bureau of Markets under date of October 30, 1919, the receipts of poultry products since July to date, as compared with the same period in 1918, were:

	1919	1918
Eggs, cases	199,297	159,851
Poultry, lbs.	499,862	603,817

BLACK TURKEYS.

A correspondent inquired in our issue of November 22d for the address of a breeder of black turkeys. Such address has been furnished us, and if the inquirer will let us know where to forward same we will do so. His letter has been mislaid.

LIKES OUR POULTRY DEPARTMENT.

To the Editor: The weekly visits of your paper are appreciated by us. Especially in the poultry department

have we been concerned, and the hints there given have been very helpful.—Mrs. A. T. M., Herald

EGGS ALL WINTER

Mrs. Charlotte Green writes: "My hens have laid all winter since giving them 'TWO for ONE.'"

World's Greatest Egg Producer

"TWO for ONE" is the marvel of all egg tonics. It is the most remarkable producer of eggs ever known to the poultry world. "TWO for ONE" is making records every day in egg production that were never before believed possible. Flock owners all over the country are amazed with the results. The most experienced poultry experts say they have never seen the like of it.

"TWO for ONE" is not a mere food. It is an egg tonic in the truest sense of the term—a scientific preparation in concentrated tablet form—the result of scientific research and experiment. Every factor entering into the matter of egg production was scientifically studied.

As a result you have in "TWO for ONE" a tonic that conditions the hen for the utmost in laying capacity—that builds muscle and bone—that stimulates active functioning of the hen's reproductive organs—that insures fertile eggs and 100% hatchings—that makes the laggard lay and increases the production of active layers. A tonic that gets more eggs for you winter and summer than you ever thought possible.

\$5000 Egg-laying Contest

Enter our \$5000.000 egg-laying contest. It's free to all users of "TWO for ONE." You not only double your egg production but you can win one of the big cash prizes we are giving every month. Full particulars in every box of "TWO for ONE."

Money-back Guarantee

Don't take our word for it. Every box of "TWO for ONE" is sold under the distinct guarantee that if you are not entirely satisfied you get your money back. Take advantage of this offer and send for a box of "TWO for ONE" today.

Only \$1.00 a box, or, our special offer of \$2.00 for large box containing as much as three \$1.00 boxes—enough for an entire season. This costs you 1-15 of a cent a day, per hen, or less than 1c a dozen for the additional eggs you will receive from your flock.

Kinsella Co., 2349 LeMoine Bldg., Chicago, Ill.

Gentlemen:—I want to increase the egg-laying ability of my hens, make more money out of my chickens and take advantage of the high prices that will be paid during the coming fall and winter. So please find enclosed \$..... for a box of "TWO for ONE" as checked below:

(Check in squares opposite size wanted.)

Small Size (Including War Tax) \$1.00 []

Large Size (Including War Tax) \$2.00 []

This order entitles me to an entry in your \$5,000.00 egg laying contest, of which you are to send me full particulars, and my money is to be returned if I am not entirely satisfied with the tonic.

Name

Address

For Sick Chickens

Preventive and curative of colds, roup, canker, swollen head, sore head, chicken pox, limber neck, sour crop, snuffles, bowel trouble, etc. Mrs. T. A. Mosier of Calver, Mich. says: "Have used Germoxone 17 yrs. for chickens and could not get along without it." Geo. F. Vickerman, Rockdale, N. Y., says: "Have used Germoxone 12 years, the best for bowel troubles I ever found." Frank Sluka, Chicago, Ill., writes: "I have lost but 1 pigeon and no chickens in the 3 yrs. I have been using Germoxone." C. O. Petrain, Moline, Ill.: "I never had a sick chick all last season." Bernard Horning, Kirksville, Mo., says: "Cured my puniest chicks this spring." Ralph Wurst, Erie, Pa., says: "Not a case of white diarrhea in 3 yrs. I raise over a thousand a year." Good also for rabbits, birds, pet stock.

GERMOXONE is sold generally at drug and seed stores. Don't risk a substitute. We mail from Omaha postpaid in new 25c, 75c and \$1.50 sizes. Poultry books free.

Geo. H. Lee Co., Dept. 428, OMAHA, NEB.

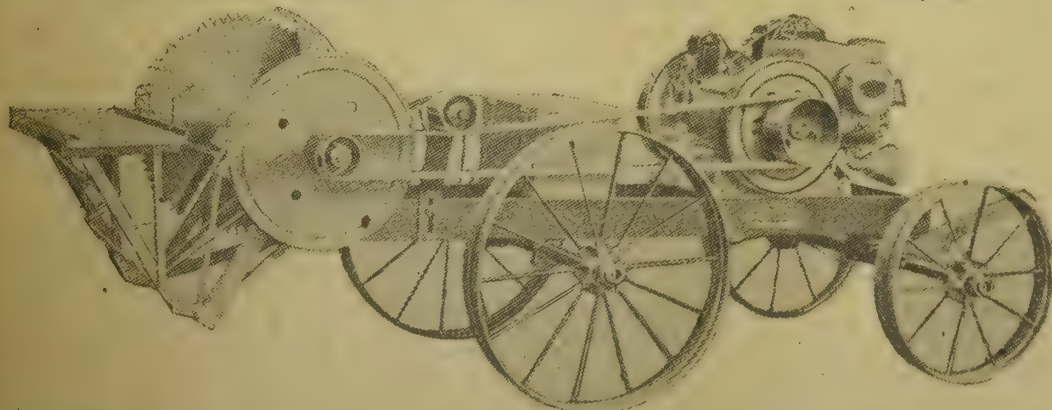
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LOS ANGELES

THE HOME CIRCLE

A PARENT'S PLEA.

My little boy is eight years old,
He goes to school each day;
He doesn't mind the tasks they set—
They seem to him but play.
He heads his class at raffia work,
And also takes the lead
At making dinky paper boats—
But I wish that he could read.

They teach him physiology,
And, oh, it chills our hearts
To hear our prattling innocent
Mix up his inward parts.
He also learns astronomy
And names the stars by night—
Of course he's very up-to-date,
But I wish that he could write.

They teach him things botanical,
They teach him how to draw;
He babbles of mythology
And gravitation's law;
The discoveries of science
With him are quite a fad,
They tell me he's a clever boy,
But I wish that he could add.

—Peter McArthur.

ANNUAL MEETING SAN JOAQUIN CO. FARM BUREAU.

(Written for Pacific Rural Press.)

To those unfortunates who have never lived in the country; who have thought that such a life meant a different attitude toward life in general; who have believed that the farmer's wife must have different interests and accordingly must of necessity be of a different type from the city dweller—to these with their narrow outlook, the annual meeting of the Farm Bureau of San Joaquin County at Lodi must have been a revelation. In addition to the officers of the Farm Bureau centers of the county and the County Home Demonstration Agent, Miss Doris Daniels, many guests were present, the most distinguished being Miss Harriet G. Eddy, of Berkeley, who has charge of the Home Demonstration Department for California, and Miss Frysinger of Washington, D. C., one of the agents of the Federal Home Demonstration Department.

Interested in the Millinery.

Except that the flush of the cheek was induced by nature's rouge, and the sparkle of the eye was in response to the great, shining out-of-doors, in appearance the gathering might have been any up-to-date woman's club of any city. When the two-minute reports from the various centers were given, in almost every case the millinery work done under the direction of an instructor from the University of California was reported. Involuntarily the eye of the outsider rested with critical gaze upon the headwear, first collectively, then individually. But no one would ever have suspected that many of these modish creations were the work of the wearers, and, in not a few cases were made from old materials, with just the needed touch to give individual distinction.

Topics Considered.

Among the topics which have been most generally adopted for consideration and study are those of landscape gardening, with an expert from the University as director; poultry-raising, under a nation-wide authority; and food, textiles and clothing each considered under various subdivisions, with the county agent as instructor.

Utilizing the home-made fireless cooker for making ice-cream and ices, operating iceless refrigerators, creating a home market through the sale

and exchange department, arousing the interest of the girls by forming cooking and sewing clubs, serving the social needs of the community—each of these was taken up in turn.

Miss Daniels stated that in the county eight centers are working on fly-control, five upon clothing projects, four upon food, four upon landscape gardening, and three upon community needs along social lines. "Of course," she explained, "each center is devoting some time to other work as well as to the particular feature upon which it is specializing."

At the Luncheon Table.

After the election of officers, which resulted in placing in the chair for the next year Mrs. C. Webb of Lodi, the men of the Farm Bureau and the women of the Farm Home Department met together at luncheon in the Hotel Lodi. Here the reports of the chairmen of the Farm Bureau centers were briefly made.

Mrs. Castle reported that over two thousand women of the county had been reached through the work of the Farm Home Department and had been awakened to the possibilities just about them.

Women Should Displace Orientals.

Miss Alice Phillips of the Woman's Land Service described the work of that organization and appealed to the farmers to allow women, so far as possible, to take the place of Orientals on the farm. She told of highly satisfactory results wherever the women have served.

Miss Frysinger was one of the main speakers of the afternoon. Some of her epigrammatic sentences follow: "The work of the Farm Bureau is to produce happiness in the people." "The Farm Bureau is not established for men or for women, but to help solve the problems of men and women." "Whatever affects the interests of the farm as a whole affects the women on the farm." "Women can get some things that men can't. In Nevada, after the men had given up, the women got the State engineer started on a dam." "Good roads are for the use of women as much as for men, and it is as much woman's work as man's to get them."

UNIVERSITY EXTENSION STUDIES ON THE FARM.

With the coming of the winter season, the indoor time for farming folk, the Extension Division of the University of California has selected a special list of subjects which may be studied by mail on the farm under the direction of the University instructors at Berkeley.

To the farmer's wife, the Extension Division of the University of California offers a number of excellent courses. Since a baby is nearly always an institution on a ranch, the course on the feeding of infants and children which the Extension Division offers, should be welcomed eagerly. The course deals with the diet of the expectant and the nursing mother and with the diet of children from birth to twelve years of age. Suggestions are also given on planning the family meal and making up the family budget. Special advice is offered on the feeding of school children. Another course given deals with the mental and moral development of children from birth to twelve years of age, a valuable study especially for the rural mother who has not the opportunity the city may afford for child study information.

California women have responded particularly to the opportunity of-

fered by the University for learning millinery and sewing by correspondence. These courses are particularly practical, the student working on model articles from which they can readily acquire the knowledge necessary to make hats and garments for themselves.

Other courses particularly for the men folks on the farm include Electricity for Rural Use; Elementary Hydraulics; Care of Gasoline Automobiles, and others.

The University of California Extension Division, room 301 California Hall, Berkeley, is always ready to give full information on all the study subjects to persons applying.

NO SUGAR FOR THIS SWEETENING.

No sugar is required to make a delicious syrup from apple juice for use on hot cakes this winter, or for beverages next summer, or to sweeten cookies or desserts.

Add 5 ounces of powdered calcium carbonate to 7 gallons of apple juice or sweet cider. Calcium carbonate is the chemical name of powdered chalk and can be obtained at drug stores. Boil the mixture in a kettle or vat vigorously for five minutes. Pour the liquid into vessels, preferably jars or pitchers. Allow it to stand 6 or 8 hours, or until perfectly clear. Pour the clear liquid into a clean preserving kettle. Add to this liquid one teaspoon of calcium carbonate; stir thoroughly. Boil rapidly (220 degrees F.) until the bulk is reduced one-seventh of the original volume, or about one gallon to each seven of the quantity first used. The syrup should then have, when tested in cold water, the consistency of maple syrup. Pour into jars or pitchers, and cool it very slowly.

Pour the syrup into fruit jars, cans, jugs, or kettles. Boil in water bath 10 minutes; in a steam-pressure cooker with 5 pounds 8 minutes.

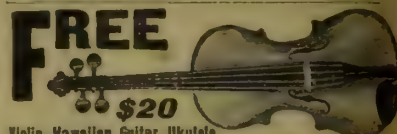
Remove containers and tighten covers or corks. Invert to cool and test joints. Store for winter use.—United States Department of Agriculture.

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SOUTHERN HOMINY RECIPE.

Editor Home Circle: Will you please give a recipe for making lye hominy through the columns of the Press?—H. W. K., Napa.

The following is an old Southern recipe for lye hominy: Make a lye strong enough to eat a feather when boiling hot. Take dry corn well washed and looked over and put into the boiling lye. When the hull is eaten off and the eyes begin to come out, take it out and put into cold water. Wash in several waters to get the hulls off. Return to a clean pot, allowing room for increase in bulk. Boil till done. Salt. Eat in milk or fry in pork gravy.



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A Schilling & Co San Francisco

HOME PICKLING OF RIPE OLIVES.

(Revised September, 1919, by Prof. F. T. Bioletti.)

These directions are suitable for preparing small quantities for home use.

1. Gather the fruit carefully by hand, without bruising. It is best when cherry red or just turned black. When green, it lacks flavor and oil and when over-ripe, it is too soft and the skin is tough. Soft, shriveled, or frost-bitten olives are unsuited for pickling.

2. Place the olives in an open vessel of glass or earthenware, or a wooden bucket or barrel. Metal vessels should not be used. A wooden cover to fit loosely inside the vessel on top of the olives will prevent the spotting of any olives which float.

3. Make a lye solution of three ounces (three tablespoonfuls) of soda lye to a gallon of water or approximately one pound to five gallons.

4. Cover the olives with this solution, keeping them submerged by means of a wooden cover. Stir and examine the olives every hour. As soon as the skin changes color, cut an olive occasionally to note by the discoloration of the flesh how far the lye has penetrated.

5. When the lye has gone through the skin but only a very short way into the flesh, pour it off into another vessel. This will be in from three to eight hours, according to the olives and the temperature.

6. Expose the olives to the air until the color is darkened and equalized. They should be stirred frequently while exposed. To make them all black requires from one to three days or more, but the flavor is better if not exposed too long.

7. When the desired color is attained, replace the old lye by fresh lye and leave with frequent stirring until it has penetrated to the pit. It must reach the pit or the olives will be bitter, but if left long after reaching the pit, the flesh will be softened and the color bleached.

8. Replace the lye with water which should be changed twice daily, until all taste of lye is removed—about five to seven days.

9. Then place for twenty-four hours in a brine of five ounces (five tablespoons) of salt to a gallon of water.

10. Then heat olives and brine to boiling and pour hot into scalded jars or cans. Cover and seal and place in a pot or washboiler sterilizer and heat for one hour.

N. B.—Certain olives, such as Manzanillo, darken easily when aerated even if they are somewhat under-ripe. Others, such as Mission, will not darken if under-ripe unless exposed for a very long time. Over-exposure injures the flavor. It is better to be satisfied with imperfect color than defective flavor.

Before sterilizing under "10" the brine may be poured out of the jars or cans which are then sealed immediately while still hot and sterilized as above. They keep quite as well without the brine.

Very large or over-ripe olives may soften or blister with this process. To prevent softening, add a little salt (about as much as the lye used), to the lye solution. If the olives commence to soften, remove them to a 3 per cent salt solution (1 lb. salt to 4 gals. water) for 24 hrs. To prevent blistering use repeated treatments with a lye solution of half-strength. Very bitter olives, such as Mission, Manzanillo and Sevillano, require more lye treatment than those with less bitterness, such as Ascolano and Columbella.

LEMON CREAM PIE.

Cream 1 tablespoon of butter with a cupful of sugar. Dissolve a heaping tablespoon of corn starch in a little cold water. Stir over the fire until smooth, then add the butter and sugar. Mix well and remove from the fire. When it is cool, add the juice and grated rind of one large lemon and a well beaten egg. Line a pie plate with good pastry dough. Pour in the mixture and bake. When done, cover with meringue and return to oven to brown. Cook slowly.



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Hanes Union Suits for Boys If you're keen to keep the little fellows warm and snug this winter, put them into Hanes Union Suits—the very finest underwear for boys we ever saw near the price. They stand the roughest wear and the hardest wash and give the greatest warmth and comfort. They are practically the same as the men's union suits—all the desired features—with added fleeciness. Don't delay your buying. If your dealer can't supply you write us at once.

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Market Comment

Citrus Growers Win in Rate Case.

The California Citrus League has won its case before the Interstate Commerce Commission examiner, sitting in Los Angeles, for a reduction in orange shipping rates. According to the text of the decision, a charge of \$1.08 is set for blanket territory between the Rocky Mountains and Buffalo-Pittsburg. East of the latter line the rate will be \$1.35. This compares with the former charge of \$1.15 and \$1.44 per box. The decision also awards reparation to the orange growers for all excess charges over \$1.08 paid for two years prior to March 23, 1919. These refunds, it is stated, will amount to about \$25 per car. The total to be returned will exceed \$1,000,000. The case is yet to be reviewed by the Interstate Commerce Commission in Washington.

Heavy Shipment of Emperors.

Twenty-two cars of Emperor grapes containing 12,000 drums which have been in cold storage for weeks, were shipped recently from Fresno by the Earl Fruit Co., destined for the holiday trade in the East. The Eastern markets are offering \$6 a drum now, f. o. b. Fresno, for Emperors of this quality. Fred J. Johnson, representative of the Earl Fruit Co. at Fresno, said: "There is a shortage of Emperors, and European grapes are not arriving to any extent on the Eastern markets, and by the time this shipment arrives in New York it will find the market practically bare of California fruits."

Rice Scores a Record Rise.

An advance in the price of rice to a basis of \$6.30 per hundred pounds for fancy No. 1 California sweet rice was the feature of the Sacramento Valley market news last week. The advance came when bids were received for 30,000 bags by the Pacific Rice Growers' Association. The advance is said to be due to the wants of Southern buyers and the demand for rice for export. The Southern rice crop was severely damaged by storms this year, and the shortage in the South is placed at 1,500,000 bags under the forecasted crop. The harvest is ended and all rice is under cover.

Pomegranates Pay Well.

The Tulare County Citrus Fruit Exchange shows that the 1919 pomegranate crop was the most profitable in the history of the industry. The exchange figures show that the high mark for this fruit was \$3.72 per half-box, about \$1 per box over the previous record of last year. For the season, returns were \$2.72 per box, the highest average to date.

Cherry Growers Organize for Selling.

As a result of the low prices in the East this season, the California Co-operative Canneries were induced to can cherries for the growers. An average price of 12½ cents a pound was paid to the growers for all the Royal Ann cherries packed. The growers are now carrying on organization work with a view to handling their own crop next year.

Peach Growers to Sell Surplus.

The manager of the California Peach Growers gives out the information that there is not to exceed 1,000 tons of peaches after filling orders on hand, and the board of directors is authorized to sell this surplus at prevailing prices.

Hops Contracted at 30c and 36c.

Contracts filed for record in Sacramento last week showed purchases of hops in the Sacramento County districts at prices ranging from 42 cents for 1920 hops to 30 cents for 1922 hops. The average shown by the contracts was 36 cents.

Celery Soars with the Rest.

Record prices are being obtained by the vegetable growers of Superior California this year. The California Vegetable Union reports heavy celery shipments from Walnut Grove and Antioch, and that prices are higher than those of last year.

THE MARKET REPORTS

SAN FRANCISCO.

San Francisco, December 10, 1919.

BARLEY.

Brewing and shipping barley, of which there are not large quantities on the market, advanced somewhat this week. The feeding description is unchanged with a fair demand for immediate delivery. Buying of feed barley, however, is mostly in small quantities.

Feed \$3.40 @ \$3.50
Shipping \$3.55 @ \$3.60

OATS.

Red feed advanced this week in sympathy with the continued strength in barley. There is very little of the seed description on the market at present, and a considerable demand would advance its quotations materially.

Red feed, per cwt. \$3.10 @ \$3.25
Red for seed Nominal
Black for seed \$3.25 @ \$3.50
Recleaned Red or Black for seed Nominal

CORN.

California yellow corn developed considerable weakness on account of the lack of demand. Continued rains and the development of green feed will probably send the price of corn to a lower level.

California \$3.40 @ \$3.50
Egyptian, choice \$3.40 @ \$3.50

HAY.

Receipts of hay this week were 1,002 tons compared with 874 last week. These receipts were about equally divided between water and rail shipments, but the rail shipments as for the past few weeks have been exclusively for Government account. The car situation throughout the State continues in a deplorable condition and there seems to be small chance for relief in the near future. The general rains which still continue have come in the nick of time and their value cannot be overestimated. This is especially true to stockmen, as all feed on the ranges was practically gone. It is believed as a result of the rains a considerable amount of hay which otherwise would have been used for feeding stock will be used for other purposes and an active market for this hay could be developed if cars were available.

No. 1 Wh. sk. or Wheat & Oat \$21.00 @ \$25.00
No. 2 Wheat, or Wheat & Oat \$20.00 @ \$22.00
Choice Tame Oat Hay \$23.00 @ \$26.00

Wild Oat Hay \$19.00 @ \$22.00
Barley Hay \$19.00 @ \$23.00
No. 1 Alfalfa Hay \$21.00 @ \$26.00
Stock Hay \$21.00 @ \$26.00
No. 1 Barley Straw, per bale 50 @ 80

FEEDSTUFFS.

The feedstuff market is stronger, although purchases have not generally been in large quantities. It is evident that consumers are buying from hand to mouth, while awaiting the development green feed on the ranges. The number of purchases, however, is large and prices of rolled oats and rolled barley advanced in consequence. In consequence, cracked corn quotations fell away in sympathy with the decline in California.

Roller Oats \$66.00 @ \$68.00
Roller Barley \$70.00 @ \$72.00
Cracked Corn \$79.00 @ \$81.00
Alfalfa Products \$38.00 @ \$45.00

POTATOES, ONIONS, ETC.

Potatoes are strong at higher prices. There is a shortage of both potatoes and onions in the State, according to dealers, due to a short crop, and this situation is not helped by the lack of transportation facilities in many places. While it is believed that prices of both may fall away somewhat about the holiday season, higher prices are predicted for after the first of the year. According to statements made the crop of root vegetables this year has not been up to normal, and this always influences the late winter and early spring prices of potatoes and onions. The tone of the general vegetable market has been quiet during the past week.

String Beans, lb. 12 @ 15c
Peas, lb. 15 @ 25c
Carrots, per sack 75c @ \$1.00
Celery, crate \$5.00 @ \$6.00
Cucumbers, box Nominal
do, Hothouse \$2.00 @ \$3.00
Lettuce, per crate \$2.25 @ \$3.00
Tomatoes, Stone \$1.00 @ \$1.50
Hubbard Squash, sack \$1.25 @ \$1.50
Pumpkins, sack 75c @ 1.00
Potatoes, River fancy, cwt. \$3.25 @ \$3.50
do, Choice, cwt. \$2.75 @ \$3.25
do, Salinas, cwt. \$4.00
do, Oregon Gem, cwt. \$3.75 @ \$3.90
do, Oregon Burbank, cwt. \$3.40 @ \$3.60
do, Idaho Gem, cwt. \$3.50 @ \$3.75

Special Livestock Market Report

San Francisco, Dec. 10, 1919.

CATTLE—The cattle market seems to be recovering from its recent somewhat alarming decline, and prices are reaching higher levels again. This week's quotations denote an upward movement. The bulk of the cattle now coming in is from Nevada and Northern California, and the supply is not overabundant. In the East the cattle market is somewhat erratic with an upward tendency.

Steers, No. 1, 1000-1200 lbs. 10½ @ 11½c
do, No. 1, 1200-1400 lbs. 10½ @ 10½c
do, 2nd quality 9 @ 9½c
do, thin 7 @ 8c
Cows and Heifers, No. 1 8½ @ 9½c
do, 2nd quality 7½ @ 8c
do, thin 4 @ 6c
Calves, Lightweight 12½ @ 13c
do, medium 11 @ 12c
do, heavy 8 @ 10c

HOGS—The hog market shows signs of recovering from the late decline, following unusually heavy receipts. With the exception of very lightweights quotations have been moved upward. Too much soft stuff is arriving. The Eastern market is unstable.

Hogs, hard, grain-fed, 100 to 150 lbs. 14½c
do, 150 to 225 lbs. 16c
do, 225 to 300 lbs. 15c
do, 300 to 400 lbs. 14c

SHEEP—The mutton sheep market is improving. Demand is better and supply continues to be limited to feed lots mainly. Quotations are fractionally higher.

Lambs, yearling 10 @ 11c
do, milk 12 @ 13c
Sheep, wethers 9 @ 10c
do, ewes 6 @ 6½c

Los Angeles, Dec. 9, 1919.

CATTLE—Steers are steady and in fair demand. Cows dull and quoted lower. Receipts only fair.

Per cwt. f. o. b. Los Angeles:
Beef steers, 1000 to 1100 lbs. \$9.50 @ \$11.00
Prime cows and heifers \$8.00 @ \$9.50
Good cows and heifers \$7.00 @ \$8.50
Canners \$4.50 @ \$5.00

HOGS—Prices remain unchanged. Receipts are good but market is weak with fair demand reported.

Per cwt. f. o. b. Los Angeles:
Light \$14.00 @ \$16.00

Heavy average 225 to 275 lbs. \$13.00 @ \$14.00
Heavy average 275 to 350 lbs. \$11.00 @ \$12.50
Rough docked 20 lbs. piggy cows 40 lbs. and stags, 40 per cent.

SHEEP—Lambs are in good demand and quoted lower this week. On sheep the market is dull.

Prime wethers \$8.50 @ 9.50
Yearlings \$8.50 @ 9.50
Prime ewes \$8.00 @ 8.50
Lambs \$12.00 @ 13.00

Portland, Ore., December 8, 1919.

CATTLE—Steady; receipts, 2317. Steers, best, \$9.50 @ 10.50; good to choice, \$9.00 @ 9.50; medium to good, \$8.00 @ 9.00; fair to good, \$7.00 @ 8.00; common to fair, \$5.50 @ 6.50; choice cows and heifers, \$8.50 @ 9.00; good to choice, \$7.00 @ 8.50; medium to good, \$5.50 @ 7.00; fair to medium, \$4.00 @ 5.50; canners, \$3.00 @ 4.00; bulls \$5.00 @ 7.00; prime light calves, \$12.50 @ 14.00; heavy, \$7.00 @ 12.00; stockers and feeders, \$8.00 @ 9.25.

HOGS—Lower; receipts, 2175. Prime mixed, \$15.50 @ 15.75; medium, \$14.00 @ 15.50; rough heavies, \$13.00 @ 14.00; pigs, \$12.50 @ 14.50.

SHEEP—Higher; receipts, 1488. Eastern lambs, \$13.00 @ 13.50; valley, \$11.00 @ 13.00; feeders, \$10.00 @ 11.50; yearlings, \$9.50 @ 10.00; wethers, \$9.00 @ 9.50; ewes, \$6.50 @ 7.50.

DRESSED MEATS.

M. & L. prices are:
Steers, prime small 16½c
do, heavy 16c
Cows 12½ @ 14c
Lambs, Spring, light 23c
do, heavy 19c
Wethers, light 18c
do, heavy 17c
Ewes 12 @ 13c

Western Meat Company prices are:
Steers, No. 1 15½ @ 16½c
2nd quality 15 @ 15½c
Cows and heifers 13 @ 15c
Calves (as to size, etc.) 15 @ 22c
Lambs, Suckling 22 @ 23c
do, yearling 19 @ 20c
Sheep, wethers 16 @ 18c
do, ewes 14 @ 15c
Hogs 23 @ 24c

Special Citrus Market Report

Los Angeles, Dec. 8, 1919.

There still remains on the market about 1200 cars of Valencia's yet to be shipped. Best grades are quoted at \$4.60 per box f. o. b.; other grades, \$4.10 down to \$3.85, according to quality and district. It probably will be a great advantage to the orange growers that the Valencia crop is late, as it places an available supply of California oranges at the disposal of the Eastern trade for holiday use. Up to date Central California districts have shipped 1,516 cars of navels this season, as against 1,181 cars to the corresponding date last season. F. O. B. California, quotations range from \$4.35 to \$3.85 for Tulare county navels, depending upon size. Shippers, principally from Hemet, Riverside, and the Redlands district, have been enabled to get out a good supply of fruit on holiday orders so far, due to the good refrigerator car supply. As the packers and shippers of Orange county are still busy with the Valencia's they will ship practically no holiday navels.

Foreign lemons are now arriving at Eastern ports in quantity, and it is reported that between 30,000 and 35,000 boxes will be available for sale during the next 30 days. The local market is good for medium-sized fruit.

The total shipments of cars of oranges from Southern California to date were 2,320 and 407 cars of lemons, while from Central California, 1,516 cars of oranges and 76 cars of lemons were sent out.

do, Sweets, new, lb. 4 @ 4½c
Onions, Brown, sack \$4.75
do, Yellow, sack \$4.50
Garlic, lb. 20 @ 22c

BEANS.

Although it cannot yet be called active there was a better demand for beans this week and prices for bayos, Mexican reds and small whites of the new crop were advanced. The Lima bean association also raised the prices of limas to \$14.75, although this variety was not in large demand at the former price. No local sales of limas are reported at the advanced price, which in comparison with the prices of other beans is considered too high by the local dealers.

Variety	Old crop	New crop
Bayos	\$7.00 @ 7.25	\$9.25 @ 9.50
Blackeyes	\$5.75 @ 6.00	6.25 @ 6.40
Crabapple	\$6.00 @ 6.25	7.25 @ 7.75
Pinks	\$5.50 @ 5.75	6.15 @ 6.40
Red Mexican	\$5.00 @ 5.75	7.50 @ 7.75
Tepary	\$2.50 @ 2.75	
Garbanzos		9.50 @ 10.00
Large Whites	\$5.25 @ 5.50	6.10 @ 6.25
Small Whites	\$6.00 @ 6.25	6.40 @ 6.50
Limas		\$14.75
do, Baby		13.00

POULTRY.

Receipts of poultry during the past week have been comparatively heavy. Prices have been well maintained and the demand has been excellent. On account of the rain it is anticipated that arrivals in this market will be comparatively light during the next week, and fryers, young roosters, ducks and geese are expected to sell at the top quotations given below. In fact the quotations on these varieties mentioned sold most of the past week at from 1 to 2 cents below the top quotations given and the use of these figures this week is more or less anticipatory of next week's prices.

The demand for turkeys has been light, but next week this will show decided increase in anticipation of the holiday. It is predicted that turkeys will not reach the high level for Christmas that they reached at Thanksgiving time, as the supply will be much heavier, and as there will be no general holiday following closely the stock must be sold or sent to storage, or the risk taken of holding for a higher market.

Broilers, 1½ lbs. under 36 @ 40c
do, 2 to 3 lbs. 32 @ 36c
Fryers, 2 to 3 lbs. 33 @ 34c
Hens, extra, per lb. 34 @ 35c
do, Leghorns 30 @ 33c
Smooth young roosters, per lb. (3 lbs. and over) 32 @ 33c
Old Roosters, colored, per lb. 22c
Turkeys, dressed, young spring, lb. 48 @ 50c
do, live 45c
Geese, young, per lb. 30 @ 32c
do, old, per lb. 28 @ 30c
Squabs, per lb. 60 @ 65c
Ducks, young 32 @ 34c
do, old, per lb. 30c
Belgian hares, live, lbs. 16 @ 20c
do, dressed 22 @ 25c
Jack Rabbits \$3.50 @ \$3.60

BUTTER.

The butter market was firm this week with practically no change, the week's fluctuation being only one cent. Considerable butter is coming out of storage, but balances on hand show nearly 400,000 lbs. more than last year at this time. This will last for about four months at present rate of withdrawal from storage.

Extra	Thurs.	Fri.	Sat.	Mon.	Tu.	Wed.
.....	63½	63½	63½	64	64½	64½

EGGS.

Extra eggs took another sensational tumble today reaching 73½ cents with the commission deducted. This is 11½ cents below the high for the season and 9½ cents below the close of a week ago. A peculiar thing about today's drop is that it is in the face of a steady to strong market in the east and light receipts locally. Another peculiar thing about the drop which extended to both extra pullets and undersized was that storage eggs still sold at 60 cents. The most plausible explanation of the decline in extra prices is the car shortage which is making it difficult to obtain cars for any purpose. With the settlement of the coal strike and resumption of normal railroad service it may be possible for points of production to make further eastern shipments, and in that event a rapid increase in price may be anticipated. Regarding present prices it will be noted at a week ago there was 14 cents difference between extras and pullets, while today there is 6½. This is more nearly the usual differential between the two descriptions than has existed for some time, and if shipments can not be made to eastern markets about this difference in prices will be maintained.

Extras	Thurs.	Fri.	Sat.	Mon.	Tu.	Wed.
.....	81	81½	80½	80½	78	73½
Ex. pullets 70	71½	70	71	71	72	67
Undersized, 66½	67	67	67½	67½	67½	67½

CHEESE.

Trading was light in cheese this week, although there were slight advances in both fancy flats and fancy Y. A. The Oregon descriptions showed no changes during the week.

California Flats, fancy 30c
do, Firsts 27c
Y. A. Fancy 35c
Oregon Triples 30½c
do, Y. A. 34c

FRESH FRUITS.

There was a fairly active market for fresh fruits with apples as the leaders. California pippings sold somewhat lower, but otherwise there were no changes. Pears were weak and sold at lower prices this week. There were also somewhat lower prices on grapes, persimmons and pomegranates.

Apples, Jonathan, Oregon \$2.50 @ \$3.00
do, Spitzenberg, Oregon \$3.50 @ \$3.50

do, Bellflower	Nominal
do, Pippins, Calif.	\$2.00@2.25
do, Lady, Calif.	\$3.50@4.00
Quinces	\$1.00@1.50
Pears	\$1.50@3.00
Grapes	\$2.00@2.25
Persimmons, box	\$1.25@1.75
Pomegranates, 1/2 orange box	\$1.50@2.00

CITRUS FRUITS.

The Valencia season is rapidly drawing to a close, for with an abundance of navel in the market there is later demand for Valencias. It is likely that a bulk of the stock in this city will be shipped east and disposed of. There was no change for the best navels, although some grades sold as cheap as \$3.50.

Oranges, Valencias	\$3.00@4.50
do, Navels	\$3.50@5.00
Lemons, fancy	\$5.00@5.50
do, choice	\$4.00@4.50
do, standard	\$3.00@3.50
Grapefruit	\$2.50@3.00
Mandarin, box	\$2.00
Tangerines	\$2.50@3.00

DRIED FRUITS.

The temporary activity of last week in dried fruits has passed and left the market quiet but firm at previous quotations. This is the usual quiet season in dried fruits and the present may be said to be a normal market.

Apples	17@18c
Pears	16@18 1/2c
Apricots	21@28c
Prunes	11@13c
Figs, Adriatic	12@18c
do, Calimyrna	15@21c

HONEY.

While there is a continued fair demand for honey in this market the association decided to lower the prices somewhat in light amber and amber. While these concessions range from 1/2 cent to 1 cent they give evidence of an effort to clean up the stocks of these descriptions.

Water White	18@20c
Light Amber (Mountain)	15 1/2@17c
Amber (Alfalfa)	14 1/2@15 1/2c

RICE.

There is little change in the rice situation. Probably more than half the California crop of clean rice has been sold and the mills are running full blast. For this reason it is expected that the millers' season will end earlier than last year, and the entire crop will probably be disposed of by April.

It is the fashion these days to kill gophers and squirrels with poisoned grain. This is a mighty good fashion, but those who have a surplus of the grain stored should be very careful to have it in a place that is safe. A Tulare County farmer recently lost two horses and 5 good brood sows by their gaining access to such poisoned grain. Be sure it is where children or animals cannot get to it in any way.

Nearly 600 acres of asparagus have been contracted to be planted on land recently sold to R. R. Bellingall by the California Delta Farms of Contra Costa county. The upper six inches of soil are to be run through a steaming machine to kill weed seeds and insects.

LOS ANGELES.

Los Angeles, Dec. 9, 1919.

BUTTER.

Prices steady and unchanged since last week. Market reports demand good and receipts slightly above those of a week ago, being 253,000 lbs.

Fresh, California extra creamery	67c
do, prime first	65c
do, first	64c

EGGS.

Case counts decline 2c on the dozen while pullets advance 2c. Fresh ranch unchanged. Receipts little under last week. Demand is very good. Receipts for the week, 463 cases. Fresh ranch, extras

do, case count	77c
do, pullets	64c

POULTRY.

Broilers show a decline in price of 6c. All other prices are the same as quoted last week. The demand is somewhat lighter on almost everything, and receipts are fair.

Broilers, 1 to 1 1/2 lbs.	40c
Broilers, 1 1/2 to 1 3/4 lbs.	40c
Fries, 2 to 3 lbs.	29c
Hens	31@33c
Roosters (soft bone), 3 lbs. and up	29c
Stags and old roosters, per lb.	19c
Turkeys	35@37c
Ducks	25@33c
Geese	25c

FRUITS.

Apples now make up pretty much the offerings and there is a splendid demand for them. Grapes, pears and quinces are now out of the market, except those remaining in cold storage. Prices are firm and receipts fair. Japanese Persimmons, lb. 8@14c. Apples—Bellflower, 4 tier \$1.75@1.80. do, Jonathan, packed box \$2.75@3.00. do, Red Parnell, packed box \$1.75@1.85. do, White Parnell, packed box \$2.00@2.25. do, Yellow Newtown Pippins, pkd box \$2.00@2.25. do, Spitzenburg, packed box \$3.00@3.50.

VEGETABLES.

String beans, lima beans and tomatoes will soon be off the market, frost having killed the vines. Potatoes and onions are higher and in very good demand. Cabbage and cauliflower firm and selling fairly well. Celery also in demand and prices steady.

Potatoes, Northern Burbanks	\$3.50@3.75
do, Idaho Russets, cwt.	\$3.50
Sweet Potatoes	\$2.25@2.50
Onions, Stockton, yellows, cwt.	\$3.85@4.00
do, White Globe, cwt.	\$3.75@4.00
do, Australian Brown	\$4.50@4.60
Cabbage, per 100 lbs.	\$2.50@3.00
Lettuce, crate	\$2.00@2.25
Rhubarb, per 30-lb. box	70c@1.25
Summer Squash, lug	\$1.50@1.75
Peas, per lb.	12@17c
Cucumbers, local, lug box	\$1.00@3.00
Peppers, Bell, lb.	6@8c
Casabas, lb.	1 1/2@2c
Celery, crate	\$4.00@4.25
Cauliflower, crate	\$2.00@2.25

BEANS.

Very little doing in this market. All prices the same as quoted last week.

Limas, per cwt.	\$12.00
Large white, per cwt.	\$6.25
Small white, per cwt.	\$6.50
Blackeyes, per cwt.	\$5.00@5.25
Tepary, per cwt.	\$3.00@3.25
Pink, per cwt.	\$6.25

HAY.

Receipts are light with good demand reported. All prices show sharp advance over last week's quotations.

F. o. b. Los Angeles	
Barley hay, ton	\$24.00@28.00
Oat hay, ton	\$27.00@30.00
Alfalfa Northern, ton	\$29.00@31.00
Alfalfa local, ton	\$32.00@34.00
Straw	\$14.00@16.00

Report of California Farm Bureau Marketing Ass'n Hog Sales.

Tegner, Dec. 2, 1919.

No.	Av. Wgt.	Price	Buyer
86	195	\$15.00	Cudahy Pkg. Co.
4	300	14.50	Cudahy Pkg. Co.
64	149	13.75	California Dressed
45	191	13.75	Beef Company
5	345	12.25	Beef Company
22	113	12.00	Siem & Son
6	116	12.50	Siem & Son

Hanford, Dec. 3, 1919.

80	202	\$14.50	Wilson & Co.
76	244	14.10	Wilson & Co.
82	204	14.25	Wilson & Co.
15	156	14.20	Wilson & Co.
62	234	14.70	Wilson & Co.
42	160	13.00	J. D. Biddle
4	127	12.50	J. D. Biddle
18	364	12.00	J. D. Biddle
6	485	11.50	J. D. Biddle
30	196	\$14.00	Hammond

Fresno, Dec. 5, 1919.

9	340	13.25	Wilson & Co.
40	230	14.25	Wilson & Co.
68	236	14.30	Wilson
7	221	10.00	F. Hammond
17	89	12.10	F. Hammond
6	451	12.00	F. Hammond
38	167	14.00	F. Hammond

Mendota, Dec. 5, 1919.

50	192	\$14.35	Wilson
65	195	14.35	Lewis & McDermitt
16	352	12.35	Lewis & McDermitt
38	274	13.10	F. Hammond

Wasco, Dec. 6, 1919.

58	175	13.25	Wilson
5	168	13.25	Wilson
27	171	13.25	Wilson
21	229	13.60	Wilson
23	184	13.35	Wilson
13	368	11.10	Wilson

SANTA CLARA WATER CONSERVATION MASS MEETING.

At a well attended meeting of the Board of Trustees of the Farm Owners' and Operators' National Association (Santa Clara Unit), December 6, it was decided to hold a mass meeting of the growers of the valley Saturday afternoon, December 20, at 2 o'clock. Senator Herbert C. Jones has been secured to address this meeting and another well-informed speaker will be present to give information on the subject of irrigation and drainage as handled by the federal government. All farmers, whether members of the Farm Owners' and Operators' Association or not, are invited to attend this mass meeting, and any suggestions they may have to offer or questions they may wish to ask will be welcomed. The meeting will be held in the San Jose Chamber of Commerce Convention Hall.

INCREASE IN WOOL IMPORTS.

Imports of wool during the five-year pre-war period, 1910-1914, averaged 207,583,742 pounds annually, or something less than half the present imports, according to official announcement. As the population of the United States has been increasing so have the imports of wool. For the fiscal year ending June 30, 1918, this country imported 379,129,934 pounds. During 1919, the total importation amounted to 424,414,644 pounds, or more than double the pre-war average. From January to August, inclusive, of the present year (eight months) more wool was imported than during any of the pre-war years mentioned, and if the present average monthly imports of 36,238,982 pounds is maintained throughout the remaining months of this year, the United States will import more than 430,000,000 pounds during the present calendar year.

INCREASED STOCKS OF HIDES.

Total holdings of hides and skins in the United States for the month of October were 40,678,536, according to late reports received by the Bureau of Markets, U. S. Dept. of Agriculture, from packers, dealers, importers and tanners. This is a net increase of 3,308,558 over September. Holdings of goat and kid skins showed the largest total increases, while cattle hides and calf skins showed decreases.

BEST BUTTERS IN DEMAND.

The butter market rules steady both East and West, supply about offsetting demand. There is a steady call for the best grades, notwithstanding high price levels, and creameries specializing on high grade butter have no trouble in disposing of their output.

Classified Advertisements.

MISCELLANEOUS.

MAKE YOUR OLD ROOF NEW
SUPERCOTE & PROTEN
THE LEAK-PROOF TWIN

Absolutely guaranteed to stop all leaks in one application. Do it yourself. No need of an expert. Mail inquiries solicited. E. L. HUBBARD, Factory Agent, 175 Grand Ave., Oakland, Lakeside 2632.

CORY'S THORNLESS MAMMOTH BLACKBERRY—large berry, small seed; ripens early. The kind you have been looking for. Good, strong plants now ready. Write for descriptive price list. Wm. Mortensen, R. A. Box 209, Lodi, Cal.

ASPARAGUS ROOTS—Palmetto bright green, 40 cents per dozen; \$3.00 per hundred. Seed corn, Country Gentlemen, 10-lb. lots, 15 cents per lb; 12 1/2 cents per lb. in 100-lb. lots. Address R. M. Graham, R. F. D. No. 1, Box 83, Colton, Cal.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Wellesbaum Pipe Works, 180 Eleventh street, San Francisco.

SHORTHORN HERDSMAN WANTED—Married man with experience in care and feeding of beef cattle and fitting for shows. State references and wages in first letter. Fair Oaks Ranch, Willits, Cal.

WANTED A MAN to fill position as herdsman. Must be experienced and wide awake. Steady position. Call or write, stating references. Shoreacres Dairy, San Leandro, Cal.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Shecter Pipe Works, 304 Howard St., San Francisco.

\$2,000 HOLT "30" FOR SALE—in good condition; tracks almost new; and a five-Disk Moline plow. Address: J. M. Nelson, 16 N. First Street, San Jose, Cal.

WANTED—Position as herdsman or superintendent stock ranch. Experienced A. B. O. work, showing, calf raising, and in growing alfalfa, corn and beans. Best references. Address 2932 Eye St., Sacramento.

WANTED—Layne & Bowler, Byron Jackson, or Johnston deep well pump, capacity 1,000 to 1,500 gallons per minute. Prefer the direct connected with electric motor. Geo. A. Smith, Corcoran, Cal.

TUBA TRACTOR with Diesels, Flows and Harrows in perfect shape at sacrifice. Owner, L. Jennings, 2904 Piedmont Ave., Berkeley, or Pengilly Clark, Stockton.

HOLT 30-CATERPILLAR—new tracks, engine recently overhauled. 5 disc plow, 8-ft. double disc harrow. A bargain. \$2,000. Fair Oaks Ranch, Willits.

FIRST CLASS DAIRYMAN, married, wishes position as herdsman or dairy foreman, lifetime experience; best of references. Box 1730, Pacific Rural Press.

WANTED TO LEASE on shares with option to buy 10-20 acres of bearing orchard or land suitable for an orchard. Box 1740, Pacific Rural Press.

FORDSON TRACTOR—Used very little and in good condition. Oliver tractor plow. A bargain. \$600. L. M. Utery, King City, Cal.

CROLEY'S BALANCED HOG FEED—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

BURBANK'S Thornless Blackberry plants. Price reasonable. Orders taken for spring delivery. Variety Farm, Clovis, Cal.

FOR SALE CHEAP—K handpower stump-puller. New complete outfit. Edward Haven, Morrisish Ave., San Jose, Cal.

SUDAN—We want to buy Sudan grass seed. Send us samples. Bomberger Seed Co., Modesto, Cal.

WANTED—Used 6-ft. Double Disk in A-1 condition. 142 R. B. Alum Rock Ave., San Jose.

COUNTRY LANDS.

170 A. FARM \$5000 With 3 Horses, 16 Cows and Other stock, full list implements and tools, quantity oats, potatoes, wheat, corn, 1/2-mile town, near R. R. 100 acres tillage, 30-cow pasture, choice fruit, 10-room house, basement, stock and horse barns, hay barn, poultry houses, etc. Aged owner sells everything \$5000; easy terms. Details page 26 Strout's Fall Catalog Farm Bargains 23 States; copy free. E. A. STROUT FARM AGENCY, 831AF N. Y. Life Bldg., Kansas City, Mo.

FOR SALE—Choice 1919 crop alfalfa seed. Also 1919 crop black amber, Sorghum seed. R. D. Westfall, Grower, Colusa, Cal.

WEEKLY BUTTER AVERAGES.

Week Ending	San Francisco 1918	San Francisco 1919	Los Angeles 1918	Los Angeles 1919
Jan. 2	53.40	66.19	50.16	63.16
" 9	51.08	61.00	50.00	64.00
" 16	52.33	61.70	50.50	64.16
" 23	52.50	55.83	52.00	62.16
" 30	53.00	44.91	51.83	49.00
Feb. 6	50.80	43.58	49.66	47.33
" 13	52.00	46.80	48.00	47.60
" 20	51.41	51.58	48.00	53.16
" 27	51.30	53.90	49.33	55.00
March 6	50.66	56.16	50.00	59.00
" 13	51.16	55.58	49.50	58.00
" 20	47.83	54.41	47.00	56.00
" 27	46.30	56.41	43.30	58.00
April 3	43.16	54.23	42.16	55.50
" 10	39.25	57.16	39.50	56.00
" 17	40.50	52.41	37.16	54.00
" 24	40.50	52.41	38.16	54.00
May 1	40.83	52.41	39.00	54.00
" 8	40.66	52.91	39.00	54.00
" 15	40.46	55.16	41.00	58.00
" 22	40.33	57.91	41.00	59.00
" 29	42.30	57.91	39.00	59.00
June 5	43.90	54.12	41.58	57.00
" 12	44.92	53.58	40.58	57.00
" 19	46.50	53.16	41.75	57.00
" 26	47.42	52.83	53.00	55.00
July 3	48.08	52.37	46.00	55.00
" 10	48.90	52.12	47.50	54.00
" 17	50.83	52.71	48.66	56.00
" 24	52.66	54.24	45.16	57.00
" 31	52.16	55.08	51.00	57.00
August 7	52.16	55.50	50.83	59.00
" 14	51.66	52.33	49.00	57.00
" 21	52.25	52.66	49.58	56.00
" 28	53.00	52.66	50.00	58.00
Sept. 4	53.00	56.20	50.00	59.00
" 11	54.90	58.70	50.33	61.00
" 18	57.80	59.70	51.87	62.00
" 25	61.33	60.58	56.17	66.00
Oct. 2	64.75	62.70	58.00	67.00
" 9	64.50	63.41	59.33	67.00
" 16	62.50	62.90	60.00	65.00
" 23	61.75	63.00	60.00	65.00
" 30	60.50	62.33	60.50	64.00
Nov. 6	69.60	62.66	58.83	64.00
" 13	60.00	64.50	57.00	66.00
" 20	61.00	63.83	57.25	66.00
" 27	61.60	64.30	58.75	67.00
Dec. 4	62.60	76.30	60.00	67.00
" 11	63.06	63.91	60.10	67.00
" 18	63.50		61.01	
" 25	64.60		62.16	

WEEKLY EGG AVERAGES.

Week Ending	San Francisco		Los Angeles	
	1918	1919	1918	1919
Jan.	2...	52.80 75.60	48.16	69.50
"	9...	60.91 69.91	50.66	66.66
"	16...	65.66 58.70	55.00	62.41
"	23...	65.66 52.58	58.00	54.66
"	30...	61.25 48.75	54.00	52.33
Feb.	6...	58.50 42.00	51.66	43.00
"	13...	44.40 40.90	44.83	37.83
"	20...	44.75 36.41	40.83	39.33
"	27...	42.40 37.40	39.58	33.60
March	6...	36.83 37.58	35.00	37.00
"	13...	37.91 37.16	38.00	37.00
"	20...	40.66 38.16	39.63	42.00
"	27...	39.50 40.41	40.00	42.00
April	3...	38.19 42.41	38.33	45.00
"	10...	37.58 42.91	36.33	45.00
"	17...	39.16 45.10	38.83	46.00
"	24...	40.80 45.00	39.66	46.00
May	1...	41.66 45.00	39.33	44.00
"	8...	40.08 46.50	37.00	42.00
"	15...	39.16 47.91	39.00	50.00
"	22...	40.50 49.16	39.00	51.00
"	29...	38.66 47.58	37.41	49.00
June	5...	40.80 45.50	38.83	46.00
"	12...	48.30 47.60	45.00	47.00
"	19...	41.00 45.91	33.75	47.00
"	26...	44.32 49.66	39.08	50.00
July	3...	44.91 43.97	41.75	51.00
"	10...	48.30 47.60	45.00	51.00
"	17...	47.66 47.66	45.50	51.00
"	24...	47.91 40.55	45.16	51.00
"	31...	48.83 53.14	46.56	62.00
August	7...	49.50 55.50	48.56	56.00
"	14...	52.08 55.00	48.00	56.00
"	21...	56.33 51.80	50.17	57.50
"	28...	59.20 53.91	53.00	52.00
Sept.	4...	62.40 56.70	56.33	63.00
"	11...	63.70 61.50	58.67	61.00
"	18...	61.30 61.83	60.00	58.70
"	25...	60.17 62.75	59.75	63.00
Oct.	2...	65.42 69.70	59.75	68.00
"	9...	65.08 69.91	60.00	69.00
"	16...	71.30 67.70	62.66	71.00
"	23...	78.88 76.25	70.33	73.00
"	30...	86.41 76.08	79.33	73.00
Nov.	6...	87.90 81.25	78.00	75.00
"	13...	86.00 80.20	78.00	76.00
"	20...	77.25 76.86	72.00	76.00
"	27...	77.25 76.66	73.00	75.00
Dec.	4...	82.00 80.90	73.00	77.00
Dec.	11...	82.08 79.16	74.33	77.00
"	18...	79.65	72.33	....
"	25...	82.00	71.66	....

An encore for Encore!

Tender, tempting, golden-brown pancakes—with that “come again” flavor—that’s Encore! It’s surprising how an Encore breakfast starts the day off right. For here are pancakes that are *uncommonly* delicious—that *really satisfy* the inner man!

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THE PACIFIC RURAL PRESS

SAN FRANCISCO

DECEMBER, 20, 1919.

LOS ANGELES

Grand Champion Comes Out of the West

Written for Pacific Rural Press by Thos. F. McConnell.



INCE TIME IMMEMORIAL the East has looked down upon the West, at least, "so long that the memory of man runneth not to the contrary." This, however, is due, not only to those in the East, but those who have gone West, that look back wishfully and think longingly of the good old times in the eastern home, even though these same good old times are only a figment of the imagination. It was thought nothing really good could come out of the West, no matter what it was—man or maid, horse or cattle beast.

"The world do move" in the livestock breeding and feeding business. Carpenter & Ross of Mansfield, Ohio, the great Shorthorn breeding and importing firm, on their return recently from England, report a scarcity of just the kind of bulls they wished to bring back. We will not say that bulls are not so good in England as they were formerly, but our standard of excellence is higher in the States, and it takes better bulls to satisfy the breeders in this country.

The University Farm at Davis has taken fat cattle, sheep, and swine to the Chicago International Livestock Show for the third time this year, and while they did not get grand champion steer or wether, they did get champion Aberdeen Angus and reserve grand champion steer, and many other top prizes as well. This is not because the stock is not as good in the East as in former years, but because the Western stock is better. Time was when California cattle produced nothing for the markets of the world but hides and tallow. Some change!

The veteran Poland-China breeder of Kings county, California, Mark Bassett, shipped a pen of five barrows, over six months and under one year old, to the Chicago International this year, and won second in class. Twenty years ago this could not have been done, although no hogs were as good then.

Seven miles southwest of Redwood City, California, there is a breeding farm that some years ago was devoted to raising Thoroughbred horses. Nestling in among the hills in a narrow valley, it raised good horses. None better. Times changed, and it was thought that a place that could raise good horses perhaps could raise good cattle. So some Shorthorns were bought. Not the long-legged, coarse kind, but those bred strong in the blood of the cattle of that peer of all beef Shorthorn breeders, Amos Cruickshank, the Scotchman, who did as much or more to popularize this breed as a beef animal than any other one man. They commenced to raise cattle in the usual Western way, although they fed better than most Californians. They knew plenty of good feed was necessary to raise winning thoroughbreds, therefore, the best-bred cattle in the world would not produce winners without plenty of good feed.

The Ormondale ranch, as said before, is situated in the foothills, but included in the land is some rich bottom land that grows as good silage corn as could be found anywhere. Given corn silage, good hay, and Scotch Shorthorns, with a manager who knows his business, and the result, sooner or later, is sure to produce something worth while.

We will see if this is true. The herd sire at Ormondale is Golden Goods, Jr., a bull that to look at impresses one with massiveness and constitution, without coarseness. This bull has great length and depth, with width

enough to be symmetrical. In a herd of thirty of more Shorthorn matrons, all of which are good, there is one cow called "My Sweetheart" that has plenty of quality and is a good mother as well.

Some three years or more ago she was bred to Golden Goods, Jr., and the result of this mating was a red heifer calf that bore such a striking resemblance to her dam that she was called Little Sweetheart. This calf early showed evidence of being better in conformation than either sire or dam. The sweet, nutritious grass on the hills, the corn silage, and fine oat hay of the region, while not making a scientific ration, perhaps, do produce milk and grow calves. It was no exception in this case, for the calf grew apace, and in the spring of 1919 there was a Shorthorn auction sale held in Davis under the auspices of the California Shorthorn Breeders' Association. The Ormondale Company consigned a number of heifers, but reserved Little Sweetheart, although at one time it was thought she might be put in and sold.

Among other breeders of Shorthorns at this sale was T. S. Glide of Davis, who noticed the high quality of the cattle consigned by the Ormondale Company, and remarked

about it to Jas. McDonnell, the manager. This conversation led Mr. Glide to visit Ormondale shortly afterward, and while there he saw Little Sweetheart and bought her. Taken to Hillcrest Farm, the home of Mr. Glide, and placed with the rest of the show herd, her fitting commenced immediately. Given the best of care she rapidly rounded into show form, and when seen by the writer the first of August, impressed him so favorably that he told Mr. Robertson, the herdsman, "that some one was going to be disappointed at the State Fair, but it would not be them." She was shown for the first time at the State Fair this fall, and won first in class, senior champion, and then grand cham-



Little Sweetheart, the champion Shorthorn cow of the world—and she looks it all over.

pion female of the breed in strong competition.

She was next shown at the Los Angeles Livestock Show, where she repeated her performance, but with hardly as strong competition as at the State Fair. With an interval of only a week she was in the ring again at the California International at San Francisco, and repeated her previous performances. Mr. Glide entered his herd at the Pacific International Livestock Show at Portland, Oregon, and Little Sweetheart in the Shorthorn sale at that place. In the meantime she had been entered at the Chicago International Livestock Show.

Some had their doubts as to her winning when she came to Portland, as that is a Shorthorn country with many good herds. However, it made no difference, and she was made grand champion female of the breed again in very strong competition.

Now came the sale where she was the top female, selling for \$2,200, and going to the Chicago Importing Company.

She then was shipped to Chicago, and while all breeders of the Coast hoped, some "took counsel of their fears" and did not believe she could win. Some thought they would not let a Western cow win, but she did, and became grand champion Shorthorn female of this greatest of all livestock shows. Thus we see that the "East" does not have a monopoly of the best ones. California, however, must not rest on her laurels, but in years to come excel the past.

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EDITORIAL

DECEMBER RAINS.

DECEMBER IS demonstrating its right to be considered a good rainy month on its own account. There seems to be some doubt about this in the general farming mind and one is apt to hear that if the season is rather shy of rain in its earlier part there is no use of expecting rain until after the holidays. This assumption is unwarranted, as we shall presently show, and it is an unfortunate assumption because it is apt to mislead people into the idea that if conditions for sowing and planting have not arrived before December 1, they need not be expected until January—which experience has shown to be too late for some grains and forage plants in some parts of the State. The fact is that December may start planting activity by its own rainfall and therefore one should not throw the month into the meteorological waste-basket. December has done this on its own account this year, for the rains since our last issue have covered the State, have widely brought the soil into working condition and have piled up an unusual amount of snow in the mountains for next summer's water supply.

It is true that if the whole season runs dry December will usually be found as bad as the rest, but its record as a rainy month is good, nevertheless, for the normal December rainfall is about 4½ inches in San Francisco. What we are contending for at this time, however, is that there is much to be reasonably expected of December, although the preceding months may have shirked their agricultural duty. Here are nine years during which December went above its normal rainfall and four of them in which December made its greatest record ever, and in these very years the preceding rainfall was either light or almost absent, viz.:

Year	Before Dec. 1	In December
1851	3.38	7.10
1855	.07	5.76
1858	.07	6.14
1860	3.46	15.16
1866	3.05	10.69
1867	3.05	10.69
1871	2.90	14.36
1880	.38	12.33
1884	2.66	9.01
1906	1.96	6.90

These records ought to hush up the croakers who claim that if December comes in very dry there is no hope of an opening of the working season for a month or more. Of course the lesson is that prophecies of evil are apt to be false and that the only reasonable course for a wideawake California farmer to adopt is one of watchful waiting and readiness to jump in whenever the right condition arrives in the clouds and on the earth.

SPOTS AND PLANETS NOT IN IT.

There is a by-product of the little investigation we have made above which reaches farther than agricultural significance and that relates to those spotting and conjuncting prophets who are exciting people with forecasts of great storms this month, on the claim that the planets are combining to pull the sun's atmosphere away from him. Such claims are faked, and journals which make a specialty of publishing the gloomy forebodings of such fakers

ought to be prosecuted for disturbing the public mind to serve their own publicity purposes. There are at least two lines of attack upon these deceivers who "creep into houses and lead captive silly women laden with sins." One way is to demonstrate that heavy storms come of their own accord and from their own terrestrial causes when there are no relations of spots and planets which can be faked to account for or predict them. Stellar conjunctions did not exist when the storms brought an average of a third or half an inch of rain for all the days of the Decembers, as noted in the table. The other way is to demonstrate that such stellar conjunctions have often occurred before and no earthly disturbance has been caused. This demonstration is had in the declarations of Director Campbell of the Lick Observatory, who has said just that thing about conjunctions. The same thing is set forth by C. F. Marwin, Chief of the U. S. Weather Bureau, who has telegraphed from Washington denouncing "Alarming predictions of severe atmospheric and other disturbances, prophesied to occur between December 17 and 20." Mr. Marwin adds:

"The conjunction of certain planets and their consequent speed influence on the sun, on which the predictions are ostensibly based, have occurred before without any unusual conditions resulting, and there is no ground for expecting any extraordinary happenings at this time."

And that ought to settle all the cock and bull stories about the planets pulling away the sun's covering and leaving him spotted before the world.

The Spirit of Christmas is Good Will.
The essence of Good Will is Unselfishness.
The elements of Unselfishness are: Kindness, Fairness, Justice. & **These also are the elements of Democracy.**
May this Christmas be big with promise for Democracy.

—The Value World.

The fact is that the sun will keep his shirt on from December 17 to 20 just as he does at all other times, and we advise all timid people to do the same. They may get wet, though, for December is a month of storms as we have shown, unless they act like reasonable people and come in out of the wet!

WHEAT OR BARLEY, WHICH?

There has been printed widely in the country papers a statement by Dean Hunt of considerations involved in a choice between California's two great cereals, wheat and barley. Of course Dean Hunt does not definitely say which any man should undertake. No one but a positivist who can only see one side of a question (either because of his own short-sightedness or big-headedness) will ever undertake to tell another man exactly what he should do without exercise of his own judgment. Men who do that are most safely avoided. There are however other considerations than the economic and commercial factors which Dean Hunt presents. One is that a man in choosing between crops should take that which he best understands and which he knows his land, weather conditions and his equipment are best suited to handle. If he gets a good full product of that it may offset a possible deficiency in price as compared with another product of higher market value of which he may get less weight. This fact is of course involved in Dean

Hunt's suggestions; we are merely trying to emphasize it a little. It is largely on the barley side of the argument, because barley is less exacting and will make more crop with less time and water than wheat will, and if a man is sure of barley our advice to him is to get it. On the other hand, when a man knows his land and other conditions are set for wheat, let him get that. But in either case let him have a good reason for whatever he decides to do. It was one of the foolishnesses of war that farmers were specifically urged to do this or that to "win the war," and too many were thus led to lose money while the war was being won, because they were not protected and provided for when the product was ready to sell. The assurance which the producer must now seek is the best surety he can get that his crop will sell at a profit to him. We understand that future buying is now being indulged in to some extent and that contracts are being made for next harvest delivery—not "futures" but actual delivery. There are apparently some buyers who are sure enough of the future to contract now at prices which ought to yield the grower a good margin. We do not know how general or how available such contracts are, but so far as they go they may relieve some growers of risks which they may not wish to take and they may indicate to those who wish to take the chances of selling better next summer, that the buying interest is quite confident of the demand for the next crop. If then a man is equally well fixed for either wheat or barley he may get a side-light on his problem by conferring with millers and shippers on their offers for future contracts—whether he decides to take or leave them. We are aware that this is not a good academic suggestion, but it may be of considerable practical importance. The present grain outlook surely is that California may expect to get lots of it and to get also good prices for it.

HOW TO BE JOYFUL.

It seems too bad that every time conditions seem to baffle a great outbreak of Christmas celebration we should have to be chilled by proclamation of the fact that indulgence in decorative expression of such joy is undertaken only at the cost of desolation and denudation. This year, for instance, just as we are seeking some brief respite from the "red menace" by clothing ourself and our habitations in Christmas green, we are warned that Christmas trees and Christmas berries can only be had by poaching upon forest reserves, which the forest rangers are carefully watching, or upon public and private lands in other wild places whence the poacher can perhaps get away with the loot because no one is looking. But this is not a good way to get material to celebrate the birth of the Babe of Bethlehem who grew up to teach us not to poach upon what belongs to others and to render unto Caesar the things which are Caesar's. And upon this fundamental question of morals there comes an awakening of the public conscience from another point of view, viz.: that destroying trees and shrubs upon lands which are for the uses of posterity is a straight run toward future desolation and denudation of our large open areas. Therefore, it is almost impossible for any thinking person to look wholly with joy upon the beautiful greenery which is now gathered from year to year to express our holiday rejoicings and our good will toward all mankind. We have no doubt in our own mind that the old way of securing holiday greenery should be abandoned. Irrespective of ownership of the wild lands they should not be denuded, for the beauty of them in their natural condition belongs to every one who passes or crosses them; their water conservation as forested areas is a service to the whole population, because it guards the streams from overfullness or scantiness and because their natural cover keeps the idle lands in best form for settlement and culture as increasing population may require them. It is our conviction, therefore, that public sentiment should be aroused against decoration which comes through desolation and that we should get our greenery of all kinds through production planned to supply it—just as we get food, clothing, art-creations and other things which civilized mankind requires for its comfort and for the expression of its emotions and sentiments. In other words we believe that all organic materials used to express our holiday joy and good-will should be grown as

farm crops and men as a whole should no more revert to savagery to get their Christmas trees, garlands and festoons than they now turn to savagery to furnish them poultry, sucking pigs, cranberries, boiled onions and other culinary expressions of joy and good cheer!

LIFE A PROLONGED CHRISTMAS!

We are aware that these titular words would be an elegant propaganda-slogan for some sort of an emotional uplift, but we wish them to stand for something more tangible and concrete. We are thinking about a bunch of perfectly good jobs for young men of about twenty, each of whom is perfectly sure what girl he wishes to marry and each of these girls willing to sign the league covenant without reservations. Lacking either of these qualifications our scheme will not work as we intend it to, in both letter and spirit. Let each young man who is thus endowed and is able to finance the undertaking from his earnings, in addition to meeting his current cost of living, put in five acres of Christmas trees. The opportunity is of course widest open to young men whose lot is cast on the upper coast or in the Sierra Nevada, where rainfall is abundant and a little land is easy to get—a little flat or slope perhaps too small or too detached to figure in a greater enterprise, with perhaps a spring or other small source of irrigation—for safety or for pushing if affairs become critical. Gather seeds of the local conifer, which sells best for Christmas trees; grow seedlings in shallow boxes of the best local sand in a handy half-shade of tree or building where water is near for sprinkling; plant out these seedlings the following year four feet apart each way, after preparing well the ground for them; cultivate the patch about once a month at odd times during the summer. Two summers' growth from planting out will bring size enough for small trees for the following Christmas and half the crop can be harvested in December—leaving the remaining trees eight feet apart. Cultivate the ground as seems necessary to let moisture into the soil and to keep weeds or winds from robbing the standing trees of possession of it. In one or two years, according to the growth you get or the preference of the city retailers for sizes, cut part or all of the trees for shipment. As prices are now running it is possible that for half the trees you should gross 50c. each and for the other half \$1 each, and this would perhaps net you \$400 per acre for your four years' crop.

We make this calculation with some care and some regard for human nature. We prescribe for cutting half the crop at two years old, not alone to give the other trees a chance to get size and shapeliness, but to provide funds for better clothes, gasoline, movie-tickets and other courting supplies—which will be undoubtedly required to hold the honey to the terms of the league-covenant. But four years to wait for a crop, even if it does mean \$100 per year per acre from a little corner of good land, may seem a long time and four years may be long to wait for a girl, after the queen has really dealt herself to you by the covenant. We may be asked if we cannot speed up both, when the desires grow faster than the trees. We are no psychologist to prescribe for the impatience of youth, but we have a secret which may save a year in getting size on the trees. We give it not to the public but to those alone who comply with all the terms set forth above for our Christmas tree growing contest and enter thereupon—because to those alone who cherish a noble purpose in life and conscientiously strive to attain it can there ever be a really Merry Christmas; and to them it is not a joy of a day, but the prolonged joy of a lifetime! To those, therefore, who are prepared to press forward toward this attainment by way of a crop of Christmas trees, the Rural Press will reveal the secret of making the trees keep time with the heart-beats!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

White Sweet Clover.

To the Editor: Is sweet clover a good summer feed for milk cows and will cows bloat if pastured on it when it is green? Will it grow well without

irrigation and produce lots of feed? Is it a good way to plant sweet clover seed to get right out when it is raining and let the rain beat it into the ground?—B., San Luis Obispo.

White sweet clover (*Melilotus alba*) is a nutritious forage plant. Cattle do not usually take kindly to it but eat it freely after they learn to like it, which they are apt to do quickly if they get it when other green feed is shy—otherwise, they are apt to let it grow up and eat other grasses and clovers. It is not likely to bloat—perhaps because cattle are not so apt to gorge themselves with it. The seed will catch well on firm land, but harrowing will help get a better stand unless there is constant moisture to prevent drying up of the tender seedlings soon after sprouting. The time to start the seeds is in the rainy season—the earlier the better. The duration and amount of summer growth will depend upon whether its deep roots can find moisture enough to keep it going.

Transplanting and Lawn Making.

To the Editor: I want to plant my hedge. When is the best time to do so? Also, I want to transplant some rose bushes—when should I do that? What treatment should I give my ground, which is a sandy loam, to start my lawn and when?—L. M. B., Sacramento.

We would not think of transplanting an old hedge; it is better to start again with small plants. If you mean to plant out a hedge, it is timely to do it during the next two or three months on such soil as you describe, because it will not hold too much cold water. On heavy soil it will be better to wait until February or as soon as the soil gets into good condition after the heavy rains are over. Plant out roses at the same time under the same conditions. You can dig a lot of stable manure into your lawn space now and let it lie through heavy rains. When the weeds appear rake them out and keep the surface loose. Sow the seed any time, now or later, whenever the ground is not too wet or too cold.

White Sweet or Red Clover.

To the Editor: Which is better for a peach orchard—white sweet clover, or red clover, and which is the best for feed? Is it better to inoculate the seeds?—J. T., Gridley.

Red clover is vastly better feed, but it is a summer-grower on irrigated land because it is shallow rooted and cannot stand much dry heat. For green manuring in California, sweet clover is better because usually we desire to get the growth with surplus water from rainfall, and red clover will not grow much in the winter. For green manuring, without regard to feeding off, yellow sweet clover is better than white, because the plant is hardier and the seed is cheaper, but if you wish to teach your stock to eat it you had better take the white. Inoculation is desirable if your land does not naturally grow any bur or other wild clover, or has never grown beans or peas. If it has, inoculation is unnecessary.

Common Fruit Tree Borers.

To the Editor: When do we look for borers, and what is the procedure against them?—S. A. M., Merced.

The common flat-headed borers generally go into trees with bark burned by the sun. The preventive is to whitewash the bark in the fall or early winter wherever the sun can reach it and a few inches below the surface where the hot soil may burn the bark. It will not do to wait until the rains are over because the bark is apt to burn with the winter sun before the leaves appear. If borers get in in spite of preventives, there will be dark spots on the bark in midsummer and the borers must be cut out by opening up such spots as soon as seen before August or September, so that the borers will not be working all the fall and winter until they emerge as beetles in the spring and lay eggs for another generation of borers.

For a Smutty, Anty Orange.

To the Editor: Can you tell us what we can use as a spray for blight on an orange tree, and also how we may keep the ants off the same?—T. M., Cupertino.

Your orange tree is infested with scale insects. The ants are going after their excretions and the blight or smut grows on what the ants do not get. The treatment is to kill the scale and that can be done by spraying with distillate or kerosene emulsion so as to reach all the twigs on which the scales are sitting. On commercial orchards in the citrus district this is done by fumigation with hydrocyanic

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acid, which requires skill and quite an outfit. A few trees can be kept reasonably clean of scales by spraying from time to time as the ants and smut show you that the scales are busy.

Vines in 4-Year-Old Orchard.

To the Editor: My four-year-old prune trees are 24 feet apart one way by 20 the other. They are on strong, heavy, white ash soil, and the trees are very thrifty. Would it be all right to plant one row of Thompsons between the rows? I have a pumping plant and can water when necessary.—E. C., Kingsburg.

The land and water are all right for it, but with such growing conditions, your trees are too near together already and the vines are not likely to give you anything but interference and bother. It is too late to put in vines. If you had planted them both that way four years ago the vines might have helped you and it would now be time to be taking them out.

Winter Grown Silage.

To the Editor: Please advise me what kind of a winter silage crop barley or vetch or oats and vetch would make. Also how many lbs of each would you sow to the acre?—H. S., Modesto.

They are all silageable if cut-in short, spread and tramped well when the grain is in the soft dough, or "between milk and dough"—about as for hay-making. Heavy tramping is desirable with hollow-stemmed plants, which may otherwise carry too much air into the mass. Sow about 100 lbs. to the acre—one-third vetch and two-thirds grain.

No Preliminary Spray for Pear Blight.

To the Editor: Is it well to spray for pear blight before it has been found on one's trees? And with what?—M. A. T., Herald.

There is no preventive spray for pear blight nor any curative spray either. It requires surgery. It is not a thing to worry about, but to everlastingly watch, and when you see a fruiting twig which looks as though hit by fire, send a specimen to the Experiment Station at Berkeley and ask to be informed if you have the real thing and how to go to work cutting it out.

CALIFORNIA WEATHER RECORD

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending December 15, 1919.

Stations—	Past Week	Rainfall		Temperature	
		To Date	Normal To Date	Highest	Lowest
Eureka	1.41	7.08	13.07	58	26
Red Bluff	1.02	3.52	7.62	58	26
Sacramento .....	.58	2.89	5.07	54	30
San Francisco	1.63	4.02	5.68	56	37
San Jose .....	.36	3.09	4.24	58	24
Fresno .....	.50	1.48	2.65	58	28
San Luis Obispo	1.08	5.18	4.45	68	32
Los Angeles .....	.26	4.27	3.29	70	44
San Diego .....	.26	2.20	1.97	66	43
Winnemucca .....	.15	2.60	2.39	44	—10
Reno .....	.72	3.86	3.01	48	0
Tonopah .....	.00	1.59	3.25	44	4

A Plain Talk on Pruning the Vine

Written for Pacific Rural Press by D. J. Whitney.

THIS is not supposed to be a systematic description of the way to prune grape vines, but just the report of a few important points on the subject gathered from a talk by A. E. Way, viticulturist of the Kearney ranch experimental vineyard, before a meeting of the Exeter farm bureau—and the discussion following.

The first thing is to get a straight, clean, strong stem, whatever variety of vine is grown, and for this reason each vine, no matter what variety, should be staked at the start. If the first summer's growth is sufficient to provide a straight, strong cane that will be as thick as a lead pencil at 21 inches above the ground, a stake can be put in and the cane tied straight to it, and topped at the right height. If not, cut back to a couple of buds and wait another season.

These stakes as a rule can be short, if the right system of permanent pruning is to be used. A Muscat stake can be three feet long, 15 inches in the ground and 21 inches above. This stake is only temporary so any kind of wood can be used. Most people do not stake Muscats, but staking gives such a straight, clean stem that it more than pays.

Keep Stems Clean.

Whatever the variety, keep the stems clean of suckers. It used to be thought wise to remove all shoots from the lower stem the first season after the vine is staked.* Now it is believed best to just pinch back these temporary shoots very closely the first season, for that will give a thicker, sturdier stem. Then the following winter they can be cut off close.

Every year after that keep the shoots off the stem whenever they show up even if it takes six suckers a season, and in a couple of years you will have no more suckers and the vine will be clean and strong. Otherwise suckers may develop every year, and whenever they get a good start they will rob the vine of sap that is needed for fruit and for good canes. If the first summer's growth in the vineyard will give a cane that will make a stem for the plant, it can be used. Otherwise, and this is the rule, cut back to leave two good buds near the ground and make a head from the best of the resulting canes the following winter. Unless about half of the vines can be staked the first winter it probably will not pay to stake any of them, but cut them all back and give them all an even start.

Keep Down the Head.

With every variety, and whatever system of pruning is used, keep the head from getting higher than it is supposed to be. To do this always have the renewal spurs below the regular fruiting canes. Always also have more renewal spurs than fruiting canes. For instance, if there is four fruiting canes, have six or seven renewal spurs. As long as these spurs are below the canes the head cannot get high.

This whole proposition of the height of the head is very interesting and very important. In Thompsons grown on wires occasionally a grower will have a head at the top wire as well as the lower wire, or canes coming at each wire. He will possibly get very heavy crops for two or three years and think he is doing great, but in the first place he will weaken his vines by too heavy production, and in the second place, before long the top head will weaken the lower head until it is no good, and so he will have only one head after all and that at the top wire, where it should not be. The permanent head ought always to be at the lower wire. If a man has a double-headed vine, he can cut off the top head, provided the lower group of spurs is strong enough, and get along all right. If the lower spurs are too weak, they will gain plenty strength after the top head is cut off, but a year's crop will likely be lost.

Lowering High Heads.

Many old Thompson vineyards grown on the stake system are headed far too high. Try this plan of making a lower head. Bend the canes downward, loop shape. This will force sucker buds out on the trunk, and it will also make the bended canes set fruit heavily, so it will be a profitable

thing for its own sake. Rub off all the sucker shoots on the old trunk, except those at the height you want the new head, and in the next winter's pruning you may have a strong enough growth from them to make it possible to remove the old top and have a new head at the right height. In order to get these new shoots, though, it is necessary to bend over the fruiting canes. This plan works well with the Thompson.

Pruning Staked Thompsons.

A common practice in pruning staked Thompsons is to tie the fruiting canes upright on the stakes. Far preferable is the plan of looping the ends over so that the middle of the canes are the highest parts, making the ends point downwards or sideways. This bending over makes fruit wood and results in a very great increase in yield. This is positive and certain. However, the right way to prune Thompsons is on wires. The head should come at the first wire and the canes be tied along it, and the upper wire should serve strictly for the summer growth from the canes to climb upon.

Also, in tying the fruit canes in the winter pruning, do not tie them straight out, but loop them a little, twisting the end under the wire, which will make the laterals come out more evenly along the canes than when the canes are tied straight and level. There is no question about the benefits of this plan either.

Cordon System Seems Best.

The almost universal system of growing Emperors and Malagas is to have tall trunks and long canes. An emphatic recommendation of the cordon system for new vineyards is given with these two varieties, and also with the Ohanez, or Almeria, which is the leading Spanish grape shipped to the United States in winter. A detailed description of this system is required for a good understanding of it. The essential feature is to train the trunk something in the shape of an "L," with the short arm stuck in the ground and the long arm running along a wire parallel to the ground. Then the canes come out all along this arm, which usually is 4½ to 6 feet long. The upright part of the trunk is kept perfectly clean of suckers. The permanent branch, resting along the wire, is trained about six inches higher than the lower wire on a good Thompson vineyard. A second and higher wire runs along to hold up the canes that come from the spurs along the head of the vine.

In starting this permanent arm, a cane of the young vine is bent along the wire, trimmed to the required length and looped a little and the head tied under the wire. The tendency will be for the new shoots to come at the end and beginning of this cane, so these shoots are pinched back strongly, which will force other buds out evenly all along the top of the cane at the nodes. These shoots will later provide spurs for the canes to start from every year. They should be about 8 inches apart. Places for about 8 fruit canes should develop from a permanent top of 4½ or 5 feet long.

This system of pruning for the varieties named has proved a big success on the Kearney experimental vineyard. Five-year-old Malagas pruned on this system have run 10½ tons to the acre.

Saving for the short temporary stake at each vine, needed to get a clean, straight stem started, wires are what supports these vines and not many stakes are required. A good, strong, well-anchored post at each end of the row is the main thing, and strong posts for every three vines are about right. Likewise with Thompsons, it is better to make the wires support the vines and have occasional posts half-way between vines support the wires than to have a permanent stake at every vine.

Over-strong Vines.

If a vine is weak, it can be pruned very short to force vigor into it. Good cultivation, and abundant early irrigation, keeping the water on the ground until the soil is well filled with it, stimulates growth and vigor also. The other side of that rule will not work for overly vigorous vines, according to Mr. Way. That is, although vigorous vines fruit better when they are pruned long and have plenty

canes, an extremely vigorous vine (or vineyard), say on rich, strong soil, will only grow more vigorously than ever if more spurs are left than usual and more canes forced out. The only satisfactory way to make it substitute fruit for extra vigorous growth, is to handle it from the soil side, not from the pruning side. Plow rather late and hold off the irrigation water longer than usual in the spring; in brief, give it a little less favorable growing conditions and it will make more fruit than it will if it is permitted to grow as fast and strong as possible.

GOLDEN OPPORTUNITY FOR CHERRY GROWERS.

(Written for Pacific Rural Press by R. E. Hodges.)

What seems to be an ideal situation for the cherry growers of Santa Clara Valley was proposed at a mass meeting in San Jose December 11. The point was made that while many growers who shipped their cherries East last year received in return large quantities of red ink, and while growers who sold to the commercial canneries received about six cents per pound, and while growers who sold their fruit on the trees received three or four cents a pound, those who sold to the California Co-operative Canneries received eight cents per pound on delivery, and later co-operative dividends increased this price to twelve or twelve and a half cents.

Co-operative Cherry Shipping.

This is not all. Manager J. L. Nagle of the California Fruit Exchange offered Santa Clara growers the use of this long-established co-operative organization to ship their cherries East and get cash returns. He pointed out that the Exchange includes about 3,000 growers of deciduous fresh-shipping fruits who shipped 5,053 carloads of California fruit out of the State this season. These growers are organized into 40 local associations, operating 65 packing houses. Their fruit was during the past season sold in 256 markets, and they have regular representatives in the great auctions of eleven large cities in the U. S. Their marketing facilities are well-nigh perfect, being an affiliation with the California Fruit Growers' Exchange, whose citrus activities are least while the deciduous fruits are being shipped in largest quantities. Red ink on Santa Clara cherries was shown to be largely due to faulty individual grading, packing, and shipping, which would be standardized under Exchange auspices.

Ship What You Can and Can What You Can't.

The suggestion worked out at the cherry growers' meeting was that the cherry growers should organize definitely to send their shipping cherries East through the California Fruit Exchange and to affiliate with the California Co-operative Canneries to handle the rest. J. F. McCauley and Albert Haentze, representing the Canneries offered use of their facilities to the cherry growers to pack their shipping cherries and put the rest into cans all at the same plant and all co-operatively. The Exchange reserves seven per cent of gross selling prices until operating costs are paid; and distributes all except operating costs to its members. The operating costs last year were less than three per cent of gross selling prices, an efficiency characterized at the meeting as excellent almost, if not quite, all other shipping enterprises. The Canneries' voting trust agreement provides that all proceeds from sale of products shall be distributed to members after the expense of canning and marketing and not to exceed 8 per cent interest on the capital invested in the cannery have been paid.

Investigating Committee Appointed.

A growers' committee was appointed to investigate in detail the desirability of such an arrangement. This committee consists of H. G. Stelling, J. G. Ridley, R. S. Streeter, E. K. Johnson, R. M. Butcher, F. C. Willson, J. D. Joseph, and Herbert Pash. They were given access to the records and plants of both the Canneries and the Exchange, and will probably have a report ready very-soon.

The Co-operative Canneries and Armour

Written for Pacific Rural Press by R. E. Hodges.

IS THE California Co-operative Canneries co-operative in fact or is it controlled by Armour & Company? That is the question in the minds of many growers; and it should be answered satisfactorily before growers invest in the capital stock the Canneries are about to sell, and before growers tie up their crops with the concern.

The Pacific Rural Press is jealous of the word "co-operation." We will fight against the use of that word in any project which pretends to be a growers' organization, but which is controlled by parties interested in exploiting the growers and increasing the profits taken out between producer and consumer.

When we see a great deal of smoke, we may be pardoned for investigating to see if there is a fire before we cry out that "All's well." This lays us open to the charge of suspecting and injuring co-operation; but it is really the only course that can benefit true co-operation when attacks are being made on it under a smoke barrage.

We hold that co-operation can succeed only as democratic government can succeed—by making its benefits felt by people enough to enlist their active support, and by keeping the people fully informed as to what is going on. Ignorance breeds distrust, and distrust disrupts. No project has a right to ask support from growers as a co-operative concern unless it is willing to keep the growers informed regarding its accomplishments and methods. This is why we were greatly pleased on a recent occasion when the manager of the California Co-operative Canneries told us point blank that we were at liberty to inspect anything that concerned their outfit, its accomplishments, and methods of operation.

Until that occasion, we had been at loss to form any sort of judgment in this case where it seemed that two or more sets of supposed co-operators were claiming that the others were not co-operators at all.

It is claimed that the California Co-operative Canneries is an Armour institution, intended to work Armour into control of our ranchers' fruit crops for a period of ten years at prices determined not by the growers, but by the California Packing Corporation, whose interests are the opposite from those of a real growers' co-operative cannery.

It is charged that the Co-operative Canneries have a contract with Armour covering those points, that Armour loaned them \$250,000 to help build their plant at San Jose and took a mortgage on the plant; that Armour has advanced money to make first payments to growers on delivery of fruits at the cannery, and that Armour's engineer supervised construction of the San Jose plant. They also point to what seems to have been treachery of officers in the Co-operative Canneries when the attempted deal was recently exposed whereby two of the directors came near accomplishing the sale of the plant and contract to a San Jose canning concern with the understanding that these directors would get a rake-off on all the fruit sold through Armour, for the next ten years. This attempt failed. It never was countenanced by the management or stockholders, or creditors. Opponents also charged that Armour until recently had acted as a chief distributor for the California Fruit Canners' Association, and later for the California Packing Corporation; but when the latter company recently decided to do their own distributing, Armour had to seek other fruits. This he did by attempting to organize growers' so-called co-operative canneries, handling their fruit at a five per cent discount, rather than the ten per cent discount they had been receiving from the Packing Corporation. They claim that the Packing Corporation got wise quickly, and offered them the ten per cent discount again.

These charges really look shady if you look at them alone; and uninformed growers could well withhold support until they could see the other side. The Pacific Rural Press has seen a great deal of the inside of the other side recently.

We have seen the Armour contract, and the

financial statement of assets and liabilities of the California Co-operative Canneries as presented December 11 to the California Corporation Commissioner. We have read their by-laws and voting trust agreement. We state facts and conclusions below as they appear to us.

Co-operative Canneries to Sell Stock.

It was last Spring that the California Corporation Commissioner gave the California Co-operative Canneries permission to sell \$200,000 of their authorized \$500,000 capital stock, knowing the existence and nature of the Armour contract. They sold part of this, but got busy on the canning which became an emergency measure to save apricots, peaches, cherries, and tomatoes, particularly, as will be related later. Recently the same parties who attempted to sell the plant without the consent of General Manager Vernon Campbell, or the growers, went before the Corporation Commissioner with a list of charges which led him to hold up temporarily the permission to sell the rest of that \$200,000. This was just at the beginning of an active campaign for sale of that stock. The Corporation Commissioner investigated, and has given permission to sell not only the rest of the \$200,000, but \$200,000 additional. Of this amount \$150,000 will be used to build a cannery at Visalia. The other \$250,000, or so much as may be necessary, will be used to complete the big plant at San Jose and provide working capital for next season's operations.

The Armour Mortgage.

The Armour mortgage is not to be paid off until due, as its terms are much more favorable than could be obtained from banks. It runs for ten years, and none of the principal on it is to be paid during the first two years. Armour cannot bring any pressure on the Canneries on the basis of the mortgage. Provision is made in the Voting Trust Agreement for five per cent or less of gross returns on all products sold to be paid to growers in the form of stock in the Canneries, and cash thus received is to be used in repaying the Armour and other loans, and in factory operations and permanent improvements. This will automatically pay the mortgage if the Canneries operate on anything like the scale of their 1919 operations.

The Armour Contract.

The Armour contract is considered the most valuable asset of the Canneries. Mr. Campbell has been before our readers more or less for several years. It was an article in the Pacific Rural Press giving his figures on the costs and great profits of canning, which led to the organization of several co-operative canneries in the San Joaquin Valley and Southern California some years ago. While some of these canneries achieved success others failed through lack of a market for their output to meet the competition of the established commercial canners. Mr. Campbell learned through his seven years' efforts along this line in this State, that a sure market must precede successful co-operative canning. So last May he made this contract with Armour who sells direct to retailers. Armour agrees to buy all of his requirements of canned goods from the California Co-operative Canneries as far as said Canneries are able to supply said requirements, at prices based on the announced California Packing Corporation prices. It was realized that no fixed price would do for a term of years. Many growers are today selling at half price under long-term fixed-price contracts. The only way to fix the price in the Armour contract seemed to be on the basis of the one outfit whose prices are considered basic by the entire trade. This involves higher or lower prices as each year's crops and demands justify. But if these prices do not provide a fair price for the fruit the Canneries may withhold delivery. The amount of each kind of fruit and vegetable needed by Armour is to be specified early in each year. This contract probably involves more fruit than any contract ever made before and its value to the growers can readily be seen. Because of the enormous amount involved, and the difficulty of financing such huge operations soon enough for the last crop, Mr.

Armour was told it would be necessary for him to furnish the money on the terms discussed above. Of course, with so much money risked, Armour would naturally have his engineer see that the plant was properly constructed to make money to repay the loan.

Assets and Liabilities.

The financial statement shows assets and liabilities amounting to more than a million dollars each. Fixed assets including the factory, etc., amount to more than half a million. This estimate is at least twenty per cent under the present value of the plant, according to the contractors who built it. They claim on the basis of their experience building a score or more of canneries, that the Co-operative factory is arranged for the most economical handling of fruit. Current assets readily convertible into money amount to more than \$600,000, but this includes a lot of canned tomatoes which they do not expect to sell until prospective better markets and better car situation materialize in the first half of 1920. The Armour contract provides that he must pay on December 31 for all canned fruit in the Co-operative warehouse. The liabilities represent among other things the Armour mortgage and a loan of cash, which was paid to growers on delivery of their fruit. They also include a little less than \$100,000 of capital stock already issued. Owners of this stock are liable for the present liabilities; but growers who buy stock hereafter are not subject to those liabilities under the law.

This is a remarkable case of doing a big vital legitimate business on a very small capitalization. It is possible only by the liberal terms of the Armour loans. Those loans constitute a claim against the plant and its products, until they are paid off; but they represent no other control. Nevertheless, it is sound finance to have as few creditors as possible, and the current assets will be used as promptly as possible to pay the liabilities. Armour owns no stock, and he could not vote it if he did, because all stock is tied up in a trust agreement similar to those of the California Associated Raisin Company, the California Peach Growers, Inc., and the California Prune and Apricot Growers, Inc.

In view of these facts it would appear to be of vital importance to the success of the Co-operative Canneries movement that this issue of stock be promptly taken up by the fruit growers of the Santa Clara Valley and the Visalia District and the valuable properties which have been created, including the Armour contract itself, be maintained in the interests solely of the growers of California.

PEAR ASSOCIATION FRUIT TO CANNERIES.

Of the 110,000 ton pear crop produced in California in 1919, about 30,000 tons were canned. About 14,000 tons of the cannery pears were handled by the California Pear Growers' Association for its 450 members, according to President-Manager Frank T. Swett. These were sold at \$85 per ton. From that \$85, 90 cents per ton was deducted by the Association to cover its costs of operation, inspection of the pears, shipment to the canneries, collection from the canneries and distribution of money to the growers, and the payment of insurance against failure of canneries to make payment in full. No losses were encountered.

"Why don't you handle pears for Eastern shipment?" Mr. Swett was asked.

"Because there is already the efficient California Fruit Exchange which ships pears to the East co-operatively. It would be a useless duplication of effort for us to ship, and it would weaken co-operative marketing," was his answer.

"Why do you not handle dried pears?"

"Because only 5,000 or 6,000 tons of dried pears are produced annually, and even if we could control the whole crop, the overhead might make co-operative marketing too expensive to hold the growers. But a large proportion of the dried pears are grown for a big packing concern on long-term contracts which would prevent our getting firm control at present.

HORTICULTURAL JOTTINGS.

A large acreage will be set out to grapes this season in the Imperial Valley.

Selection by the California Land Settlement Board of a tract of land in Merced county for colonization pur-

poses has been announced by Prof. Elwood Mead, chairman of the Board. The tract comprises 8,000 acres and was purchased from Edward M. Wilson of San Francisco for \$92.50 an acre. The settlement will be devoted exclusively to ex-service men. There will be room for 300 families and

1,000 applications already are on hand for allotments on the settlement.

The late cold wave and rain did little damage in the Corning citrus fruit crop section.

The Fresno Chamber of Commerce announced that "Black Raisins" are in heavy demand and that 17c is the price quoted.

The peach harvest of Yuba City for the year 1919 is more than \$2,000,000 in value, it is said by farm adviser C. E. Sullivan of Sutter county.

Libby, McNeill & Libby are to locate another large cannery in the Sacramento Valley. It will be a \$335,000 structure on a 13-acre site in Gridley.

A lemon growers' excursion has been organized by the lemon growers in the Oroville District and they recently visited the Mills Orchard at Maxwell in Colusa county.

Orders for workers in the rural district through the State free employment bureaus have been brisker since the rain, as this has enabled work to be started in the orchards.

Announcement is received from Valparaiso (Chile) of an advance in prices, of nitrate to ten shillings, six pence per ton, owing to the increase in wages recently granted, and to higher railroad rates. It is estimated that 500,000 tons will be sold and shipped this season.

A new ruling has been announced by Commissioner Collins of Tulare county in which he classes all split oranges as "seriously damaged" within the meaning of the standardization law and has instructed all inspectors to prevent their sale for food.

C. E. Campbell, manager of the Stewart Fruit company's packing interests, says that "incompetent" and "impractical" methods of shipping, enforced during the grape season by the United States railroad administration, caused an aggregate loss of over \$5,000,000 to the vineyard men of Tulare and Fresno counties.

W. M. Giffen, president of the California Associated Raisin Company, testified before the Federal Trade Commission recently that out of 10,000 growers and 123,000,000 consumers of Associated raisins, there was "not one appearing here against us." The packer complainants, he said, did not have the interest of the public at heart.

The Rubyhill Vineyard Company, Pleasanton, has completed its wine shipments to the California Wine Association. Wines valued at more than \$100,000 were shipped from there. The wine is to be exported to Europe, as is allowed by the Government, in an effort to assist the wine makers in getting rid of their rare vintages.

Placer county fruit growers were last week promised water by General Manager John A. Britton of the Pacific Gas and Electric Company. The complaint has been that the large acreage between Auburn and Colfax was lying undeveloped for the reason that the P. G. and E. Company, which owns the irrigation system for Placer county lands, could not and would not guarantee any more water. Britton gave them the assurance that all those now planted and within the next three years would be cared for.

Word comes from Porterville that some investors from the northern part of the State, and especially from the raisin district, who recently invested in Poplar district land with the intention of planting raisins on a large scale, are understood to have placed their property on the market again. Their action is said to have been taken after they learned the unanimous and

determined sentiment in this section—one of the few where Japanese have never been allowed—against the employment of Oriental labor.

Legal transfer was made last week to the California Prune and Apricot Growers' Association of property for the site of the proposed new packing plant for the corporation.

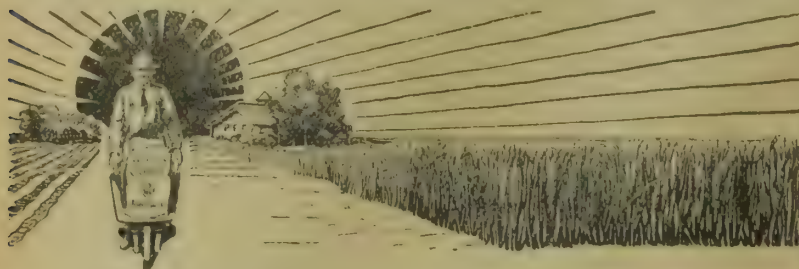
Twelve hundred Eastern black walnut trees have been received in Woodland to be transplanted and prepared for planting along Yolo county's new \$1,000,000 highway. It is estimated that it will cost about \$125 per mile to plant and maintain the trees the first year, but they will be self-supporting after 1921. The trees will be grafted with the English walnut.

Canneries at Hemet are working full capacity on the olive crop. The Cooperage Cannery expects to handle considerably more than their output last year, which was 120 tons. The Golden State cannery expects to handle 200 tons before the season is over. Prices are much higher than last year, ranging from \$70 per ton for oil olives to \$350 per ton for the jumbo grades.

Supervisor F. L. Roehr of Butte county has secured from the Bidwell Park Commission a ten-year lease on a three-acre tract west of the Hooker Oak tract. The consideration for the lease is that Roehr will plant the ground to prune trees and return the same to the Park Commissioner at the end of the tenth year. The commission will thus secure a developed orchard in ten years, and Roehr will receive about three crops for his efforts.

According to figures just made public by agents of the Southern Pacific, Tidewater Southern and Santa Fe railroads, 3,214 carloads of cantaloupes were shipped out of Tulare during the past summer. These figures do not include large quantities of the fruit shipped out in small lots by express. Reports made by the Turlock Merchants and Growers, the Turlock irrigation district's biggest shippers, show that growers shipping through them received an average of \$1.17 for each standard crate shipped.

There will be a greatly increased demand for all kinds of berry juices during the next few years, according to Fred Seiberger, county horticultural commissioner of Alameda. He says that orchardists who are putting out young fruit trees can make their land do double duty by planting berries in the center of the rows on a single trellis. In this way, he points out, a good crop of berries can be harvested each year until such time as the trees get too large.



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(Written for Pacific Rural Press by D. J. Whitney.)

A person growing oranges, or about to grow oranges, naturally desires to know what is the best way to attend to various details of orchard culture. Conditions differ, and what will be best on one place may not be best on another, but the practice on the best groves is a good practice to look into.

From the H. P. Taylor grove of slightly more than four acres, almost adjoining the town of Exeter, being only a part of a 20-acre ranch, there has been harvested consistently during the last four years almost the largest crop per acre of the whole district. However, in addition to mere yield the quality has been superb, almost unsurpassed.

Splits and other serious defects make the cull pile large at almost every packing house. From this orchard the culls run from six to seven boxes a year, or as near nothing at all as can be imagined. Considering the heavy loss from splits and overgrown oranges in most places, this fact is significant.

That is not all. Mr. Taylor's proportion of fancy to second grade fruit, which latter includes good merchantable fruit, thrip marked or rubbed by adjoining twigs, runs about 7 or 8 to 1. (Ordinary packing house run may be only 50 or 60 per cent fancy.)

During the past four years the proportion of fancy to second grade fruit has been 5% to 1; 6% to 1; 7% to 1, and 8 to 1. As the trees grow older it can be seen that the quality improves. The grove will be 13 years old next spring.

The yield for the last four years has run approximately 1000 boxes from the 445 trees; last year the crop was lighter than usual with 812 boxes of good fruit and only 3 boxes culls. Packing house returns have averaged \$500 per acre for the four years.

Conditions that bring about this result are worth noticing. The soil is a rich, deep, uniform chocolate loam. Some one has said that in every case he investigated of great success in fruit growing he found the trees growing on naturally very rich soil. There is a good deal of truth in it.

In this orchard, 25 pounds per tree of commercial fertilizer are applied every year. To supply organic matter,

or humus, natural cover crop is permitted to grow as rank as it will and is allowed to get three-fourths ripe before being turned under.

Disking but No Plowing.

This work is done with a disk. No plow has been used in the orchard for a number of years. First a harrow is driven over the orchard north and south to flatten out the vegetation; then a disk is driven east and west to get the stems square on the side to cut them up. This is followed by cross disking, then diagonal disking until the former cover crop is cut up so fine that it is quickly incorporated in the soil. The fine condition it is chopped into makes it rot far quicker than whole stems which had been turned under bodily by the plow possibly could decay. Mature cover crop is far more benefit to the soil than soft, green stuff, and there is not the check to the orange roots that early plowing would give. The best judgment of the district is getting to be that late spring working of an orange grove is best.

This disking is always put off until late in the morning, giving the straw a chance to dry out. Moist litter will only bend when the disk runs over it. If it is dry and crisp the disk will cut it.

The condition of the grove can be partly attributed to cover crop and tillage. Doubtless irrigation has a great deal to do with it. Usually about nine irrigations are given per season, against an average on most groves of about five. There can be no question in the mind of the writer but what too long periods between irrigations has much to do with causing splitting of fruit, and the practical absence of culls on this place is doubtless due to the trees never getting dry. Always when the furrows are run through, moist soil will be turned up. As to cultivation between irrigations, not a great deal is done, only enough to keep a nice mulch.

Rich soil, fertilization, a heavy mature cover crop, disking and not plowing, with frequent irrigation, seems without doubt to be responsible for consistent heavy production and almost unrivaled quality.

Caterpillars from Intercrop

(Written for Pacific Rural Press.)

People starting a young orchard frequently want to grow catch crops between the trees while they are getting a start. The proposition is all right if the right crops are grown, but there are disadvantages many times to the system. The owner of a nice young plum orchard in the San Joaquin valley planted barley for hay between his trees and sold \$2500 worth of hay as a result. Now, barley, as a money crop is not a very good thing in an orchard, though \$2500 will justify some delay in getting tree growth. However, as a direct result, it seems, of that barley crop, severe injury from caterpillars occurred the next season.

After the barley was off, the ground was too hard and dry to work as deeply, with available tools and power as it should be, unless it was first flooded and there was not enough

water for that, so it was disked, furrowed out, irrigated and cultivated in a way that kept the trees growing nicely.

This shallow working and hard ground seemed to provide a good place for the caterpillars to winter over, as they could not do if the ground was worked deeply, and next summer the caterpillar injury was far worse than it had been before or has been since. The blame is put on the barley crop, for the way it left the soil.

Summer cover crops like beans have done well and have not hurt the trees. Beans did worse in the plum orchard than in other orchards as the plums had red spider on them that spread to the beans and hurt them. This rancher advocates beans only between trees that the spider does not live on.

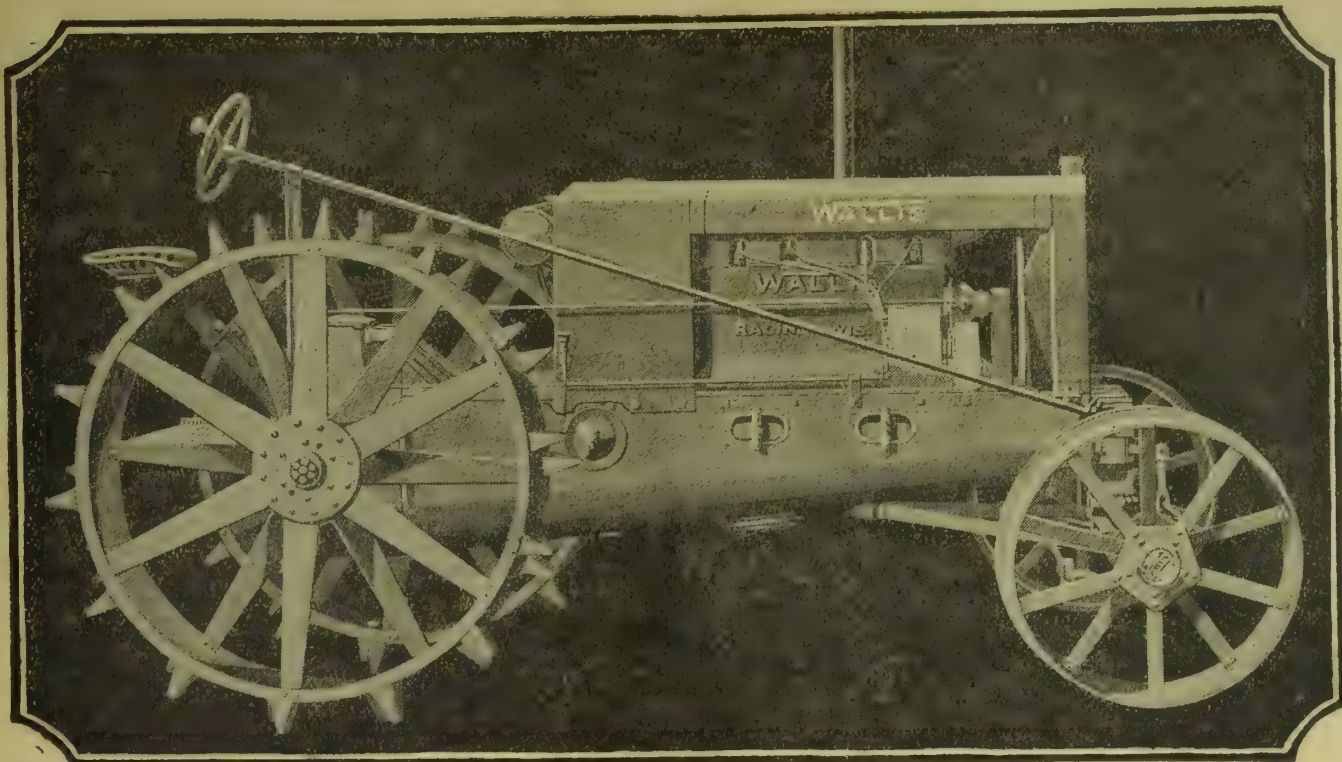
A MISTAKEN EMPEROR POLICY.

(Written for Pacific Rural Press.)

This fall, as in other falls, a number of Emperor growers cut off a number of leaves and soft shoots to let the sun and air in on to the bunches, upon the theory that it would hurry up the ripening. Then the weather played a joke upon them for the frost came, got in easily to those exposed bunches and spoiled them. In other words, they tried to hurry and get ahead of the frost by opening up the vines, and that very opening of the vines allowed the frost to spoil the fruit when it would have had a good chance to escape frost injury if

a lot of leaves had been sheltering it. The theory worked backward; the cutting did just what it was not supposed to do.

According to the best vineyard authorities it is hard to hurry ripening by letting in air and sunshine anyway. Weather and natural conditions, including irrigation, seem to control. Furthermore, it is positively and without question an injury to a grape vine to remove leaves and growing canes. Leaves gather and digest the food needed by a vine. To remove them at any time robs and injures the plant. The only kind of summer pruning permissible is to pull off suckers and to pinch back those shoots whose growth needs to be checked.



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Preparing for Wheat Planting

(Written for Pacific Rural Press by Geo. R. McLeod, Sperry Flour Co.)

As we have indicated in a previous Bulletin, the problem of growing wheat in California, is not so much one of soil fertility, as it is of soil preparation.

There are several factors that influence wheat yields. Among them:

Plant Food Must Be Available.

Probably the most successful California method of rendering the insoluble ingredients of the soil available for wheat, is by summer fallowing.

The land should be plowed in the fall after the first rains, and allowed to stand rough through the winter. In the Spring it should again be plowed and also harrowed to make a covering to retain the moisture.

If in the following fall there are early rains, it is best to allow the weed seeds, etc., to germinate and get a good start, and then plow these under and seed before November 15th, if possible. If no early rains come, then the seed should be drilled in the dry ground so that it will be ready to germinate, when the rains do come, and thus have a chance to get ahead of the weeds.

Soil Must Be Finely Divided.

The principles of dry farming are very applicable to California wheat production. The conservation of moisture by so plowing the soil that it will hold the moisture and by so harrowing, and sometimes mulching the top dirt, that the moisture will be retained, is of vital importance.

Plowing loosens up the soil so that it becomes like a sponge, and retains great quantities of water. Then, by forming a blanket or covering of finely pulverized dirt, over this reservoir, sufficient moisture is retained to assure plant growth during the months of April and May, which are so often without rainfall.

Certain clay soils have a tendency to form hard top crusts when this blanket is too finely divided. Especially is this true when the winter rains are very heavy. In such cases it is necessary to harrow the land, in the early spring, and even if some of the wheat plants, three or four inches high, are destroyed, the remainder of the plants are so much benefited that the yield is very materially increased.

The Plow Sole Must Be Broken Up.

On many farms, the plow sole, formed by plowing at the same depth for several years, becomes such an established condition that one does not realize the damage it does to his land. Practically all the plant food and moisture that the grain receives must be obtained from the soil above this pan—neither the plant roots nor water will readily penetrate it.

The proper procedure is to break this plow sole up so that a larger reservoir of moisture can be formed, and more plant food become available.

This has been successfully done with a Killefer cultivator, which is made up of a number of chisel-shaped teeth set at an angle of forty-five degrees and which can be run at any depth desired.

By this means the pan is broken up, without being brought to the top, where it would interfere with the formation of a covering that would effectively hold the moisture.

Drainage.

Too little attention is given the subject of drainage in California. Large open ditches should be provided to quickly relieve flood conditions. The repeated flooding of any wheat lands means the loss of that much wheat. Drain tile are almost if not entirely unknown to the wheat rancher, yet in these times of high-priced grains, every low spot should be properly drained so that a maximum yield could be obtained.

The building of highways and railroads has seriously affected the natural drainage of California grain lands. And until systems of drainage canals and ditches are developed, our lands will have many wet non-productive spots that otherwise are very fertile.

Elimination of Weeds.

To eliminate most weeds—Black

Oats, Sweet Clover, and Morning Glory—requires continued and earnest effort.

1st—Seed wheat must be thoroughly cleaned.

2nd—The method of summer fallowing outlined above is helpful, especially the spring plowing and harrowing.

3rd—Pasturing summer fallowed land with sheep so that the undesirable plants never develop beyond the blossom stage is often very necessary. With Morning Glory and some weeds this must be continued for two years before the land is in good shape.

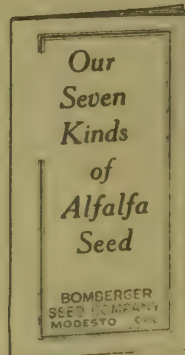
4th—Black Oats can be plowed under when they have grown three or four inches high in loose soil after the fall rains.

5th—Cutting the wheat with a binder often makes it possible to also cut the weeds before their seeds are mature and thus prevent the infection that is caused by late cutting with a combined harvester.

6th—Every precaution should be taken to see that the combined harvester deposits none of the weed seeds that go into the machine, back onto the land.

Alfalfa Seed

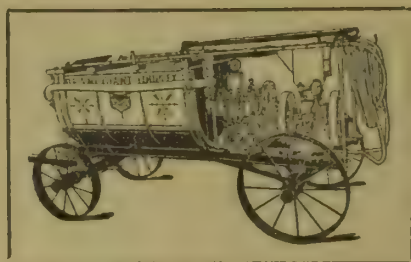
That Produces a Heavy Growth



What kind of land have you? Irrigation not possible? Is your land heavy? Is it sandy? Is it exceedingly wet? Then be careful to select seed adapted to your particular conditions.

Our new booklet tells you what kind of alfalfa seed to plant to get the best results on any kind of land.

It is a compact compendium of valuable information for the alfalfa grower, and points the way to alfalfa success. The booklet is sent free on request, and may save you hundreds of dollars. Send for it today.



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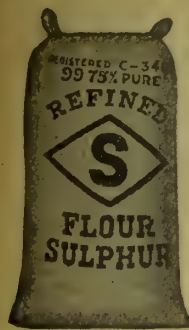
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NEWS NOTES FROM NEVADA.

A movement is on foot by the stockmen of the state to immediately eradicate the rodents of the state. Some of the ranchers venture the statement that fully as much forage is destroyed by the rodents as is consumed by the livestock of the state.

The snow in Central and Eastern Nevada last week was quite heavy for this period of the year. Ranchers are now assured of water for irrigating and stock water for the next season. Sheep began to move to the desert ranges immediately, as is the case each year after the first heavy snow.

Farmers near Fallon are elated over a lower freight rate to Utah and Idaho, recently granted by the Rail Road Administration. A rate of \$6.00 per ton is in effect to Ogden. A great many thousand tons of hay will be baled and shipped out of the project at prices ranging from \$20.00 to \$21.00 per ton.

Land in the Rebel Creek section located in Humboldt section is being rapidly filed on. Within the past year no less than seventy-five filings have been made. No less than twenty-five homes will be built this year and wells sunk for irrigation. In many places an abundance of water is to be found at 20 to 25 feet.

The cutting season of the Verdi Lumber Company was brought to a successful close on account of the recent heavy snow. General Manager Nash reports 19,000,000 feet cut during the season, which is the high record for the company. The season opened March 23rd and ended December 3rd. The entire force comprises some three hundred men.

Next year will be one of great prosperity for the Nevada flockmasters, for fully two-thirds of the wool clip has been contracted at prices from 50 to 51 cents. In some instances a substantial advance in the purchase price has been made without interest. One wool grower with 14,000 head of sheep sold the entire clip at 51 cents.

FARMERS' LEGISLATIVE COMMITTEE.

The Agricultural Legislative Committee, representative of producers' organizations of dairy, livestock, poultry and eggs, deciduous and citrus fruits and dried fruits and nuts, has been organized as the outgrowth of a suggestion advanced during the recent producers' convention at Chico. Organization of the committee was effected last week at a meeting in San Francisco, at which representatives of agricultural pursuits were present. The purpose of the organization is to secure legislation favorable to the agriculturists of the state. Each industry will have one member on the committee.

C. C. Teague of Santa Paula, president of the California Walnut Growers' Association, was elected president of the committee, and G. N. Pierce of Davis, president of the California Almond Growers' Exchange, was made vice-president.

An executive committee was selected, consisting of the president and vice-President and five others. They are F. B. McKeivitt of Sacramento, president of the California Fruit Distributors, H. G. Coykendall of San Jose, manager of the California Prune and Apricot Growers, Inc., G. Harold Powell of Los Angeles, general manager of the California Fruit Growers' Exchange; F. H. Wilson of Fresno, president of the California Peach Growers, Inc., and L. A. Nares of Fresno, representing the livestock interests. Permanent headquarters will be established at Sacramento.

The committee as named is representative of fruit and cattle interests. As remarked in our issue of November 22, this committee was designed to represent co-operative organizations in all lines of agriculture and livestock, as well as general organizations for the benefit of ranchers. Apparently such organizations, aside from those handling fruit, were not in at the December 12 meeting. Our bean growers, alfalfa growers, honey producers, poultry men, dairymen, swinemens, and grain men are not represented at all on the executive committee, but it is probably their own fault.

[This is one of a series]

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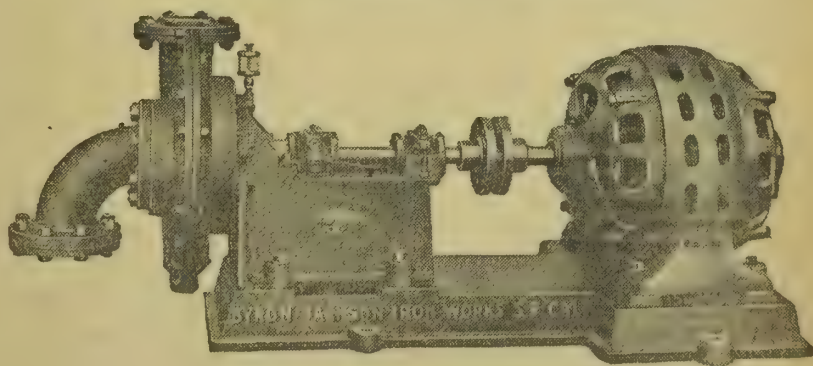
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Organized Farmers Protect Themselves

(Written for Pacific Rural Press.)

The Farm Owners' and Operators' National Association (Santa Clara Unit) is making preparations to increase its already large membership by launching an "Every Farmer a Member" campaign. The trustees have been quietly getting their plans perfected for a systematic canvass of every neighborhood.

Organized as the Farm Owners' and Operators' National Association the farmers will never engage in politics, but they will, so far as lies in their power, demand that in the matter of farm legislation and farm regulation the industry that feeds and clothes the country, state and nation; that pays a larger share of the cost of government than any other single industry; that directly engages almost half the nation's population, must be given a full and fair representation.

Farmers on State Commissions.

Of all the various commissions in the state of California—the Railroad Commission, the Highway Commission, the Harbor Commission, or any of the various other commissions—there is not a farmer on one of them, and as for legislatures, (the men who constitute our law making body), the farmer has nothing to say. Organized capital controls our finance. Organized professions control our laws. Organized business controls our market. And organized labor is seeking to control our employees. For all these the farmer furnishes their only visible means of support. They represent outside of the cities approximately one-half of the nation's population, one-half of the nation's wealth, one-half of the nation's production and pay one-half of the cost of county, state and national government. The farmers feed and clothe the nation and yet, through lack of organization neither the farming people nor their interests are given consideration or representation in business, social or governmental affairs. Therefore it is vital that farm owners and operators should have a county, state and national organization, or a clearing house along broad lines that they may resist the encroachments of other powerful business, financial and industrial, county, state and nation-wide organizations that have properly formed to promote their respective interests, but neither do they know the problems nor are they greatly concerned as to the welfare of the farmer.

Farmers' Reserve Bank.

Organized, the farmers may discover a means of placing themselves on a credit parity with the city borrower. It is a long and expensive journey for the farmer's paper from the country bank to the federal reserve bank, and the borrowing farmer pays the fare at every banking station.

Organized, the farmer might persuade the government to convert the federal loan bank into a farmers' reserve bank, and through the country bank deal directly with the farmers as the federal trade bank through the city bank deals directly with the city borrower.

Road Taxes for Roads.

Organized, the farmer might be able to convert California's annual twelve million dollar county road tax from its present use in building political fences into its proper use of building permanent and modern roads under the supervision of an experienced commissioner.

The farmers are entitled to respect and consideration, and intend through the Farm Owners' and Operators' National Association to demand and command such respect and consideration.

Organized, the farmers might be permitted to participate in the discussion and settlement of the farm labor question, a matter that so far has been handled and "man-handled" by academic agriculturists and city labor leaders, with one exception as noted recently in Pacific Rural Press.

The Farm Owners' and Operators' National Association is not a buying or selling organization. They are organized for the protection of property

rights. It makes no difference whether a man is a fruit grower, grain grower, alfalfa grower, dairyman, gardener, cotton grower, cattle raiser or any other of the various farm industries.

The Farm Owners' and Operators' National Association is not opposed to labor organizations or any other lawful organizations. Their interests are one with every farmer in the country. Farmers are organized to protect their interests as labor unions are protecting their interests by organization.

Deciduous Fruit Experiment Station.

One of the first questions the organization took up at its first meeting in March of this year was the securing of a \$150,000 appropriation for a deciduous fruit experimental station. This station is to be located in Santa Clara County, and it is expected to be in operation by January 1st.

More Taxes on Fruit Trees.

The next question was the increased assessment of 100 per cent on fruit trees by our county assessor. All know that this tax must be paid this year. Through the efforts of the Farm Owners' and Operators' National Association this assessment has been changed for next year to a more equitable basis.

The Tomato Growers have asked the Farm Owners' and Operators' Association to take up the Tomato Growers' grievance to see if they can collect the many thousands of dollars yet due the growers for their 1918 crop.

Water Meeting December 20.

The next step of the association is to take up the matter of water conservation in Santa Clara County. This will be discussed at a mass meeting of all farmers to be held at 2 o'clock Saturday afternoon, December 20th, in the San Jose Chamber of Commerce building. All farmers are invited.

Farm Labor Bureau.

Another way in which the Farm Owners' and Operators' National Association is protecting property rights, especially of the farmers, is through the Farm Labor Bureau, which it is conducting in the San Jose Chamber of Commerce building. Last season this bureau supplied to the farmers in the various parts of the county between fifteen hundred and sixteen hundred workers to help harvest the fruit. This alone is a big item along the lines for which the association is organized. Plans are now being made for conducting the bureau on a larger and better scale next year.

All these things show the association is accomplishing the object for which it is organized.

Several of the other counties have organized with a large membership, and all the counties are in stages of organization. It is the hope of the Farm Owners' and Operators' National Association that before next harvest all the counties in the state will be organized.

U. S. GOVERNMENT LOAN FUNDS.

To the Editor: Is there a fund controlled by the United States Government from which loans, not to exceed eight hundred dollars, for the purchase of live stock, will be made to former soldiers?—R. W. F., Colusa.

[Answered by Chairman Elwood Mead, State Land Settlement Board.]

"The U. S. Government has not provided any fund of the kind referred to. The Mondell Soldier Settlement Bill now before Congress provides for the purchase of land in large areas so as to create community settlements of not less than 100 persons. This land is to be sold on long-time payments. The settler is to be loaned \$1200 to build a house and make other permanent improvements, and \$800 for the purchase of livestock and implements. The bill has not yet come before Congress for action, and there seems to be considerable opposition to its passage in the central and eastern part of the country."

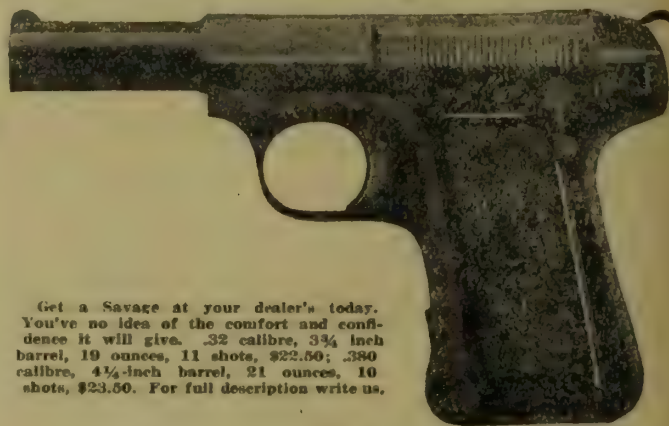
SAVAGE

THE MONEY THEY THINK YOU'VE GOT

All the newspapers say all the farmers have all the money. And all the yeggs and all the gangsters and all the other thugs believe them.

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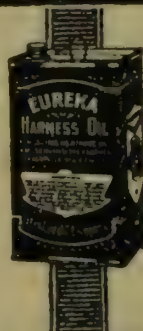


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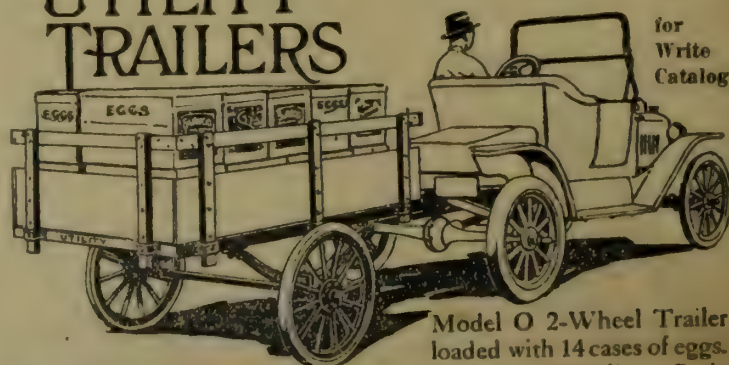


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Every acre of your farm should be made to produce its utmost. This can be done by feeding and strengthening the soil. It must be supplied with sufficient of the elements necessary to produce big crops.

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PURE ANIMAL MATTER
AMMONIATES



CONSERVE THE MANURE PILE.

[From the State Department of Agriculture.]

Even in California, with its wealth of rich fruit and farm lands, annual losses are suffered through the improper care of manure, waste, and bedding from the stables and pens. I say improper care, but in too many cases there is no evidence of any care whatever.

If the farmer could be shown just how much he lost in actual cash every year, it is possible that more attention would be given this important adjunct of successful agriculture. However, it is not possible to compute the loss in cold dollars and cents, but it is possible to show, in a way, how these losses operate to his detriment.

First we must get down to the hard fact, that no matter how rich your particular holdings may be, there comes the time when you must renew the soil, exhausted of its elements, by your fruit growing or farming operations.

Barnyard manure cannot be duplicated chemically as a restorer of wasted energy to renew the soil or build up the orchard. Hence, you are as dependent on fertilizer to make your farm and orchard "go" as you are on oil or gas for your motor truck.

Why not enjoy the maximum 100 per cent of value from your "compost" instead of permitting a large part of it to become misapplied through leaching and fermentation?

There are large items involved in the improper care of manure which contribute to losses in money, sickness and death from typhoid on the farm, and which are the prime factors in deliberately putting the most destructive insects into your farm and orchard.

The open manure pile in its processes of fermentation, by heat and odor attracts all manner of unwelcome insects that instinctively seek its warmth to deposit their eggs, with the foreknowledge that their brood will be perpetuated.

Within the exposed manure pile may be found the housefly, carrier of typhoid fever, the white grubs, the larva of the fig-eating beetle, the wire-worms and countless others, whose careful parents have placed them there in the form of minute eggs. In a single square foot of soil, where an exposed manure pile had rested, the writer counted as many as 300 minute white grubs (Lachnosterna sp.) and possibly many more that the eye did not detect.

On the average ranch or farm the open manure pile is largely responsible for the entire infestation of houseflies that carry the filthy germs to pollute the milk and food and spread sickness and death that with ordinary care might be avoided. Why not store your stable litter and manure in a tight bin, box, or pit? Wood, metal, or concrete will answer. Much of the value of stable litter is lost through the dissipation of gases and through leaching. This may partly be avoided by providing proper storage receptacles. Our boats go to far Chile for guano in bat caves, and to the bird reservations for phosphates. Almost pure nitre! The experiment station will show you that every chicken on the farm produces approximately twenty pounds of waste high in nitre content each year. That, mixed with five times its bulk of earth, is a valuable dressing, but who conserves it properly. There is an old saw that "money makes the mare go," and we know that "fertilizer makes the farm and orchard go."

SAN LUIS OBISPO 1920 CROPS.

To the Editor: There will be a very small acreage of small white beans in San Luis Obispo County next year on account of the low price this year. The warehouses are full of beans, many sacks of which were left over from 1918. There will be a large acreage planted to alfalfa and Melilotus alba.—Harold E. Alley, County Commissioner of Horticulture.

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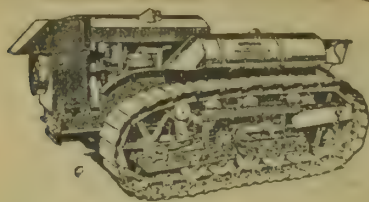
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30,000 Customers. Catalog Free. Agents Wanted.
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AGRICULTURAL NOTES.

Demonstration plots of Mariout barley are being laid out throughout San Diego county.

The 1919 corn crop of the United States is valued at \$3,934,234,000, with a total production of 2,917,450,000 bushels.

The total volume of important farm crops for 1919 was \$14,092,740,000, the crop reporting board of the U. S. Agricultural Department has announced.

A campaign is being waged in Imperial county for the keeping of farm accounts and household accounts, which is meeting with considerable favor.

The estimated acreage of peas in the Imperial Valley is as follows: Brawley, 460; Calipatria, 200; Westmoreland, 165; Kimura, 40; total, 865. The estimated production is 85 cars.

One thousand dollars a day was expended in the campaign for eradication of ground squirrels in California during the past year, says G. H. Hecke, head of the State Department of Agriculture.

The country's wheat crop for 1919 is valued at \$2,028,522,000, with an acreage of 73,243,000 and a total production of 940,987,000 bushels. The total production of wheat for 1918 was 921,438,000 bushels.

The production of sugar beets in the United States this season is 6,396,860 tons, worth \$68,750,000, as compared with a production for 1918 of 5,948,798 tons, valued at \$59,494,000. The production of sugar is 6,396,860 tons.

Imperial county voted \$1,500,000 for building cement highways. The Farm Bureau has appointed a committee of one director from each supervisory district to confer with the County Highway Commission for the location of these.

The supervisors of San Bernardino county have appropriated \$1,000 to secure an assistant farm advisor in the county. The farm home department held a series of eight hat-making demonstrations during the month, with an attendance of 128.

The Tulare Register says the biggest crop in the San Joaquin valley is being harvested at the Tagus ranch. For the past month pickers have been gathering the fluffy white bolls. The 860 acres of cotton will make nearly a thousand bales, judging from the yield already picked.

Figures on some important United States crops this year are: Oats—production, 1,248,310,000 bushels, valued at \$895,603,000; barley—production, 1,657,190,000 bushels, valued at \$200,419,000; potatoes—production, 357,901,000 bushels, valued at \$577,581,000; cotton—production, 11,030,000 bales, valued at \$1,977,073,000.

The following is the revised estimate of onion acreage by shipping points in the Coachella valley: Coachella, 1,200; Thermal, 1,160; Indio, 300; Mecca, 40, making a total of 2,700 acres, as compared with 790 for the season 1918-1919. Weather conditions are more favorable than last year and practically no thrips are present. Crop is in fine condition.

The United States Grain Corporation has released for milling a large quantity of California soft wheat to make bread available at lower prices. Millers have promised to co-operate in putting on the market what was known as "Straight Flour" at a price fixed to the consumer. The prices named are \$3.00 for a 49-pound sack, \$1.55 for a 24½-pound sack, and 65 cents for a ten-pound.

Japanese are gaining control of some of the most fertile and largest ranches and farms in Yolo county, according to figures given out by Deputy Assessor C. W. Crutcher. He estimates that the Japanese control 9,000 acres in the county, and of this acreage they have actual title to 320 acres. The records of the assessor's office show that 3,114 acres have been leased to the Japanese, which does not include 5,000 acres owned by the Alameda Sugar Company, also leased to the Japanese. The average price paid for the leased land runs from \$18 to \$35 per acre.



"It Digs Cellars"

"Look at that blast! There's a day's work done with a bang. How long do you reckon it would have taken you boys to loosen all that dirt with

pick and shovel, eh? There's no use talking—when you've got a heavy job of digging, no matter whether it's for tree planting, post holes, ditches, or cellars, there's nothing in the world that'll beat

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"I never knew a tenth of the things you could do with explosives until I sent to the Hercules Powder Co. for their book, 'Progressive Cultivation'. I'd tried dynamite before and it was saving me money but there were a lot of tricks in the game I didn't know until I'd read that book.

"No matter how simple blasting seems, boys, there nothing like knowing the best methods to use—the methods that give you the maximum result with a minimum of expense for material and labor—and this book tells you all about them.

"And the best part is that any farmer or orchardist can get 'Progressive Cultivation' free if he signs the coupon and mails it to the Hercules Powder Co."



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Mechanical Power on the Farm

TRACTOR DID RUSH JOBS.

(Written for Pacific Rural Press.)

In plowing subirrigated land, such as may be found in all irrigation districts, the furrow horse frequently mires down while the others have good footing. Geo. Kemp of Stanislaus county had horses last summer trying to do a rush job of putting in beans after an oat crop was off. Water to irrigate after the oats was late in coming, so it was necessary to plow soon and fast after irrigating. Mr. Kemp seemed unable to get horses enough to get the plowing and seedbed preparation done in time; but in his efforts, one of the horses bogged down to the hocks in the furrow. Mr. Kemp got a 12-20 wheel tractor in July and pulled two fourteen-inch plows four inches deep, running one wheel in the same furrow without bogging in.

Foolish to Mire a Tractor.

Three times, however, he has bogged the tractor. It is not a question of power, but of traction. The engine can spin its wheels and then of course digs in where footing is soft or sandy. Experience has taught Mr. Kemp that "digging in" is unnecessary. It is foolish to get a tractor mired down. In almost every case where the machine gets stuck, the implements have "sucked in," thus making too much of a pull. Just as soon as he feels the load getting too heavy on soft footing and before the wheels begin to slip, Mr. Kemp stops. He unhookes from the implement and attaches a long chain which he always carries. The tractor is run a few feet forward to better fresh footing, the implement is adjusted for less depth, and the tractor pulls it out.

Having plowed 69 acres in a hurry this summer soon after irrigation, Mr. Kemp's idea is that in such cases, or in subirrigated fields where some spots will always be too wet when others are dry enough, a light weight wheel machine fills the bill. He has had no experience with track-types. Having worked down the 69 acres with the tractor and an eight-foot double disk going over some of it three times, he says that a six-foot double disk would be better on account of the soft and sandy places. There, time would be saved by having a lighter load. That hot summer work which involved long days, leads him to say that he could not have done the same work in the same time with 20 horses.

Dry Seeding of Grain.

Since the beans were taken off, Mr. Kemp plowed the 69 acres and double-disked it all, before the recent rains. He followed the double-disking closely with an eight-foot grain drill so that sixty acres were planted when the rain came. Without the tractor, the rain would have cut his work in two and would have delayed seeding; or else it would have prevented any of the dry plowing, and all of the seeding would be still to do.

After all of this work, repairs have cost practically nothing, all repair work and adjustments having been done by Mr. Kemp himself.

PUMP DOUBLES ALFALFA YIELD.

(Written for Pacific Rural Press.)

While some ranchers waste half of the alfalfa growing season for lack of pumps to supply water after gravity irrigation gives out, R. M. Diggs, whose ranch lies above King City in Monterey county, had alfalfa fields green and growing the last of October, and other green alfalfa fields were being browsed by his cattle. He gets the equivalent of two or three cuttings of alfalfa per season more than others in the same county whose irrigation plays out earlier. That means something right now with alfalfa land selling at high prices and alfalfa in stiff demand. It means that the pumps pay their first cost and cost of operation, and help Mr. Diggs pay the high cost of living in town. He has

about 225 acres of alfalfa solely for his beef cattle.

The pump system which keeps the alfalfa growing consists of two out-fits and two reservoirs. The big out-fit pumps 3500 gallons per minute, according to James Perry, who has tended it for the past three years. A single centrifugal pump set in an excavation draws water from half a dozen wells through pipes which radiate like spokes from the pump. Since suction lift is considered to require more power than the push lift above the pump, it is located about ten feet below the reservoir water level. 'Twas a good thing this season, for where the suction should be only two or three feet at this location, it pulled down to 22 or 23 feet during the past summer.

A difficulty is frequently experienced in starting the pump, however. Its being below the reservoir water level makes necessary a foot valve in the pipe line above the pump. With pressure on the valve from the reservoir, the pump churched fruitlessly trying to open it sometimes, and has to be speeded up "to beat the band."

After it is open, no more trouble is experienced because it floats in the stream. The pump is kept running almost constantly from April to October, inclusive.

SIERRA POWER OUTFIT LEASED.

In accordance with the announcement made recently to the effect that the Sierra and San Francisco Power Company contemplates the leasing of its operating properties to the Pacific Gas and Electric Company, the Railroad Commission was recently asked to approve the leasing of the plant. The Sierra Company claims a value of \$17,500,000 for the property involved in the lease.

The terms of the lease are as follows: Rental for the year ending December 31, 1920, \$50,000; rental for the year ending December 31, 1921, \$50,000; rental for the year ending December 31, 1922, \$100,000. For each of the remaining years covered by the lease, \$150,000.

AUTOMOBILE IGNITION.

An automobile ignition system having a number of separated units is

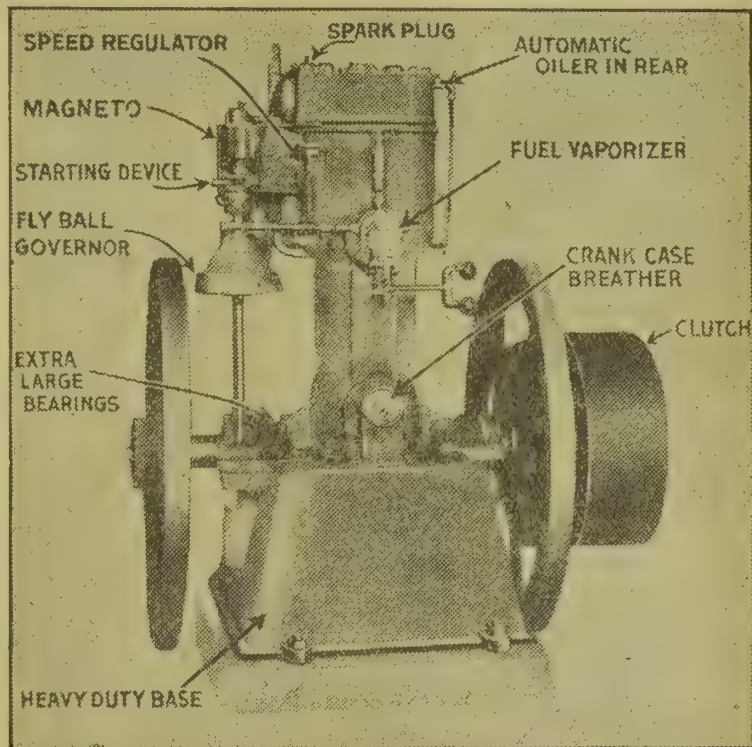
just that many times more likely to get out of order. Therefore, one made up of a single unit is most desirable. It must be reliable and provide an intense, penetrating synchronized spark under all conditions. It must be sturdily made and be simple in design. It must require little or no attention.

Naturally it must be unaffected by atmospheric changes, chemical reactions, and the rack and jar of contin-

uous and rough service. The only ignition system that meets these requirements is the magneto. The latest 1920 passenger car designs provide for "optional ignition."

The Mohawk Rubber Co. is making certain sizes of pneumatic motor truck tires, and will have a complete line as soon as the present increase in factory buildings and equipment is finished.

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PUT TOGETHER TO STAY TOGETHER

MADE OF CHROME NICKEL STEEL

They're different and better than any other shovel on the market

Send for booklet on Scientific Shoveling.

Harron, Ricard & McCone

San Francisco

Los Angeles

Turlock District to Develop Power

(Written for Pacific Rural Press.)

Petitions were put out December 3 in the Turlock Irrigation District to obtain the 500 signatures required to call an election regarding a bond issue of \$4,108,000. Part of this is to help build the proposed Don Pedro dam on the Tuolumne river about 20 miles above the present La Grange dam, which diverts water for the Turlock district but does not store any considerable amount. The dam is to be built jointly with the Modesto district, Turlock's share being \$2,570,000. The proposed Turlock bond issue covers this and \$510,000 for drainage work and Turlock's share of \$420,000 in the power plant to be located near the dam, and a power distribution system for the Turlock district, which will cost about \$608,000. The dam will be one of the highest in the world, and all water used for power will fall about 100 feet, as pointed out in a report by Chief Engineer R. V. Meikle. All of the power possibilities of the dam and its 250,000 acre-feet of water storage will be required for future needs of the district, which will include pumping for both irrigation and drainage. Temporarily there will be a surplus to sell. Consulting Engineer A. J. Wiley proposes a power plant, which will develop a maximum of 16,000 horsepower during the first nine months of the year when power demands are greatest, and a minimum of 1,000 horsepower during October, November, and December by holding back

a reserve of 22,500 acre feet in low years. Power development of the Hetch-Hetchy project will add 4,000 horsepower to this minimum. Development of foothill districts eventually will require 3,000 horsepower, practically all of which will be used during the period of maximum capacity. There are 300 wet spots in the district covering 50,000 acres where the water level is less than four feet from the surface during the height of the irrigation season. Drainage canals are being provided to receive this water and power will be required to get rid of it. It is safe to assume that 2,000 farmers would use electric power if they could get it at reasonable cost. Irrigation and drainage pumping will require power continuously for six months.

For an irrigation district to thus take to itself the development of electric power with its water before using it for irrigation was made possible by the passage of a law introduced in the Legislature last spring by Assemblyman Miss Esto B. Broughton of Modesto. The Irrigation District directors will control the power development, and bond issues will be made as heretofore made by irrigation districts. The bond election will probably occur in January or February as the 500 signatures are virtually assured. A hundred copies of the petition were taken by farmers and members of the Farm Bureau.

Why Change Oil in Engines?

A campaign to call attention to the necessity of changing oil in motors every so many hundred miles has been advocated by M. L. Pulcher, vice-president and general manager of the Federal Motor Truck Company, Detroit, Mich. He contends that failure to change oil frequently is the main cause of the deterioration of motors. Mr. Pulcher points out that there is so much kerosene in gasoline today that it has a tendency to run down past the pistons, get into the lubricating oil and thin it. The kerosene cuts the thin film of oil on the wearing surfaces of the pistons, piston rings and cylinder walls.

With the film of oil on the wearing parts of the motor broken, friction, the bugbear of motor efficiency, starts in. The pistons work up and down through broken films of oil in a lubricating substance that has lost considerable of its richness and thickness.

There is little chance of changing the quality of gasoline. Therefore, to prolong the life of the motor the only thing to do is to change the lubricat-

ing oil frequently, possibly every 500 to 1,000 miles, he advocates.

An experiment witnessed by Mr. Pulcher recently is instanced by him as proof that it is the non-lubricating qualities of the oil that damages motors.

A motor was brought into a shop with almost .015 inches wear. The motor was ground to .020 inches oversize, fitted with new pistons, put on the block and filled with good, clean oil. The motor was then run continuously for 60 hours and during this time the oil was changed three times.

When the motor was taken down it showed no wear.

The motor was again put together, oil was taken from an old truck and the motor put through the same 60-hour test without any change of oil. It showed .005 inches wear, indicating that it is the non-lubricating qualities of the oil resulting from the kerosene working past the pistons and mixing with it that cause the deterioration of motors.

The age of a motor may almost be said to depend upon the number of times the oil is changed in it.

Novel Uses for Gas Engines

[Written for Pacific Rural Press by Thos. E. Browne, Stockton.]

A novel use for gasoline engine of the light weight type (4HP) is shown in its use for power on a silo-packer at Meister's Dairy in Sacramento. It is said to save \$30 a day in labor costs. This engine can be used also for chore work on the farm.

Byron Bearce of this city is mounting light weight engines for power on a machine for boringholes to prepare for blasting in preparing the ground for planting.

Miller & Lux of Los Banos are building a tule-cutting machine for use in their canals and ditches, mounting a light weight engine on a small barge and operating cutting knives to clean the ditches for a better flow of water. Similar machines have been used by them and others with much success.

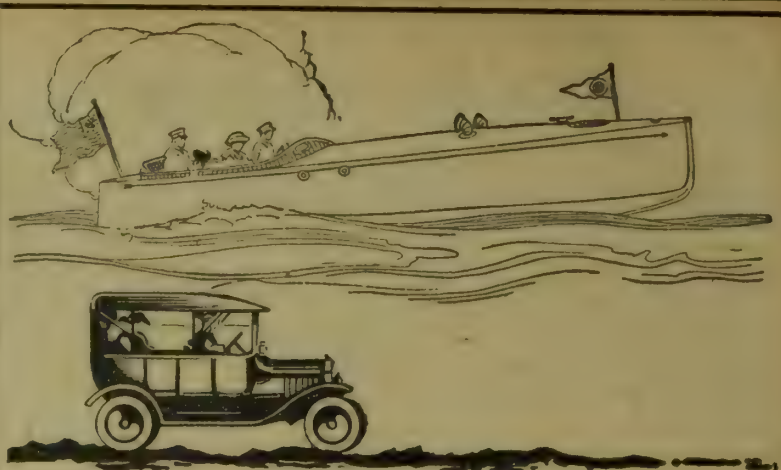
The Staten Land Co. are digging potatoes this year with several machines drawn by horses and driven by auxiliary light weight engines. It is claimed that they can harvest three times faster than by hand and also avoid the great losses experienced every year through leakage caused by

careless diggers running forks through potatoes.

The high prices of wheat and barley served to induce some to plant their grains in light soils, where it has been difficult to harvest their crops with the ordinary machines. The light weight engine used as an auxiliary drive on binders, reapers, and headers has enabled these growers to properly harvest their crops in a most satisfactory and profitable way. There are some who are mounting these engines on mowers, making it convenient to cut at any period of even the hottest weather, and to cut the heaviest crops with a reduced cost for wear and tear on machines and team.

A tractor user who is always working while two of his neighbors are frequently fixing their tractors says their troubles are largely due to overloading.

In buying a tracktype tractor it is well to satisfy yourself that the track will not run off its sprockets in turning corners. Some do and some do not.



Float a Ford

SHOCK ABSORBER

Makes a Ford even Better



On Front Springs



On Rear Springs

\$18.50 Per Set

Desirable territory open for live dealers. Write for our proposition.

You know the enjoyable, thrilling sensation of gliding over the ocean swells in a graceful power boat—it seems as if you are just floating thru space with no abrupt jerks or sudden jolts. Your car equipped with Float-a-Ford Shock Absorbers will ride with that same ease of motion—no jolts, no bumps, no side jerks—will glide along “like a boat riding the swells”—every road a boulevard.

Two tested steel valve springs check the downthrust of bumps, while the third absorbs the upthrust of the rebound. They are adjusted to eliminate side jerks. They are attached to the Ford springs, both front and rear, without boring a single hole in frame or axle.

Try a set—convert your Ford into a “land yacht.” If they’re not entirely satisfactory, we’ll cheerfully return your money.

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The OilPull Is a Real Belt Machine

A perfect system of automatic speed control insures power under all load conditions. Consider these points also—

- large diameter belt wheel mounted directly on crankshaft.
- simple and positive clutch.
- patented shifting device on front axle which allows ample belt clearance between front wheel and frame with no sacrifice in general design.

We build 4 sizes—12-20, 16-30, 20-40 and 30-60 H. P. Write for OilPull catalog.

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RHUBARB

WAGNER'S IMPROVED

PLANT NOW Growers making \$1000 and over per acre annually. Splendid results in six months. Special prices for immediate planting. Also berries and small fruit, etc. Write to the originator, J. B. WAGNER, Rhubarb and Berry Specialist, Pasadena, Calif.

Westrolac
442-444 Sansome St.
San Francisco, Cal.

PREPARING YOUR BEANS FOR MARKET.

(Written for Pacific Rural Press.)

It is the writer's privilege to eat beans about five times a week on the average. These beans do not have adobe in them. It is our privilege also to see the beans harvested, and in the warehouses. There is usually more or less adobe in them. This is generally a matter of careless handling. The dirt must be taken out on the road to the consumer and somebody pays the cost. Fortunately, a machine is in use that does this part of the work rapidly. All beans have to go through it because of the careless harvesting of some of them.

Such a machine is part of the equipment of the T. M. & G. warehouse in Turlock, Stanislaus county, as shown the writer by C. W. Kinney, who has charge here. From a hopper, the beans slide over sloping rollers placed close together so they catch the dirt while the smooth beans slide over and off.

There is always more or less chaff and light straw among beans as they come from the thresher, and many of the beans are split into halves. To clean these, they are elevated to the top floor and dropped onto shaking sieves after an air blast has blown over the falling beans. Light stuff separated by the screens is disposed of through a separate chute. The beans then drop into another more complicated sieve cleaner and grader which takes out the splits. Those that go through the various screens are run by separate chutes to half a dozen sackers.

Bean Polishers.

Red Mexicans here and white beans elsewhere are improved greatly in appearance by running through a polisher, of which there are two in this plant. The polisher is a cylinder through which a screw forces beans and sawdust upward until the beans are well polished. The sawdust drops away through a screen and the beans drop to a portable sacker and weigher. This is rolled under whichever bin is to be packed and the beans are dropped first onto the scale. This trips into the sacker any weight for which it is adjusted, so the packed sacks are of uniform weight. Any beans which need recleaning can be turned into other elevators to be run through additional cleaners.

Preventing Weevils in Beans.

The writer once raised a crop of beans which turned out to be buggy. The weevils showed up bad before we found prices showing up good, so we couldn't sell any of them. There are others to this day who lose in a similar way. The best insurance policy against such loss is fumigation as soon as possible after threshing. Mr. Kinney showed us the T. M. & G. fumigator. It has three compartments, each with a capacity of a carload. The sides are double boarded with building paper between and roofing paper overhead to make it airtight. The sacked beans are piled up, not too tightly together, and about seven gallons of carbon bisulphide are poured into as many earthenware crocks distributed over the pile. The door is locked for 24 to 36 hours and the carbon bisulphide evaporates. The beans are then safe for the entire season. Growers are charged \$2.75 per ton for the service and extra handling. Some growers do not have beans fumigated at all, and others fumigate just before shipping, but neither course is as safe as immediate fumigation.

Thirty-four Tuolumne county farmers have asked the Railroad Commission to order the Sierra and San Francisco Power Co to pay them in irrigation water for work they propose to do in repairing the Columbia Canal, so it will supply enough water for their lands.

Rice land near Nelson, Butte county, is selling low. An estate of 2272 acres is being sold at \$110 per acre through the court.

Heavy rains in Arkansas and Louisiana sprouted as much as 20 per cent of the unthreshed crops in some cases.

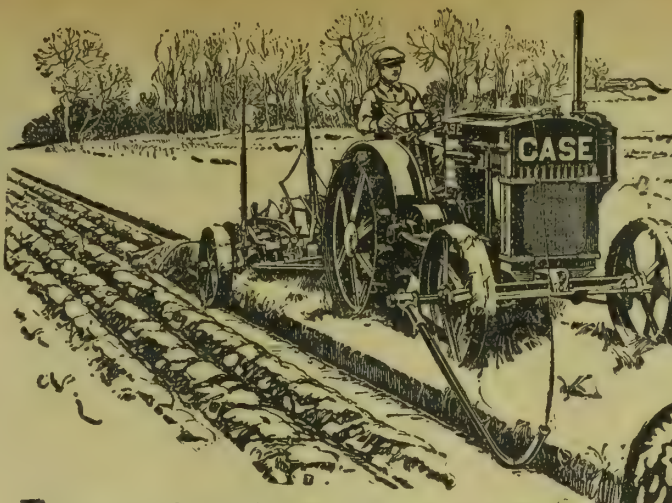


Illustration shows Case 10-18 Kerosene Tractor pulling 2-bottom Grand Detour Plow.

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Fertilizers and Fertilization--VIII

(Written for Pacific Rural Press by Dr. C. B. Lipman, Professor of Soil Chemistry and Bacteriology, University of California.)

[Note.—The article on "The Importance of Sulphur," page 286 of our issue of August 30, was No. VII. of this series, though proper caption was omitted.—Editor.]

Relation of Lime to Soil Activity.

When the chemist speaks of lime, he means calcium oxide; when the farmer speaks of lime, he means burnt lime or quick lime (calcium oxide), hydrated lime or water-slaked lime (calcium hydrate), ground limestone, oyster shells or similar material (calcium carbonate). Frequently the farmer also includes gypsum under the head of lime materials, but that is indefensible for several practical reasons which we need not discuss here. It will be noted that the materials included by the farmer under the term "lime" not only contain in common the element calcium, but they all furnish, when mixed with the soil, smaller or greater quantities of hydroxyl ion, which is the alkaline factor in chemical substances. It is the factor which neutralizes acid, and hence, is the opposite of the hydrogen ion or acid-producing factor.

Reasons for Lime Materials.

In the literature on soils and fertilizers, you will find the following reasons given for the importance of lime materials in agriculture:

First—They contain the element calcium, which is essential to plant growth.

Second—They contain the alkaline factor above described, which neutralizes acidity in soils.

Third—They exert a coagulating effect on the colloidal components of soils, tending to make them form aggregates, and hence, to give the soil a looser and more friable character. This is of importance principally in heavy clay soils which need physical improvement.

These reasons are generally predicated on the fact of the rapid leaching of calcium from soils and on that of the growing tendency toward an acid condition which characterizes them. In connection with the first reason given, of course, only calcium salts can be considered. The other two reasons, however, do not necessarily imply the use of calcium compounds, since many other substances can displace them for the purposes in question. The fact of the matter is, however, that lime materials are the cheapest and most abundant of any of the materials which might comply with the requirements of the second and third reasons; and among the calcium compounds which might be effective from the point of view of the first reason, they are likewise the cheapest and most feasible to use.

The text books usually add that nearly all soils contain enough of the essential element calcium for all plant needs, either in available or in insoluble form; and that therefore lime materials, agriculturally considered, are important chiefly because of their tendency to neutralize soil acidity and to improve the physical condition of heavy soils. It is chiefly because of the assumption that sufficient calcium is found in most soils to satisfy the needs of plants, that lime materials are not classed with fertilizer materials. In any event, the specific effect of calcium or of its absence on the appearance and quality of plant growth, if such exist, is not known any more than that of phosphorus and potassium, which are discussed in more detail in another memorandum.

Soil Acidity and Lime.

A soil is acid when there is a preponderance of acid over alkaline substances in it. Or to put it in the language of the chemist, a soil is acid when the quantity of hydrogen ion in it exceeds that of the hydroxyl ion. A soil is alkaline, of course, when the opposite is true. Acid soils are widely scattered in all parts of the world, but are much more numerous in humid than in arid regions. Acidity is usually accumulated in soils due to the removal of alkaline materials from them through leaching processes, assimilation by plants, and through the

addition of soil amendments or fertilizers which leave acid residues (like ammonium sulphate).

It has been shown to be true by experiment that calcium bicarbonate disappears rapidly from soils through leaching, that the acidity under these conditions keeps increasing, and that with such increase of acidity plant growth on such soils becomes poorer and poorer as year follows year. Moreover, the application of lime under such circumstances improves the soil as a crop medium in nearly all cases. Superficially, therefore, it appears that acidity as such or the acid ion is the factor in acid soils which is injurious to plant growth. This, indeed, will be found to be the view expressed in practically all soils literature. As in everything else in soil problems, however, the obvious explanation for soil acidity is not necessarily the correct one, as recent investigations by Hoagland, Couter, Hartwell, and Truog, among others, have demonstrated. Hoagland has given the most careful and painstaking consideration to the planning and execution of an experiment to determine the effects of alkalinity and acidity on plants. The results of his experiments were briefly as follows:

Using the barley plant and employing solutions whose acidity and alkalinity were ingeniously adjusted through the employment of series of acid to alkaline phosphates, he showed that the barley plant remains uninjured by much larger amounts of acid than those found in very acid soils in which the growth of the same plant is inhibited. On the other hand, and of less direct interest here, Hoagland found that relatively slight excesses of alkalinity or hydroxyl ion were very injurious to the barley plant.

Acidity Considered.

These results indicate that acidity itself is not the cause of injury to plants; and we are obliged, while recognizing as we have for a long time the method of ameliorating soil acidity, to seek some other explanation than the commonly accepted one for the injurious effects which accompany it. Some of the investigators above named and others have put forward tentative explanations for the cause of the trouble. One explanation is that soluble aluminum and iron salts are found in considerable quantity in acid soils and that they are toxic to plants, hence the undesirable nature of soil acidity. The reason for the presence of soluble aluminum and iron salts in acid soils and their absence in harmful quantity in slightly alkaline soils, probably is that those substances are precipitated in the hydrate form in the presence of free hydroxyl ion and hence rendered inactive. Another explanation is that the calcium of the soil solution is rendered unavailable by the acidity present, or an actual lack of calcium may characterize such solutions. A third explanation is that other elements besides calcium and including nitrogen may be rendered less available in the soil solution in the presence of acidity and that may be the cause of the injurious nature of soil acidity and of its amelioration by lime applications. It can readily be seen that a lime application might induce any or all of such changes and possibly others besides. Until one of these explanations proves correct or some other explanation is advanced which will explain the problem beyond question, we must simply regard the lime and soil acidity situation as follows:

- (1) Soil acidity accompanies or is accompanied by conditions in the soil solution or soil which are inhibitory to the best growth in such soil of many common crop plants.
- (2) The inhibitory factor is probably not the acidity or free hydrogen concentration itself, but side effects induced by it.
- (3) Whatever the nature of the inhibition induced indirectly by acidity, it seems clear that liming of such soil with sufficient lime will largely or wholly overcome the difficulty.

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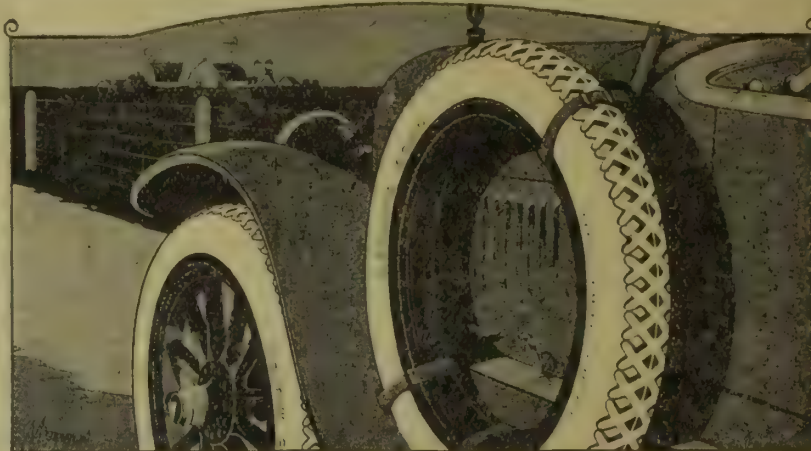
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If one of the explanations above given for the effects of soil acidity and liming is correct, calcium may have to be considered on a par with nitrogen, phosphorus, and potassium in its importance as a plant food element, and is a substance necessary as an application on many soils. The differences in cost of these different materials constitute a minor factor in this connection.

In connection with the use of lime for improving the physical condition of heavy soils (clay), calcium oxide and calcium hydrate are best, because they act more quickly than calcium carbonate, but the latter in large quantities may be used advantageously.

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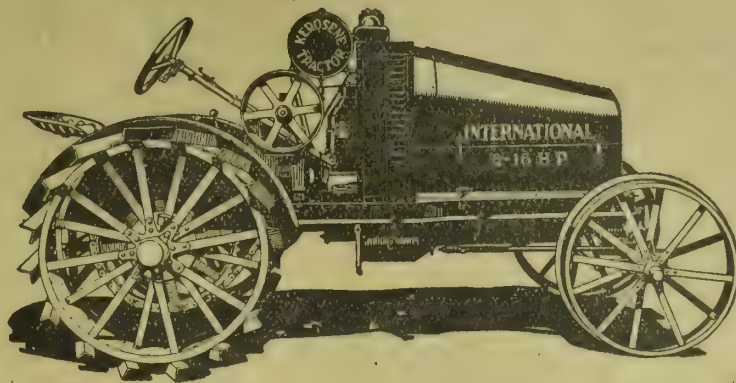
The recent seasonal rains have given farmers the opportunity they have waited for to plow and put the land in shape to seed to grain. Before the rains set in about Thanksgiving time, plowing had been more or less spodic over the State. In the Livermore district some of the land had been cultivated. Instead of plowed, while in the lower San Joaquin little work had been done. In the upper San Joaquin, notably Tulare county, large acreages were plowed before the rains. In Monterey county considerable land had been turned over, but much of it was waiting for rain.

The question as to what annual crop to plant has been solved for many growers by the high prices paid for the 1919 barley crop, now selling for about \$3.50 per sack, and the unprecedented advance prices being offered for the 1920 crop. During the past week a large tonnage of barley for next August delivery has been contracted for in San Francisco at \$2.80 per sack.

When one takes the average farm price of August barley of about 80c, which prevailed for ten years prior to 1914 and compares it to the \$2.80, now being paid for this lot, it looks like there would be a heavy planting of barley this winter and that it would pay well if most of it can be sold around the prices recently offered for the lot mentioned.

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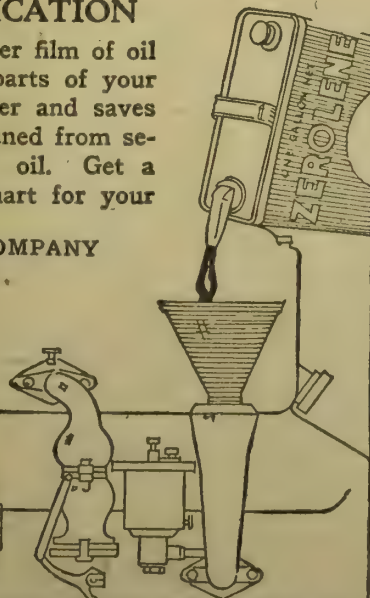
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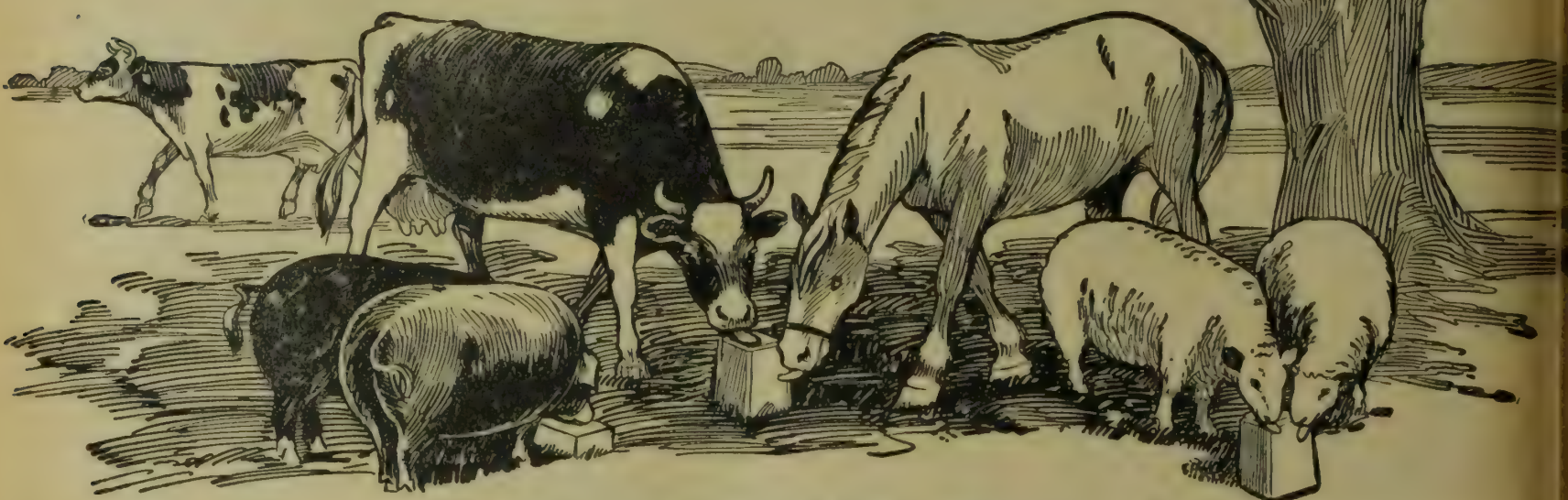
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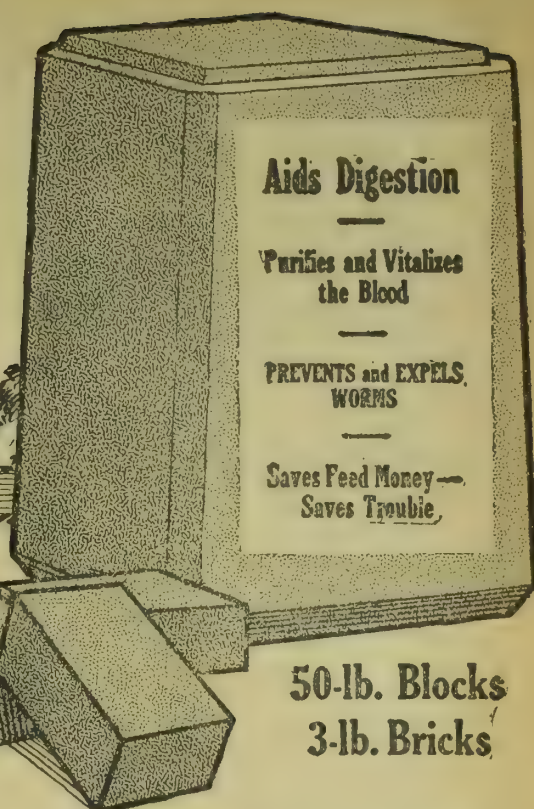
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A farm flock of several hundred hens and a flock numerous enough to occupy all a person's time are two different things.

(Written for Pacific Rural Press by D. J. Whitney.)

SOME TIME ago a correspondent wanted to know about starting a five-acre poultry ranch in the Sacramento valley and asked about methods near Tulare, where the Co-operative Poultry Association has succeeded so well that it really has boomed the town and all the country round it.

Henry Wattenberg is one of the directors and first member of the poultry association. Not long ago he sold his ranch and poultry plant and moved on to five acres close to town, where he is operating a small scale dairy and poultry ranch that illustrates a very satisfactory line for any one who is interested in the prospects from such a location.

On the place are kept three well-bred Jersey cows, a horse and 300 Rhode Island hens. There is alfalfa for the stock and it also supplies green feed for the hens. The cows provide a nice little income from their butter fat and the milk is a very important feature in the diet of the hens, which also provide a nice, steady income. Fertilizer is very abundant from both henyard and stable, and the home vegetable garden can produce heavily. The work is light and pleasant, well within a man's capacity, for one man could easily attend to more cows, land and hens than this and do justice to them all.

Ranch Arrangement

The hens are yarded, but have a regular half-acre run that is kept seeded to barley for green stuff. They are also let out a good deal on the alfalfa. This run is more than large enough, as the grass is not eaten down nearly as much as it would be if the run were smaller or the hens more numerous.

In summer the cows are kept in the corral and fed hay and green-cut alfalfa. In winter they have the run of the alfalfa field. They also are fed beet pulp to make a soft, green feed, to keep them in prime condition and to keep the milk flow at its best. The place is large enough under the system described to provide all the alfalfa needed for the stock. The feed for the hens, except for grass and milk, is all purchased.

The cows average \$22 a month each for about nine months for butterfat, or approximately \$50 a month for the three the year round. The feed bill for the hens runs close to \$40 a month. At present with a large number of the fowls too young to lay, the income is \$75 a month. When all are laying the egg production will be much heavier and the feed bill little, if any, more. By making an effort it will be clear that far more hens could be kept on a place like this, and one man could still take care of them and milk more cows. The ranch, however, is not planned for big profits, but to make a fair, steady, well-balanced income without too much toil or confinement. It is Mr. Wattenberg's method of retiring from heavy work, to lighter, pleasant work that will still provide a good living.

No Breed Rivalry.

Rhode Island Reds are selected in place of Leghorns, mainly because on such a small place they can be confined easily without building too high fences. As to a breed argument Mr. Wattenberg says that he does not see a hand-breadth's difference between the two types of fowls in the long run. The advantages of one breed are balanced to a nicety by advantages of the other breed. Leghorns lay earlier and lay more eggs, and do not cost as much to feed. Reds lay better during cold weather when eggs are high and they bring far more for meat when their laying days are over. Pay your money and take your choice.

The combination of eggs and cows is a good one, not only because the alfalfa grown for the cows supplies green feed for the chickens, but because the skim milk is exceptionally

valuable for the chickens. One Jersey cow will provide enough skim milk for 100 hens. A Holstein cow would balance up far more hens and on the other hand would need more land to supply her with feed.

Hen Feed.

Every poultry journal talks a lot about the need of wheat for hens. Here, as on nearly every ranch in the district, milo maize is the standby in the grain line. This is fed on this ranch in straw at the rate of 10 pounds a day per 100 hens, a third of it in the morning and two-thirds at night.

In addition to this and the milk and green food, a dry mash is kept before the fowls all the time. "If you want eggs," says Mr. Wattenberg, "be generous with the mash. If you have only an ordinary farm flock and expect only an ordinary amount of eggs, you can get along with grain and whatever else the hens will pick up, but if you want lots of eggs, feed a lot of mash too."

This advice and practice is universal in the district. People might expect that in a fine country district like this, where so much stuff was raised, nothing from the outside would need to be purchased, but carload after carload of mash and other special poultry feeds are received by the poultry association and sold to persons who, almost without exception, are ranchers who have fowls only as a side line.

Another Farm Flock.

F. P. Storms, a prominent fruit rancher of the district who has a flock of Reds of the approximate size of Mr. Wattenberg's and who raises all the milo maize they eat, purchases half of the poultry feed outside. Purchased feed is mash and rolled barley. Almost no wheat has been fed for quite a time. Both flocks are used to provide eggs for hatching in the hatching season, so there is plenty of vigor from the feed named.

According to Mr. Wattenberg it is the variety in the mash that gives it its value. No meat scraps have to be fed, owing to the skim milk, though there are meat scraps in the mash.

For curiosity's sake the things used in making the mash can be named. One brand contains bran, shorts, middlings, flour, corn grits, bean meal, bone meal, meat meal, coconut oil-cake meal, oat meal, charcoal. Another contains wheat mixed feed, meat scrap, wheat shorts, rice bran, rice middlings, ground oats, ground grain screenings, ground blackeye beans, coconut meal, corn feed meal, ground milo, bone meal, salt.

Raising the Chicks.

Although various details of poultry raising are almost unanimously agreed upon in the district, the best way to raise the young fowls seems to be a matter of personal opinion. Day-old chicks are popular in the section, largely, no doubt, owing to the fact that people in the district want to have good-sized flocks and to the fact that the greatest proportion of those flocks is composed of Leghorns, which are poor setters and poor mothers. The poultry association handled 75,000 chicks last season and one local hatchery supplied 50,000 to customers, to say nothing of what were hatched in incubators here and there.

Mr. Wattenberg's taste runs toward using hens for mothers if one's flock is not too large. Mr. Storm, with an equal number of hens, buys baby chicks and states that it means work and care to have success with chicks whether they have mothers or not. Last year they gave the chicks to hens which they had allowed to set until they were very broody. They bought 500 chicks and put them with 27 mothers. A big trouble was that the chicks selected favorites and every evening they would want to pile up with just a few hens, so to prevent crowding it was necessary to go out

early every evening and make an even distribution.

In both of these flocks the general rule is to dispose of a hen when she has finished her third year. That is, if she is three years old in spring, she is sold when she stops laying in summer or fall. A good deal depends upon the merit of a hen whether she goes to the market earlier or later than this. Since good heavy hens are worth about \$1.60 when sold through the Poultry Association, the meat side of poultry farming pays well. Counting money received from both egg and fowl sales, Mr. Storm's gross poultry income from a flock of about 300 hens as a rule has run not far from \$100.00 a month. Not bad for a side line.

A True Poultry Farm.

A few words may be said in closing about the idea of a big poultry plant in a true farming district. L. S. Fisher has a ten-acre ranch planted to alfalfa and grain in regular farming style, but keeps 800 hens and has a big flock of young fowls coming along, making a poultry plant equal to that of a regular poultry farm in real poultry centers. He also keeps several cows and considers the skim milk of each cow worth \$5.00 a month to the hens. The alfalfa feeds the cows and helps with the hens. The other five acres, by irrigation, produces a crop of wheat in the winter and a crop of milo maize in the summer to cut down the outside feed bill.

Barley is sown in the family orchard in August or September, and by the time that the cold weather has stopped alfalfa growth, it supplies green stuff for the fowls.

According to Mr. Fisher, the proposition of a farm flock of several hundred hens, and a flock numerous enough to take up all a person's time are two things utterly different. A farm flock, he says, ought never to run over 500 or 600, and 300 hens will do better in proportion than 400; but with any kind of care or suitable free range 300 hens are none too many.

With his large plant he has divided his hens into several flocks to prevent overcrowding in any one. One flock always has the run of the barnyard, which is the finest place possible for them. The genuine farm district is the place for hens, says Mr. Fisher, and of all lines to go with fowls nothing can beat the dairy cow.

AUTOMOBILES COMPETE WITH ELECTRICITY.

"The electric railways have met in the recent past a most formidable and determined competitor—the automobile. Both the private automobile and the jitney have made enormous inroads on the passenger traffic that was formerly dependent upon electric railways. The automobile truck is an even more serious competitor in the freight traffic field, for the electric interurban railways almost without exception are depending for their freight revenue on short-haul business. And yet it is clear that both the passenger automobile and the freight auto truck as competitors of the steam and the electric railways are even now only in the first stages of their development," says the recently issued annual report of the State Railroad Commission.

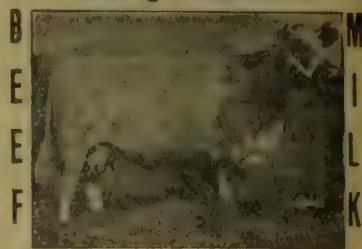
"We do not believe," the Commission says, "that obstacles should be thrown in the day of the economic evolution we are now witnessing in the transportation field. And if the motor vehicle can give better and more efficient service at a lower cost than other forms of transportation, then it would be unwise and indeed, in the long run, ineffective, to interfere with such a development."

The new "1,600" variety of rice yielded nearly 61 sacks per acre on 210 acres near Meridian, Sutter county.

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DEPARTMENT B

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SAN FRANCISCO

Cattlemen Should Wear Brand, "C. C. A."

(Written for Pacific Rural Press by Thos. F. McConnell.)

During the week of the California International Live Stock Show the California Cattlemen's Association held meetings for the purpose of discussing as many phases of their business as it was possible and profitable at that time. Especial attention was paid to proposed legislation affecting the cattle-raising industry, especially that supposed to be inimical to their interests. Men prominent in the cattle business, both from a purebred and market standpoint, were present and took part in the discussions.

The Small Cattlemen Missing.

It would seem as though with the array of business ability present at that time, that much good must result in the way of promoting the organization. It was conceded by the members present that much had been accomplished in work that would redound to the benefit of all men interested in the business, but it was vitally necessary to have a much greater percentage of cattlemen actual members—and working members at that. The very men who would be the greatest beneficiaries from such an organization were notable chiefly through their absence. These are the owners of small bunches or herds of cattle, say from a dozen to one hundred head. It is easy enough to get the men who own hundreds and thousands of cattle to attend these meetings, at least some of them, but the owner of the small bunch says to him-

ask who is to do this? Every man that is now a member of the C. C. A. is to appoint himself a committee of one to start on this "round up" right now, inside of 24 hours, and get at least one new member in that time, and tell the new member that he must get new members too.

You don't know what to say? Write to your secretary then, and he will tell you why all cattlemen should belong to this organization.

To an outsider—although every man interested in livestock in any way can hardly be called an outsider—it would seem vital that the cattlemen of California should have an association to act for the entire membership in the many conditions and emergencies requiring concerted and immediate action. To begin with,

This Is a Day of Organization.

Every business is being organized to further its own interests in every way where concerted action would be beneficial. Some of these organizations are of men, when compared to the cattlemen, situated almost in speaking distance, one with the other, and where it would seem as though concerted action could be obtained without an organization. They have found, however, that as association pays and pays big if the units composing it hang together. If one man in each township in the State should write to the Legislature about any subject or law on which they wished

same oil was selling for \$1.40 on San Francisco Bay. An organization was formed, known as the Independent Oil

Producers' Agency. Within a reasonable length of time the same producers were receiving 60 cents a barrel



self, "Oh, let Mr. Blank go, he and his friends will run the association anyway, so there is no use of my going."

Now here is one important point at least. The small man, we will call him, has gotten so in the habit of seeing the big fellow run things that he stays away because he sees absolutely no use of going. He thinks he won't have any chance to say anything, and if he does that he will be out-voted anyway. He is "from Missouri" and will have "to be shown." You may call all the meetings in San Francisco or Los Angeles you have a mind to, and in the different "zones" and read minutes, listen to eloquent addresses, and pass resolutions, yes, and subscribe money too, but next year you will be a little further along may be, and the next year or two you will stagnate, and then first thing you know, there won't be any meeting at all.

Have a "Round Up."

What are we going to do? Don't you know? You cow men ought to know. You have been raising cattle year in and year out for only the Lord knows how long. Well! You all start out at least once a year and have a "round up." You don't call a meeting down at ranch headquarters for a certain date for the cows and calves, and steers to come in and be counted and branded. Oh, no! You all know that would be absolutely foolish. You start out, you and your men, and and "ride the range" from sun-up to sundown, and every last cow, calf, and steer has to come in and take part in that meeting.

You know the answer now. Have a "round up." You have the State already divided into zones, and subdivided, perhaps, but you who are public-spirited and unselfish, and know that you are "your brother's keeper," must "ride the range" of your own locality, and see that each cattleman has the brand C. C. A. on him. You

favorable action, it would have but very little effect. But if on the other hand there is an organization within each county in the State having a membership of, say 50 per cent or more, of those interested, and the executive units of each county association notifies the legislature that action is wanted on a certain bill, results are more certain to follow. Then, if there is a strong central organization in the State and they go to the legislature, or governor, or whoever it is that has the necessary power to grant what they wish, results are even more certain to ensue.

Meet Combination with Combination.

We know that cattlemen live their life in the open, many of them widely separated, and it is hard to get in touch with one another even in this day of telephones, and aeroplanes. Things have always gone along pretty well, and they cannot see just the necessity for an association, but they must be made to realize that the interests that buy their cattle and slaughter them have probably the strongest organization of any business outside of Wall Street in the country. They can do with your cattle, so far as setting the price is concerned, just what they please. They are much more apt to get favorable action on laws in the State legislatures or in the Congress of the United States than the millions of unorganized cattlemen of the country. But what if these millions of cattlemen were acting as a unit through an association? This would be different, it would seem to anyone who stops to think about it.

For purposes of illustration we will take an entirely different business—that of the oil producers of California (outside of 3 or 4 large companies like the Standard Oil, etc.), chiefly located in the southern end of the State. Fifteen years ago they were getting 18 cents a barrel for their oil, and the

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and easy way—with a LETZ. Beats all other processes in fine cutting, light running, capacity, durability.

All due to famous, patented, self-sharpening, steel grinding-plates—have thousands of keen-cutting, scissor-like edges that in one operation cut, grind, and pulverize powder-fine anything fed into them. Won't clog on wet stuff. Silent. Power-saving. Self-sharpening. Outlasts 3 sets ordinary plates.

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has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.

See actual figures showing how to increase your calf profits.

Write for New Data
COULSON CO. - - - Petaluma, Cal.

for their oil, and it was selling on "the Bay" for \$1.20 a barrel.

An excellent illustration of what can be done by an organization making it more profitable, both for the producer and consumer. So smoothly and equitably did their agency operate that they never became involved in any litigation for 13 years, although carrying on a business of \$1,000,000 to \$14,000,000 annually. Here were men doing business in congested areas, but doing it unprofitably until organized. Now the beef cattle business has been a good one, and it will continue to be so if it is properly handled, but it certainly

Needs the Get-together Movement

as badly as the dairymen need it and are getting it. Not an organization that is for the benefit of the few, but on the broad principle of benefit for all. The deciduous fruit men, the dairymen, the raisin men, the walnut growers, the almond growers, and the citrus fruit growers have all organized successfully and have realized the benefits as soon as they are fully equipped and doing business. They have gotten ahead of the beef cattle men because they lived closer together, and it was comparatively easy for them to get in touch with one another. For all that, it took time and solicitation to get them together, but it has been accomplished. They had to be rounded up, and made to realize the benefits of organization.

It is doubtful if the Cattleman's Association can become as much of an

influence as quickly as these other organizations, but they certainly are in need of it as badly as any other people, and will get it just as soon as they can be made to realize that they can organize and that it is the only thing to do to protect themselves and the consumer. At the present moment cattle on foot are much lower than they were months ago, but beef to the consumer is no lower. Who is getting the benefit but the packers. If the cattlemen were so organized they could say to the packers, "You must pay us more or sell to the consumer for less." As soon as the consumer could get meat more cheaply, he would buy more freely. This would

Create More of a Demand for Cattle,

which means at least a stronger market. Some few things have been told you what to say to the man to whom you are talking and trying to convince that he should cease being a maverick and wear the brand "C. C. A." You should have a range boss who will call for reports every two weeks, and if his range does not report enough new members branded, find out why. Get busy now, you cattlemen, this is a "round up" that begins now if you want results.

When power explodes, there is produced, almost instantly, a volume of gas approximately ten thousand times as great as the volume of powder.

An Egyptian cotton gin and seed mill are proposed for Tulare.

Livestock Queries and Replies

(Written for Pacific Rural Press.)

Feeding Troubles.

To the Editor: We are having feeding troubles. We are old subscribers, and as your answers to queries always help, have concluded to ask your assistance. We have lots of spineless cactus and have been feeding our cows as much as they would eat, about 40 lbs. per cow daily, cut up fine, 20 lbs. barley hay, with a dry mash of 10 lbs. alfalfa meal, 1½ lbs. cottonseed meal, 3 lbs. Suremilk, and 2 oz. salt. They run on free mountain range, which is very short and dry at present. The cows are Jersey, and do not give as much milk as they should. Can you tell me how to improve the above ration? Is there any food value in swamp tule grass? We have unlimited cactus, but fed in excess it is too laxative. Hoping you can help me as you have helped others.—W. Van D., Sunnyside, San Diego Co.

(Answered by Livestock Editor.)

Try 40 lbs. cactus, 15 lbs. barley hay, 3 lbs. cotton seed meal, and 3 lbs. heavy middlings or Suremilk, leaving out the alfalfa meal entirely, and reducing the barley hay, and doubling the ration of cottonseed meal. You might add one-half to one pound more of the cottonseed meal or middlings. You have been feeding too much dry matter, or the ration is too woody. More cottonseed meal will help correct the loosening effect of the cactus. Along the sea coast or near it, not as much salt is required as in the middle west, where there is no salt in the air, or alkali in the soil. You have been feeding much more salt than is good for your cattle. In the middle west, cows will eat about ¾ ounce of salt daily for each 1,000 lbs. weight. Cut down on the salt to about that amount for each cow, or place lump rock salt where they can have free access to it. It should be in a sheltered place during the rainy season. Information as to the feeding value of tule grass is not available from a scientific standpoint. Probably it is rather hard to digest, carrying a large percentage of dry matter to digestible nutrients.

Beet Pulp for Dairy Cows.

To the Editor: Is it advisable to feed a cow all the beet pulp she will eat? Will it give her tuberculosis?—Wm. R., Manteca.

(Answered by the Livestock Editor.)

Beet pulp is considered very good feed for dairy cattle either dry or wet. It has been fed liberally many times

with no injury whatever. Wet pulp might possibly cause scouring if fed in large quantities without any other feed, but any reasonable quantity especially if fed with a little hay, is excellent. If the cow likes it and does well (that is, gives plenty of milk), feed her all she wants. Beet pulp cannot cause tuberculosis. Absolutely no danger whatsoever.

Dehorning Heifer.

To the Editor: Will you tell me through the columns of your valuable paper if there is anything that I can put on the horns of a two-year-old heifer to prevent pain when she is dehorned?—J. S., Berry Creek.

(Answered by the Livestock Editor.)

The only local anesthetic for such work is not available for ordinary use and it would be very difficult to administer if it was available. The only way to look at the proposition is to realize how much more pain the said heifer is liable to cause other animals and even persons with her horns on than off. Remove the horns close down to the head cutting just below where the skin joins the horn with a sharp fine-toothed saw or two-bladed dehorning clipper. Apply plenty of pine tar and watch carefully to see that the wound does not become infected with maggots.

Horses Eating Boards of Corral.

To the Editor: I have two horses whose evident purpose and intention is to eat all the boards in the barn and those around the corral. This habit has but recently started. They are rolling in fat and have all the salt they want. What can I do to stop them as it is very annoying and rather expensive?—L. F., Orosi.

(Answered by the Livestock Editor.)

When you say habit you have given this trouble its right name. It is generally taken up by horses that are worked but little and are confined closely. It is rather hard to overcome sometimes and all sorts of plans and devices are used out hard work is the best remedy. Even that is useless in some cases. In the stable the manger and boards within reach may be covered with sheet iron or driven full of nails. Soft soap that is strong in free alkali will discourage them sometimes, but it is difficult to cure if the habit becomes well established. It is like some horses that will kick in the stable when they are idle as long as they can reach anything.

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Large litters, easy feeders, quick developers, low shrinkage in slaughter, premium carcasses—these are a few of the features of the Chester White, the profit-making hog.

Our last carload shipment dressed 72.30 per cent and brought 1½¢ above the market price.

Largest Herd on the Coast

Over 100 mammoth brood sows, headed by **HIGHLANDER**, the \$1,000 Grand Champion boar, whose sire and dam were both undefeated Grand Champions at three International shows. His pigs are corks—the kind you want.

ORDER NOW—AVOID DISAPPOINTMENT

The demand is keen. Get your order in early. We have a wonderful lot of tried sows, open and bred gilts, service boars and weaned pigs, representing the finest blood lines in America. Prices reasonable. Write us your wants.

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PURE HAWAIIAN CANE MOLASSES

PORK PRODUCTION

By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

MILK PRODUCTION

One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars for shipment anywhere.

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WILL YOU WANT THEM?

SOWS, GILTS AND BOARS

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The offering at our next sale will represent some of the most noted blood lines of the Poland-China breed East or West.

Watch for further particulars.

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Big Model Fellow 305547

1st prize senior pig, 1918 State Fair.

1st prize senior yearling and Reserve Grand Champion 1919 State Fair. Sire of the Grand Champion pen of barrows at 1919 State Fair heads my herd.

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BIG - TYPE PURE BRED

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WE HAVE SELECTED

40--SOWS AND GILTS--40

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THIS IS ONE OF OUR HERD BOARS, SECOND LARGEST SENIOR
YEARLING IN THE WORLD

Write for Catalogue

DIAMOND BAR RANCH

WHERE SIZE IS THE FASHION AND QUALITY REIGNS SUPREME

WALTER T. GATTON, Supt. of Swine Dept.

SPADRA (Los Angeles County) **CALIF.**

This is the first of a series of advertisements of this sale. Others will appear each week. Watch for them.

Livestock and Dairy Notes

SALES DATES. 1920.

Jan. 10th—Fred Gatewood, Poland-Chinas, Fresno.
Jan. 13th—Glenn County Poland-China Breeders' Ass'n Sale, Orland.
Jan. 14th—California Duroc Association, bred sows, Davis.
Jan. 15th—Harvey M. Berglund, Duroc-Jerseys, Dixon.
Jan. 17th—Bassett-Ross-Crawshaw, Poland-Chinas, Hanford.
Jan. 24th—H. D. McCune, Poland-Chinas, Hanford.
Jan. 26th—Chas. Gatewood Poland-China Dispersal sale, Fresno.
Jan. 27th—George V. Beckman & Son, Poland-Chinas, Lodi.
Jan. 28th—Les McCracken, Poland-Chinas, Ripon.
Jan. 28th—Diamond Bar Ranch, Duroc-Jerseys, Spadra.
Jan. 29th—Hale I. Marsh, Poland-Chinas Modesto.
Jan. 29th—Winsor Ranch, Bonita, Duroc-Jerseys sale at Los Angeles.
Jan. 30th—Ireland Ranch Sale, Duroc-Jerseys, Owensmouth.
Feb. 4th—Fresno County Duroc-Jersey Breeders' Ass'n, Fresno.
Feb. 6th—Tulare County Poland-China Breeders' Association, Tulare.
Feb. 10th—F. D. Burr, Duroc-Jerseys, Orland.
Feb. 11th—Fresno County Poland-China Breeders' Association, Fresno.
Feb. 12th—San Joaquin County Poland-China Breeders' Ass'n, Lodi.
Feb. 14th—J. Francis O'Connor, Berkshires exclusively, Santa Rosa.
Feb. 15th—Sandercock Berkshire Sale, Sacramento.
Feb. 16th—H. C. Muddox & Son, Berkshires, Sacramento.
Feb. 18th—Western Berkshire Congress, Davis.
Feb. 18th—Tulare County Duroc-Jersey Breeders' Association, Tulare.
Feb. 21st—Merced County Poland-China Breeders' Ass'n, Merced.
Feb. 26th—California Poland-China Breeders' Association, University Farm, Davis.
Feb. 28th—Kings County Poland-China Breeders' Ass'n, Hanford.
Mar. 13th—Haag & Bernstein, Poland-Chinas, Hanford.
Apr. 6th—N. K. Horan, Poland-Chinas, Lockeford.

Dairy.

A new process dry-milk factory has just started at Newman. The trial run was a complete success. The process dries the milk without boiling.

T. B. Purvine of Petaluma reports a good demand for Jerseys. He recently sold a fine service bull and 3 bull calves to neighboring breeders and dairymen.

Prof. C. L. Roadhouse of the Dairy Division of the University of California Farm, Davis, was elected president of the Western Dairy Instructors' Association, at its recent meeting in Portland, Oregon, it was announced at the State University.

Leeman & Kilgore, Holstein breeders of Ripon, have five very promising cows and heifers to freshen soon, that carry every indication of good records in the near future. Their young stock is looking very good. They have a King Mead of Riverside heifer, that will be consigned to the next Guaranty Sale, which will be an attraction.

Fresno County dairy products have increased in value from \$2,000,000 last year to \$3,116,190.65 this year, according to the report of F. W. Andreason of the State Department of Agriculture. This shows an increase of over one million dollars, which is pretty good for a county that has an outside reputation for being a raisin grape locality.

The National Milk Producers' Federation held its annual meeting at Chicago this week. This was the most important meeting ever held by this organization. The results of the various vicissitudes through which the branch organizations and individual members passed the last year were taken up and discussed. We expect to give some of the details next week.

Lulu Alpheia of Ashburn, 375710, is the name of the latest yearling Jersey champion heifer. She was started on test when she was 22 months of age, and produced during the year 13,668.7 lbs. milk and 800.08 lbs. butter fat. This heifer was bred by J. M. Dickson & Son of Shedd, Oregon, and sold by them to J. J. Van Kleek & Sons of Beaverton, Oregon, for \$150. This record has never been equaled by a yearling of any breed.

Aralia De Kol Mead 2d, a junior 4-year-old Holstein, owned by A. W. Morris & Sons Corp. of Woodland, has just completed a 7-day record of

32.03 lbs. of butter. This is the second daughter of Aralia De Kol Mead to pass the 30-pound mark.

George Kounias Registered Stock Farm reports the sale of a young son of King Hengerveld Ormsby 7th, out of a 23-lb. cow, to a breeder and dairyman at Ingomar; and a grandson of the King to a dairyman at Merced.

J. C. Marquardt of the University Farm, Davis, has gone to Los Angeles to assist in the milk contest to be held by the City of Los Angeles Health Department, as announced by Dean T. S. Hunt, of the California College of Agriculture.

Jerseys of the Mossdale Farms, Lockeford, owned by J. E. Thorpe, are always in fine condition. Mr. Thorpe is a good feeder, and his stock, both hogs and cattle, show the effects of good care given them by their owner and his herdsman, Mr. Hitchcock.

Two new State records for Holsteins were established during the month of November in the yearly tests of purebred cows in California, according to reports made public recently by the California College of Agriculture. Miss Aaggie Acme Burke, owned by the A. W. Morris & Sons Corp., Woodland, produced 16,091 lbs. butter fat in 7 days, 8 months after calving, as a junior two-year-old. Ruby Pietertje of Forest Hill 2d, owned by W. J. Higdon of Tulare, produced 31,792 lbs. of butter fat in 7 days, as a 4-year-old.

W. H. Dupee, proprietor of the Edgemoor Farms, Santee, and breeder of the finest Guernseys, has sold recently the bull Itchen Daisy's May King of Langwater 17349 to Leander F. Herrick of Worcester, Mass., for Anderson Tiffin Herd of Herdlea Stock Farms of New Hope, Penn. The price is said to be \$20,000. Mr. Dupee is very reluctant to part with this bull, and reserved the privilege of breeding a limited number of cows to this great sire. The progeny of this bull are in great demand in the East, as is shown by sales at private treaty and auction as well.

The State Dairy Council held a meeting at Petaluma last week, at which Dean H. E. Norman of the University Farm, Davis, Prof. C. H. Rubel, Assistant State Leader of Farm Advisers, Sam H. Greene of the State Dairy Council, and G. E. Merrill, Farm Adviser of Sonoma County, were the principal speakers. A similar meeting was held at Valley Ford, and a branch of the Dairy Council was formed by electing J. R. Gallagher of Bodega, director; Arthur Purvine, Two Rock Valley, vice-director. Executive committee: E. Steinbach, Two Rock Valley; M. A. Luce, Santa Rosa; S. Gambonini, Lakeville; Arthur Le Baron, Valley Ford.

Swine.

N. K. Horan of Lockeford has now over 300 hogs on his ranch. He has developed a great swine-breeding establishment, which is well equipped with modern buildings.

Karl A. Hess of Dixon is starting a new Duroc-Jersey ranch with a few Shorthorns also. The place will be known as the Putah Creek Ranch, and Mr. Hess intends to stock it with the best animals he can obtain.

McCarty & Starkweather of Modesto have recently sold a boar sired by Kansas King, out of Miss Nebraska 2d, to H. L. Graham of San Fernando; also one sired by King Jones Over, and out of Movie Actress, to F. M. Woods, Jr., of Menlo Park.

The second number of "Purebred Squeals," the "Agricultural Club" paper of the Kern County High School, tells how the Security Trust Company of Bakersfield, and particularly Manager Arthur Crites, has financed the "Club" boys in their livestock ventures. The Trust Company has loaned the individual members a total of \$4500, of which \$4190 has been invested in purebred livestock. The only limitation placed upon the boys is that the money must be used for Agricultural Club pur-

poses. This is a move in the right direction by Mr. Crites, and marks him as a farsighted and public-spirited business man.

There are rumors of a large purebred hog ranch to be started soon on what is known as the Turner Ranch, near Cedarville, in Modoc County.

They expect to have at least 200 brood sows.

Orland is getting to be a swine-breeding as well as dairy center. W. T. Hollingshead & Sons report the recent sales of 18 head of their fine Duroc-Jerseys. Among these sales were two sow pigs to Rolland Fallia,

40 DUROC-JERSEYS 40

PUREBRED AUCTION SALE SUPREME!

40 Bred Sows consigned by the
Members of the California Du-
roc-Jersey Breeders' Association.

These sows are of the very best breeding and have been selected with great care so that those intending to get into the hog-raising game right will have an opportunity of obtaining what they want at this sale.

The Duroc-Jersey is the hog that attracts the buyer's eye because the type is fixed, producing a uniform, quick-growing animal that is fit for the market at any age.

If you want to start a herd or make an addition to a herd, this is your chance.

Sale at the

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Hamilton City; a spring boar to C. Ruff of Pasakanta; a spring boar to Smith & Hurni of Orland; a gilt bred to Uueda Sensational Defender to A. C. Havens & Son, Orland; a boar to Mrs. Jas. Mills, Sacramento. Looks like a good business.

W. A. Young of Lodi, who breeds the finest of Poland-Chinas, is fixing up on his ranch near Clements. He will have his Fesenmeyer boar, Young's Timm Jones, on this ranch. Mr. Young will also have some of his stock on his ranch at Youngstown.

J. F. Lehman, the breeder of Poland-China swine that win prizes when shown, reports business as having been good this fall. He reports having sold 11 boars at an average of \$108 each. Also a recent sale of a Golden State King gilt to Geo. F. Starin, of Lodi, for \$250. Mr. Lehman has three spring boars left that are good enough to go in any Poland-China herd. One of them was the grand champion at the California International at San Francisco.

Members of the American Berkshire Association at their annual meeting in Chicago, during the "International," elected James Dodge of Hood Farm, Lowell, Mass., president, to succeed Dean C. F. Curtiss of Ames, Iowa, who has been president for a long term of years. California was the second State in the Union in the number of transfers.

The grand champion single barrow, and the grand champion pen of barrows, went to the Poland-China breed this year at the Chicago International. They were exhibited by the Missouri College of Agriculture. The grand champion carlot of fat hogs went to the Hampshires. They were shown by Gus Meyer, Elwood, Indiana.

Dr. J. P. Iverson, State Veterinarian, reports the health of stock throughout the State as about normal. Anthrax, that was in evidence during the hot weather, is now cleaned up. Hog cholera, and swine plague, have about disappeared. A so-called mysterious disease among sheep in some localities is chiefly due to a lowered vitality, and excess of poor feed, like rice straw and stubble.

W. L. Frasier, of Ripon, believes in letting the boys have a chance. His sons, Wallace and Byron, bought a sow at the Marsh-McCracken sale that has farrowed 9 pigs, of which 5 sow pigs are living. Mr. Frasier is going to back the boys still further in the swine business, as they have raised some pigs that are to be sold, and the money turned over to them for further investment in the hog-raising business.

Beef.

Among the well-known breeders of purebred livestock, visiting the Chicago International this year, was H. M. Barngrover of Santa Clara, proprietor of Veramont Farm, and breeder of Herefords. He is bringing back two highly-bred bull calves, with the idea of having something good enough to breed to the calves of Patrician 5th.

(Continued on page 879.)

LIVESTOCK DIRECTORY.

Rate 3 1/2 cents per word each issue.

SWINE.

Berkshires.

"ACHIEVER"

The BOAR

CARRUTHERS FARMS BERKSHIRES — Cholera immune Live Oak California. BARON DUKE 201ST PIGS

are in demand. They have consistently won during 1919 the highest honors in the show ring. Baron Duke 201st is a Grand National Champion. He is the sire of champions. His 15-month-old son was Grand Champion at Sacramento and San Francisco. The San Francisco judge said he was the best boar of his age that he had ever seen. I have 3 of his spring boar pigs for sale. Sandercock Land Co., 401 Market St., San Francisco, in charge of Natomas Land Sales Co.

THE BEST IN BERKSHIRES — At the right price. Send for photos and description of stock wanted. Address R. J. Merrill & Son, Morgan Hill, Calif.

REAL GOOD BERKSHIRES — Cholera immune. Frank B. Anderson, Sacramento, Calif.

ANCHORAGE FARM BERKSHIRES

Orland, Calif.

HERD BOARS: STAR LEARED, Junior and Reserve Grand Champion of the World. The Grand Champion carload of barrows, over all breeds, at the San Francisco Live Stock Show, was sired by a son of Star Leader, N-TOMAS BARON DUKE, grand champion of California. For sale, bred gilts, open gilts, young boars and weanling pigs. Write for booklet, prices and list of sows.

EDGEHILL FARM BERKSHIRES — Breeding, individuality, profit. A few very fine weanling boar pigs sired by Baron Duke 201st. Half brothers to that \$1000 State Fair and California International Grand Champion. The pigs are beauties and the price is right, too. J. M. Booth, Edgehill Farm, St. Helena, Calif.

SOLANO BERKSHIRES — Choice weaned pigs, bred gilts, service boars. Reasonable prices. Write for information. R. C. Gruhlke, Dixon, Solano county, Calif.

GRAPEWILD FARM BERKSHIRE-Guernseys — Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRES — Closing out entire herd, sows, gilts and boars. Best stock obtainable, priced very low. Wm. C. Laux, Morgan Hill, Calif.

LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write Mr. Geo. A. Stingle, El Monte, Calif.

QUALITY BERKSHIRES — Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Calif.

BERKSHIRES — Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

Poland-Chinas.

ELDERSLY FARM BIG-TYPE POLANDS — We have a choice lot of big, smooth, stretchy pigs, sired by our 1/2-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Calif.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

BOARS — BOARS — BOARS — Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Calif.

POLAND-CHINA sows, gilts and boars for sale. King's Big Bone Leader, Model Major. King Joe, Caldwell's Big Bob and Gerstale Jones lines. Taking orders for King's Big Bone Leader weanlings. Write today. Frank C. Dollard, Ripon, Calif.

READY FOR SERVICE BOARS — Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Calif.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D., Box 180.

POLAND-CHINAS — Young boars ready for service; also a few gilts, sired by California Big Bone Bob and Ursus Jr., real 1,000-lb. boars. Prices and descriptions on application. Eugene Miner, Rt. 2, Box 105, Lodi, Calif.

TOHOQUA POLAND-CHINAS — Strictly big type. Junior and Grand Champion sow at Glenn County Fair. Young breeding stock to sell; bred right, grown right and priced right. Ferguson & McKaig, Orland, Calif.

TWO SPECIALLY GOOD Poland-China boars, May 25th farrow. \$45.00 each. A few choice gilts, June 29th farrow — \$20.00 each. Edward A. Hall, Rt. 1 Box 39, Watsonville, Calif.

J. F. McSWAIN, Breeder of Poland-China hogs. Herd headed by Big Model Fellow, Reserve grand champion 1919 State Fair. Boar for sale. R. 3, Merced, Calif.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

WAUKEEN HERD POLAND-CHINAS — Home of Kings Big Bone Leader. A few service boars for sale. Les McCracken, Ripon, Calif.

A FEW BOARS of May farrow. Grandsons of Big Bone Bob. R. B. & L. J. Montgomery, R. F. D. No. 1, Walnut Creek, Calif.

BIG TYPE POLAND-CHINAS — Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

10 SPRING BOARS — Tops from herd, will be sold at very low prices to close up partnership. Young and Clark, Lodi, Calif.

REGISTERED POLAND-CHINA SWINE — Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

LAKE SIDE STOCK FARM — Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

POLAND-CHINAS — Bargains — Two March boars, large type. Will ship on approval. J. E. Thomas, Gilroy, Calif.

POLANDS — Largest type, all ages; tops only. Money back if not satisfied. J. E. Thomas, Gilroy, Calif.

REG. BIG TYPE POLAND-CHINAS — Service boars and weanling pigs for sale. J. H. Cook, Paradise, Calif.

REAOAKS RANCH herd of registered Poland-Chinas. W. J. Hanna, Gilroy, Calif.

BIG-BONED POLAND-CHINAS — Stock for sale. E. S. Myers, Riverdale, California.

POLAND-CHINAS — Young stock for sale. H. R. McMahon, Lemoore, California.

LARGE TYPE POLAND-CHINAS — Winton Poland-China Farm, Winton, Calif.

POLAND-CHINAS — Strictly large type. J. F. Lehman, Lodi, Calif.

Duroc-Jerseys.

"MAY ROSE" DUROCS are the classiest pigs in the West. Take a look at them—seeing is believing. Our junior boars have been first and champion at both the California State Fairs and the Los Angeles Show—nothing better. We have a few dandy boar pigs by them out of our great "May Rose" sows ready for sale. Grab one, if you want the real thing. Corkers, not plugs. Also booking limited number of outside services for champion boar May Rose King. The cheapest way to get his blood, but only a few more sows will be accepted. Elliott-Brant Rancho, Owensmouth, Cal.

WHAT DO YOU NEED IN DUROCS?—A few corking good fall pigs of either sex, weighing 50 to 75 lbs. apiece; two late spring gilts better than 200 lbs; one June boar nearly 200 lbs; one mature herd boar about 600 lbs; two yearling sows 350 and 450 lbs, each. Every animal is priced to move this month. Write for copies of pedigrees and photos. Guarantee satisfaction or money back. Geo. L. Horine, Winton, Merced Co., Cal.

DUROC-JERSEYS AT IEBLAND — Sows sired by Cherry Volunteer 2nd and Reformer, bred to Ireland Joe Orion at public sale, January 30, 1920. Write for catalogue. 1219 Brockman Bldg., Los Angeles, California.

SWEETWATER DUROCS — The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Address R. K. Walker, Winsor Ranch, Bonita, San Diego Co.

BIG-TYPE DUROCS — Herd headed by California Orion King. Am offering excellent young boars at right prices. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

TOP-NOTCH DUROCS — Booking orders for weanlings, for February delivery, from Orion Cherry King and Golden Model breeding. Harry W. Buerer, Dos Palos, Cal.

DUROCS — MATURE BOAR — Bred by University Farm, Davis. Solely on account of needing change of blood. Weanlings, either sex. H. E. Boudier, Napa.

WEANLINGS — Gilts open or bred to a son of Great Wonder I Am. Service boars. Derryfield Farm, Capital National Bank Bldg., Sacramento.

DUROC-JERSEYS — Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

BIG-TYPE DUROCS — Gilts and boars of Orion Giant breeding. Falfadale Farms, Peris, Calif.

REGISTERED DUROCS — Stock for sale. W. J. Fulgham & Sons, Visalia, California.

REGISTERED DUROCS — All from prize-winning stock. W. P. Harkey, Gridley, Calif.

Chester Whites.

BILLIKEN — CHESTER WHITES — Entire herd for sale. Every animal is listed and priced for immediate movement. Herd boars; young service boars. Bred sows. Seven litters of fall pigs, by four different sires. Write for special price list. C. B. Cunningham, Mills, Cal.

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REGISTERED HAMPSHIRE — "Belted Beauties." Weaned pigs a specialty. Uueda Hampshire Swine Farms, Gardena, Cal.

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SERVICE JERSEY BULL, bull calves, Financial King blood, Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

SUNSHINE FARM JERSEYS — Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

FOR SALE — Purebred Jersey bull, Noble of Oakland blood. S. B. Campbell, Ripon, Cal.

Holsteins.

THE LEWIS COMPANY BAYWOOD HERD OF REGISTERED HOLSTEINS

Herd sire Ormsby Segis Marie Lad, whose dam has produced in two years, beginning as a three-year-old, 57481 lbs. of milk and 2243 lbs. of butter.

First National Bank Bldg., San Jose, Cal.

FOR SALE — 2 bulls ready for service from A. R. O. dams up to 29.61 lbs. butter in seven days. Sired by best bulls in California. Also 2 bull calves. Every one splendid individuals — mostly white. Write for photos and prices. J. H. Posty, Box 15, R. F. D., Atwater, Cal.

REGISTERED HOLSTEINS for sale. Seven bred cows, one Pontiac bull, 5 years old; also two heifer calves. Subject to registry. Wm. M. Little, Box 76, Snelling, Cal.

YOUNG HOLSTEIN BULLS — Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

THE VICTORY HERD — Registered Holstein cattle and Duroc Jersey swine. H. E. Spires, Hilcrest Farms, Caruthers, California.

A FEW YEARLING registered bulls by King Morco Alcartra 2nd, from good producing cows. H. M. Cross, Merced, Cal.

PALO ALTO STOCK FARM, Palo Alto, breeders of registered Holsteins. Heifers and service bulls. Reasonable prices.

CREAMCUP HERD — Register Holsteins Pontiac bull calves. M. Holdridge, Rt. A. Box 437, San Jose, California.

TWO EXTRA GOOD Holstein Bull Calves — Well bred, well grown and priced to sell. E. M. Morrow, Modesto, Cal.

F. H. STENZEL, SAN LORENZO, CALIF. — Breeder of Registered Holsteins. High test producers.

J. W. BENOIT, Modesto, Calif. — Breeder of registered Holsteins.

REGISTERED HOLSTEINS — Best blood lines of the breed. R. L. Holmes, Modesto, Cal.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEINS — A. W. Morris & Sons Corp. Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS — Best blood production. Leeman and Kilgore, Ripon, Cal.

GOTSHALL & MAGDEUER — Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Millbrae Dairy, Millbrae, California.

EL DORADO HERD OF HOLSTEINS — Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE — E. B. Freeman, R. B., Modesto, Cal.

Ayrshires.

ELEPHORN FARM AYRESHIRE — Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

AYRESHIRE — Registered; all ages. E. B. McFarland, 412 Claus Spreckels Building, San Francisco, California.

NORABEL FARM AYRESHIRE — Le Baron Estate Co., Valley Ford, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS — First in the show ring and in official records. A few choice bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS — May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal. R. 2.

Milking Shorthorns.

ORMONDALE RANCH — Portola Valley, San Mateo Co., Cal., the home of Golden Goods Jr., sire of Little Sweetheart, three times Grand Champion on the Pacific Coast, and Grand Champion at the International Livestock Show, Chicago, 1919. Yearling bulls and heifers for sale. James McDonnell, Supt. R. D. No. 1, Redwood City, Calif.

BREEDERS OF REGISTERED SHORTHORNS — Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS — Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

DUAL-PURPOSE SHORTHORNS — registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BEEF CATTLE.

BEEF CATTLE — BULLS! BULLS! — Just returned with some splendid stock for California Beef Cattle men. Leave again for the Middle West about New Year's. Get in your orders at once for anything you need in Beef Cattle. R. M. Dunlap, Hotel Land, Sacramento, or Savoy Hotel, Kansas City, Missouri.

RANCHO SAN JULIAN SHORTHORNS — Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara, or Lompoc, Calif., John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Gazelle, Siskiyou county, California.

REGISTERED MILK AND BEEF SHORTHORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS — Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REGISTERED HEREFORDS — H. H. Gable, Diamond G Ranch, Esparto, California.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS — Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS — Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON — Breeder Registered Herefords. Bishop, California.

SHORTHORNS — Carruthers Farms, Live Oak, California.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal. — Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS — Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUPKE BROS., WOODLAND, CALIF. — Breeders and importers of Hampshire sheep.

CHAS. KIMBLE — Breeder and importer of Rambouillet. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF. — Breeders and importers of Hampshire sheep.

HARVEY S. VAN VLEAR, Lodi, Cal. — Breeder of registered Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH

SHORTHORN CATTLE, SHROPSHIRE Sheep, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale at the Ranch — all breeds — April 17, 1920. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn County, California.

HORSES FOR SALE — 40 head of 3- and 4-year-old Percheron horses. Price from \$250 to \$300 for span, beautifully matched team of very kind disposition. S. L. Skaggs, four miles south of Madera, Cal.

FOR SALE — 25 head of brood sows, some of them have pigs; balance to farrow about February 1st. Also 2 fine boars. J. J. Flannery, Kifer Road, Santa Clara, Cal. Telephone S. C. 185F4.

Freeman's Heifer Fills the Bucket

(Written for Pacific Rural Press.)

She fills the bucket not only once, but day in and day out, enough times during the year to break the junior two-year-old Holstein-Friesian milk record for the State of California. On December 10th she closed her 365-day test, and while the last few days have

duction of milk for the State for 8 months after freshening, for a junior 2-year-old, and comes within two-tenths of a pound of butter of equaling the State record.

This young cow carried a calf during 7 months of the 365 days she was



Belle Faskie De Kol Witkop, 391883.
20160.5 lbs. milk, 810.286 lbs. butter in 365 days as a junior 2-year-old.

not been verified by Secretary Gardner, there will be but little variation from the figures given. Animals of such achievement in the past and promise for the future are not plentiful even in that banner dairy county, Stanislaus.

Belle Faskie De Kol Witkop produced in the yearly test just closed 20373.4 lbs. of milk and 810.286 lbs. butter. The highest seven-day record was 479.5 lbs. milk and 24.86 lbs. butter. The 30-day record is 2061.2 lbs. milk and 98.59 lbs. butter. Eight months after calving she produced 433.2 lbs. milk and 16.29 lbs. butter. This last amount is the record pro-

duction of milk for the State for 8 months after freshening, for a junior 2-year-old, and immediately afterwards will be put on test.

It is interesting to note that this heifer's junior two-year-old record exceeds that of the world's champion milk producer, Tilly Alcartra. This is certainly much to her credit.

The winnings of Belle Faskie De Kol Witkop in prizes for record production offered by the Holstein-Friesian Association amounted to over \$70 on the 7- and 30-day records, and will receive her share on the 365-day and 7-day, 8 months after freshening. She is "some" cow.

Famous Herd at Home Near Patterson

(Written for Pacific Rural Press.)

Quite a little dairy city has been built up since July on the Bridgford ranch near Patterson, in western Stanislaus county. Mr. Bridgford is well pleased with the move thither from the island in Contra Costa county, in whose isolation he has developed so many high-record cows. The Patterson district is rapidly growing, and already a great dairy country is tributary. Alfalfa produces more tonnage per acre here, and there is plenty of water. Mr. Bridgford has sold a score of registered bulls already in the Patterson district, and there are other herds that need such stock. The writer noticed fifty or sixty cows in a pasture near Crows Landing, with which were three scrub bulls of various blood. These might well have been replaced by one registered bull kept in the barnyard and used judiciously.

About 200 head are at present on the new Bridgford ranch, including 60 females carrying calves, eighteen in the test barn, and a string or two being milked in the big milking barn, which has capacity for 100 cows at once.

Dry stock are kept separate in generous paddocks and four large corrals are provided with long, broad open sheds, where the cattle will eat hay and make milk all the day long. The corrals were crowned and graveled so they were not the least muddy after the recent rain, though that soil is heavy and flat. One man will be kept busy hauling feed and milk, and keeping the corrals clean. An office, two bunk houses, a cook house, milk house, hay barns, etc., complete the

equipment, which will make a notably pleasing effect on visitors.

Some Notable Animals.

Among the notable stock in a herd where 30-pound cows are more numerous than flies, is a heifer calf recently born, sired by the \$106,000 bull, Carnation King Sylvia. Another is a young bull whose first twelve dams average 30:54 pounds of butter in a week. Another is the last year's bull calf out of the cow which won senior championship at the State Fair this year. His first twelve dams average 32.86 pounds butter in seven days. His dam, Spring Farm Pontiac Maid 2d, last year as a senior four-year-old, made 34.76 pounds butter in seven days, and 139 pounds in 30 days. Having been on the Fair circuit last Fall, and never having been dried up, no short-time test was attempted this season, but she went on yearly test about November 4, 1919. In her best seven days since then she made 34 pounds butter, and in the first 30 days her butter at 75 cents per pound was worth \$105. This was from about 3,000 pounds of milk, and she was giving 115 pounds per day at the end of that period.

One of the most massive cows of this herd of big growthy milk-manufacturers, is Adirondack Wietske Dairy Maid. After eleven months of milking, and sixty days before she was due to calve, she was giving eight gallons of milk per day. Efforts to dry her up for a rest period were begun about December 3rd. She made 304.95 pounds of butter from 7242.2 pounds of milk on a 60-day official record last year. Her seven-day record was

PRINCE ALBERT



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PUT it right up to Prince Albert to produce for you more smoke happiness than you ever before collected! P. A.'s made to fit your smoke appetite like a glove. It has the best flavor and coolness and fragrance, ever!

Just what a whole lot of joy Prince Albert really is you want to find out the quickest way you know how! And, put it down how you could smoke P. A. for hours without tongue bite or parch. Our exclusive patented process cuts out bite and parch.

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LEADING HERD OF THE STATE.

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They will go quickly. Write or call at once.

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All heavy-boned Scotch or Scotch-topped breeding.

Herd headed by Golden Goods Junior, sire of Little Sweetheart, winner of 1st premium in two-year-old heifer class, and also awarded grand championship at State Fair and all Coast livestock shows, and sold at auction for \$2,000, the record price of the Coast; sire also of Ormondale Maid 2nd, winner of 2nd premium in the strongest junior yearling class ever shown at the California State Fair.

Every animal positively guaranteed.

Prices on application.

SHORTHORN CATTLE
DUROC-JERSEY SWINE

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REDWOOD CITY, CAL.
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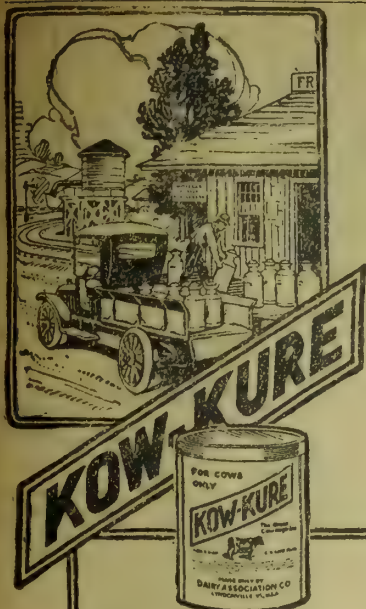
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the milk truck always takes a full load. As soon as disease creeps in the milk yield will show it. Cows that do not milk as they should are usually suffering from a run-down condition of the vital organs of production. Medical treatment is needed to restore health and vigor.

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41,016 pounds butter, and her 30-day record 158.31 from 3603.1 pounds milk. The 30- and 60-day records are the highest in the United States for combined milk and butter.

The herd sire, King Segis Alcartra Prilly, is thriving in the new quarters. He was grand champion at the State Fair in 1917, 1918, and 1919. None of his daughters have been sold from the ranch; and Mr. Bridgford, in designing his buildings at Patterson, has figured on keeping all of them for some time to come.

Easy to Keep Sanitary.

Alfalfa is to have the benefit of all the manure produced here. Aside from the overhead manure carriers the feature of this part of the ranch economy is that all drainage from the roofs, from the milk house, and from floors of the milking barn, run into a covered concrete pit six feet square and twelve feet deep. A three-inch centrifugal pump direct-connected to a three-horsepower electric motor, can empty the pit onto an alfalfa check in fifteen minutes. This pump is started automatically by a float when the sewage level comes up to the right point. It stops automatically when the pit is empty. Gravel in the corrals, yards, and driveways, and eave troughs on the buildings will reduce mud to the minimum. The milk house is connected to a steam boiler run by an oil burner, and has all necessary sanitary equipment. Add to all these reasons for contentment, the yodeling of the milker, which we heard on entering the barn unannounced, ought to make any cow happy to come to the milking, and to add other high records to the long list already made in this herd.

THE SHORT SHORTHORN SALE.

(Written for Pacific Rural Press.)

We hear it said many times that cattle, sheep, or hogs, destined for breeding purposes, should not be fitted too highly, especially those intended for the sales ring. If this be true, then reasoning negatively the Shorthorns sold in the State Fair Grounds at Sacramento, December 11th, surely ought to be good breeders if nothing else. Again, it is truly said that "an animal well fitted is half sold," therefore, following the same line of reasoning, the auctioneer had to do all the selling on the day mentioned, and right well did Col. Leachman perform his part. It can be said without question that he got all the cattle were worth; everything considered.

Col. Leachman opened the sale by introducing B. O. Cowan, former secretary of the American Shorthorn Association, who gave a brief history of this great breed of cattle in America. Prof. True, of the University Farm, Senator Rush of Suisun, and Wm. L. Carruthers of Live Oak, all gave interesting talks on the Shorthorn.

The cattle had been brought in from the range, and handled just enough to make it possible with judicious treatment to lead them through the ring. The average was \$175.70, which is not low when the condition of the cattle is taken into consideration. The top of the sale was Sweetheart II, a heifer one week over a year old, purchased by Frank McEnerney of Galt, who paid \$270 for her.

It is quite probable that if the stock, which was all young, had averaged 100 pounds heavier in weight, they would have sold for fifty to one hundred dollars per head more, which would have been a good investment even at the lowest figure.

Among the prominent Shorthorn breeders attending the sale and purchasing stock were, Thos. Harrison of Santa Rosa, H. L. & E. H. Murphy and Geo. A. Murphy of Perkins, P. R. Sims of Elk Grove, S. C. Dorn, Oroville, and Frank McEnerney of Galt. Mr. McEnerney was the heaviest buyer, having purchased 12 head by the time the sale was over, with S. C. Dorn of Oroville, a close second. Mr. Dorn bought ten, mostly of the younger animals. The total amount received for all the cattle was \$7,555.00, which for range cattle was an excellent price.



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Maximum milk production depends upon the ability of your cows' digestive organs to produce thorough assimilation of feed. Keep them in tip-top productive condition. With winter stabling and feeding they need help to resist disease and maintain normal milk yield. All animals need help at this time.

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supply the needed laxative elements, the tonics and blood purifiers so necessary to keep your stock healthy. Insure healthy offspring, full yield from milkers; get rapid gain on packer stuff and keep work stock in first-class trim.

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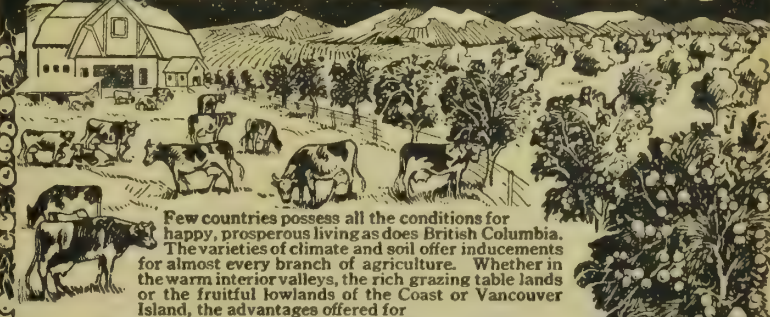
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are such as must appeal to those who wish to improve their circumstances and at the same time live in a country of delightful climate, magnificent scenery, varied resources, progressive people and abundance of opportunity for development. British Columbia—the playground of America—is already famous for the production of its orchards, fields and dairies. Now, is the time to learn about this wonderful Province and share in its possibilities. Its industrial life—mining, lumbering, fishing, manufacturing, transportation—assures a ready market at good prices for all the farmer can produce. Schools, churches, railways, roads, telephones, all the conveniences of an old land await you in this new Province of Opportunity and Success. For illustrated literature, maps, etc., write Department of Immigration, Ottawa, Can., or

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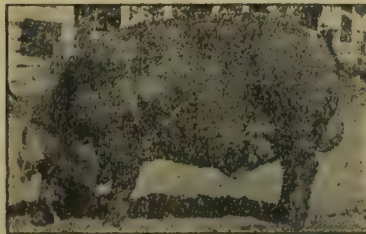
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200 of the best sows and gilts in existence. They are already bred or being bred to such boars as Sensation Wonder 1st. Get into the kind of hogs that top the market. They catch the buyer's eye.

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SENSATION WONDER 1ST,
Grand Champion 1919 State Fair.

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Sell your livestock, farm equipment or real estate at public auction. I can get big prices for you. Have cried successful sales in all parts of the State. Customers always satisfied. Purebred sales a specialty. Write or wire for terms and dates.

COL. ORD L. LEACHMAN, 1111 7th St., Sacramento

Cement for Feed Troughs

(Written for Pacific Rural Press.)

We have heard about the Stone Age before the human race knew anything about metal implements or utensils of any kind. The Steel or Iron Age came then, and we might say, is still in existence, being used in countless ways. Now comes the Cement Age,

signed by Ruland Hardy, manager of the Anchorage Farms at Orland. They have one of this type in each of their small feed lots, and the picture shows one of the blue-ribbon Berkshires for which this establishment is noted eating from the trough.



Cement trough and feeding floor in use on Anchorage Farms, Orland.

and it might be said truthfully that it is as yet in its infancy, although it has gotten so far as to threaten the supremacy of the wooden and steel construction of sea-going ships.

On the farm, it has innumerable uses from irrigation pipe and silos in a large way to many smaller but no less useful ways. In California it is especially adapted to many uses to which it does not lend itself so readily where there is much severe freezing weather.

One of the many uses on the hog ranch, is that of feed and water troughs. The one illustrated was de-

The construction prevents the hungry hogs from throwing the feed out of the trough in front, and what is dragged out on the open side, drops on the cement floor, and may be picked up instead of being trampled into the ground and wasted.

It would seem as though it would be still better to have a cement retaining ridge around the platform instead of the wooden 2x4's which would have to be replaced from time to time.

The illustration shows so well how it is made that all that is needed is the material, and the picture, to construct a feed trough and platform exactly similar if desired.

Our Great Cattle Show

(Written for Pacific Rural Press by H. N. Barngrover, Santa Clara.)

The big Royal and International have again passed into history, but to those breeders who had the good fortune, or might I say the nerve, to attend them, the splendid lessons have not passed but have sunk deep into our minds, and we are planning to put them into practical use under our own circumstances and conditions.

One of the things a breeder learns as he watches the judge single out the tops of the wonderful classes of from 20 to 40, is that they do not come either by chance or good feeding alone, for when we look up the ancestry of the winners we are apt to find a Beau Blanchard, a Perfection Fairfax, or a Bonnie Brae, or some other noted sire in his pedigree. We need these great shows to educate and broaden us, for if the rancher and range man needs to be educated up to where he will pay good prices for good bulls, we breeders surely need to learn how to produce the really good ones, and then to show that we are actually doing it.

What better way than to attend these shows where the best cattle in the world are lined up, and learn how

they are bred, and fitted, and shown.

We made a splendid beginning at our November show at San Francisco, but it is only a beginning. We California breeders were given a most cordial welcome, and lots of encouragement at the eastern shows, and if we will only pull together, we can put up a much bigger and better show in 1920, that will convince the rancher and range man that he can afford to pay good prices for our really good bulls. The fat steer classes at Chicago were particularly strong, and since the rancher and range man's business is to produce steers, what is more convincing as to the value of good sires and good feeding than a good fat steer class?

If the new breeder will open his purse enough to attend these shows once, I am sure he will feel as I do, that it is the best kind of an investment.

California was splendidly represented by our State Farm exhibits, and did much to convince the world that we have the climate and the feed to produce the best, and all we need is the proper energy and enthusiasm.

Best "Buys" are in California

(Written for Pacific Rural Press.)

Some of the California livestock men when they go East to buy breeding animals, conclude there are just as good opportunities in California as there are there. E. K. Brown, of Miller & Lux, who is very favorably known as a stockman, attended the Chicago International looking for a Hereford bull. He tried to find what he wanted in various other places as well, but he found the top-notch animals, or those equal to California stock, were scarce and very high.

Mr. Brown finally came to the conclusion that he would buy the senior yearling bull Alec, sired by New Era II and out of Pearl Ranier, owned by J. A. Bunting of Mission San Jose. This bull was first in class at the

California State Fair this fall, and Mr. Brown concluded that at \$2250, Alec was a better "buy" for Miller & Lux than anything he could find in the East. Mr. Bunting expresses himself as very much gratified, not so much for the price obtained, but to know that we can raise stock in California fully the equal of that in the East.

For years people in the newer localities, which means western localities, have been going East for better livestock. This is all right when the locality is new and the stock breeder has grade stock, and has to let the stock "rustle" for itself largely. When, however, the new breeders have become experts, and their stock

as good or better than that raised anywhere, the need for such importations ceases to a great extent at least. Therefore, look the stock in your own

neighborhood and your own state over carefully before going "East" for what can be bought near at home at a lower price.

CAN YOU BUY BETTER POLANDS?

Will offer at my sale on January 24, 1920

60 Head, either sired by or bred to the following boars:

Surprise Prospect	Yankee
Col. Jack Surprise	The Californian
Massive Orange	Lendorris Liberty Bond
McCune's Buster	Kings Co. Buster
Wonder Gerst	Young Jumbo
President	Buster Defender
King's Big Bone Leader	Frazier's Timm

H. D. McCUNE,

Lemoore, Calif.

COL. GEO. W. BELL, Auctioneer.

BERGLUND'S DUROC JERSEY SALE

Gilts bred and open, bred sows and spring boars that will be just what you want. They are of true, big-type breeding and grow that way. Eight open gilts that will attract every one. Five spring boars that will be fit and right to head your herd. Any breeder needing females that are right attend this sale. Sale at

DIXON, CALIF., 1 p. m., JANUARY 15th

For catalogue write

COL. ORD L. LEACHMAN, Sacramento
Auctioneer

H. M. BERGLUND, Owner
Dixon, Calif.

GOING EAST TO BUY DUROCS

Those who wish to buy Duroc-Jersey swine from the best Eastern herds will do well to write us or see us before we start East on our annual purchasing trip. We have a wide acquaintance among the foremost breeders of the Middle West, and if you want hogs of the very highest value for the money invested you will not be disappointed if you entrust us with your commission. We have brought out some of the best hogs of the breed ever seen on the Pacific and we are going back after more. Write or see us at once.

H. P. SLOCUM & SON,

Willows, Calif.

PROMOTE PORK PROFITS

With Better Poland-China Breeding

And do it by attending my bred sow and gilt sale at

RIPON, FEBRUARY 3rd.

There are 85 head of the very best Poland-China sows and gilts to be found anywhere in my herd at present. This is true, both from conformation and breeding standpoint. From this 85 head I shall select 50 head for the sale. If you want Poland-Chinas, and you need them in your business, of the modern type, they certainly will be in this sale.

STOCK FOR SALE AT ALL TIMES.

WAUKEEN FARM

LES McCracken, Prop.

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LLANO VISTA HERD Champion Hampshire Swine

The pioneer grand champion herd of Hampshires is directly responsible for the growing interest in the Hampshire breed today.

It has brought to light the winning blood lines in our big shows. It has furnished foundation stock for numerous new herds throughout the state and is still doing so; 200 pigs bred, bred sows, and sows with litters for sale.



40 DITH—No. 126448
Sire: Calif. Lad, 45021. Dam: Mabel, 113078

F. V. GORDON
Owner

PERRIS (Riverside Co.), Calif.

F. A. LANGDON
Manager

THE WESTERNER

By Big Bob.
Dam by Smooth Big Bone.
Second dam by Big Bob.

CALIBUSTER

By Big Ed, by Buster's Giant,
By Giant Buster.
Dam by Smooth Bob, brother of
Caldwell's Big Bob.

We will offer a few choice sows and gilts, by King Jones Over and Kansas King, bred to these boars. A few splendid spring boars and weanlings for sale now.

McCARTY & STARKWEATHER,

Route C, Box 384, Medesto, Calif.

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.

HAUSER PACKING CO.

LOS ANGELES

PLEASED WITH PACIFIC INTERNATIONAL.

(Written for Pacific Rural Press.)

Thos. Harrison of Santa Rosa, noted breeder of Milking Shorthorns, writes that his impression of the latest Pacific International Livestock Show held at Portland, Oregon, recently was of the best, the old management and new building making a combination hard to beat anywhere. The building all under one roof left nothing to be desired in the way of convenience and comfort. Visitors, exhibitors, and animals, all were cared for in the very best manner possible.

In addition to other awards mentioned in a previous issue, Mr. Harrison's junior yearling heifer, Roan Duchess H, was made grand champion female of the breed. This heifer was placed third in her class at the California International at San Francisco.

The full awards won by Mr. Harrison's cattle at Portland were 2d on aged bull; 3d on aged cow; 1st on cow 2-year old; 3d on senior yearling heifer; 1st junior champion and grand champion on junior yearling heifer; 1st on senior heifer calf; 3d on junior heifer calf; 1st and junior champion on bull; 2d on bulls under 1-year old. This last mentioned bull calf was sold to Mr. Glass of Lewiston, Idaho. This calf was first in class at the California State Fair.

THE C. C. A. ELECTS OFFICERS

The annual meeting of the California Cattlemen's Association was held at San Francisco, Saturday, December 13th, at which the annual reports were read and work suggested for the coming year. The attendance was representative from over the state, and the discussions lively.

President L. A. Nares, who for two years has given liberally of his time to the organization and its work, stated that it would be impossible for him to carry on the work longer and asked to be relieved. F. H. Bixby of Long Beach was selected to fill his place; D. J. Stollery was re-elected secretary, and Clough was continued in office as attorney.

An effort will be made to secure a large California delegation to attend the National Live Stock Association meeting at Spokane, January 27, 28 and 29 next.

The reports made by committees show the C. C. A. to be gaining membership and influence, and the discussions on the floor during the afternoon session proved that while the members differed on the proposed national packers legislation and as to the value of the inspection under the new state hide and brand law, they had a spirit of tolerance which means the association is alive and will make its wishes effective.

FARM BUREAU AGAINST LAND BANKS.

To the Editor: An important conference was held in Chicago recently by President Howard and others of the American Farm Bureau Federation, officers of several federal co-operative land banks, and representatives of the agricultural press. It was unanimously decided to favor Senator Smoot's bill for liquidating joint stock capitalistic land banks. Unless this measure prevails promptly, prospects are that nearly all farm mortgage brokerage concerns that have exploited farmers for years will reorganize as joint stock land banks for private profit. This would submerge federal co-operative land banks to the

farmer's detriment. The Farm Bureau Federation is about to take a farmers' referendum on this subject. The conference trusts your powerful influence will be exerted in behalf of Smoot's bill.—G. A. Bryant, Eighth Federal Land Bank District.

[We are not informed as to the contents of the bill mentioned, but we chronicle the action of the American Farm Bureau Federation officers, and may have more to say about it later on.—Ed.]

NEW STATE LAND SETTLEMENT.

A tract of land in northern Merced and southern Stanislaus counties has been purchased by the State Land Settlement Board for subdivision similar to the Durham settlement except that ex-service men will be preferred applicants. Part of this will be open for settlers next spring, both for farms and for farm laborers' allotments. The rest will be opened in the fall or following spring. The size and boundaries of the various allotments have not yet been determined nor have the prices been fixed. Until these preliminaries are completed, no applications can be received. The land will be thrown open by notice to be issued early in February for 30 days' opportunity to look it over before allotting it to applicants. Every applicant should make his choice from personal inspection. Those who wish employment in preparing the land for settlers should apply to Milo Williams, engineer in charge of irrigation development with headquarters temporarily at Turlock. The chief towns in the settlement area are Delhi and Alladin.

PUREBRED BEEF CATTLE ARRIVE.

R. M. Dunlap of Sacramento, who has a habit of going East now and then, and returning with some of the best beef cattle to be found, has just gotten back from one of these trips. He brought two carloads this time of Herefords and Shorthorns.

One carload of Shorthorns was for Jerome O'Neill of Los Angeles. Mr. O'Neill expressed himself as being very much pleased with the shipment.

The Herefords were for the Parrott Investment Company, and are to be wintered at San Mateo. This part of the consignment consists of 35 young bulls. A Hereford bull was also brought out for Wm. Jones of Wheatland.

Two excellent Shorthorn cows for Richard Vurton & Son, of Vacaville, completed the list. This firm is starting a herd of which the two cows are the nucleus.

DIAMOND BAR RANCH SALE.

The swine raisers of California, and especially those interested in Duroc-Jerseys, should be sure and travel toward the south on or about the latter part of January. There will be a series of sales of this popular breed of swine at that time, and among them the Diamond Bar Ranch at Spadra will sell 40 head of females selected from their large herd.

This herd is one of the largest in the United States, and is coming to be very well known for its blue-ribbon stock, and fair treatment of its patrons. Watch our pages for further information from week to week.

CALIFORNIA DUROC-JERSEY ASSOCIATION SALE.

Nearly all the well-known breeders of Durocs in California will have a consignment in the Association sale at Davis January 14th. The breeders aim to make this a promotion sale, and in order to have it a success and influence people to start new herds, they have selected some of the best sows in their herds, and as an extra inducement bred them to their best boars. This is an opportunity not to be overlooked.

A new one on the T. M. & G. marketing force was a lot of shelled dent corn offered by one of their Turlock members recently for marketing. They did not know what price to quote.

During the season of 1918-9 there were shipped into Tulare county and inspected by the horticultural office, 879,679 pieces of nursery stock. Of these 5456 pieces were condemned because of insect pests or disease and destroyed or returned to the shipper. The most popular fruit was prunes, of which over 1800 acres were planted.

Though beet hoppers made a practical failure of what in April prom-

ised to be a fine sugar-beet crop in the Manteca district, the sugar factory is succeeding in getting growers to sign up acreage for next year. There seems reason to believe that the hoppers will not be bad here next year.

Four carloads of tepary beans were recently shipped to the poor innocent Hollanders, who bought them because they are cheap. Growers netted about 2c to 2¼ cents per pound.

Xmas and New Year's Greetings:

From FRANK P. GARDINER and SON to our friends and customers. We also wish to announce the safe arrival from Ed Kerns of Stanton, Neb., of the latest and Greatest Sensation to come to the Pacific Coast.

GREATER SENSATION

Sired by

GREAT SENSATION

Who sired World's Champion Boar at National Swine Show, 1919. Also the World's Grand Champion Boar, 1919. His get has won more prizes at the fairs and swine shows this year than any living boar.

NOTICE—To Farmers and Breeders: We will produce over a thousand High Class Durocs next year, sired and dammed by the best blood lines of the breed. Write us your wants. Satisfaction in every transaction. Prices reasonable.

GARDINER RANCH

ROUTE NO. 4, BOX 735,

SACRAMENTO, CAL.

The "W-W"

(Hammer Principle)

ALL-PURPOSE FEED GRINDER

Utilizes Waste Products that being ground with a "W-W" are Valuable Stock Foods.

Many valuable foods for stock are being wasted in California because heretofore it was impossible to convert the waste products into safe food for stock.

But with the "W-W" All Purpose feed grinder that is having such remarkable sale since introduced by us, everything of food value to stock can be saved. Many feeders have made back double or three times the small cost of a grinder in the saving on feeds and the best part of it is the "W-W" Grinder is still working and working better than any grinder or beater (this is the hammer principle), that was ever sold in California, grinding the feed so it goes farther and does the stock more good.

One user has been converting almond hulls (not long ago considered worthless), into one of the very best and most valuable ground foods for stock.

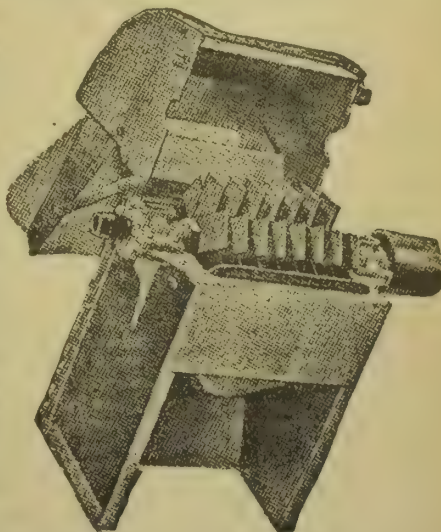
You can pulverize hay, cotton bolls, hulls, any kind of grain, fertilizer, shavings, poultry, rabbit and goat feeds into any degree of fineness.

Built in a wide range of sizes for horse and engine power. Write for information about W-W Mills and economical, efficient feeding, stating what raw material you have available and tonnage required. "W-W" grinders quickly pay for themselves.

E. P. Bosbyshell Co.

125 North Los Angeles Street

LOS ANGELES, CALIFORNIA



DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs

WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

TAMWORTHS

(The Bacon Hog.)

Largest Herd in the State

DUROC-JERSEYS

Mature Stock and Weanlings of both sexes.

Sure to please.

SWINELAND FARM

W. O. Pearson, Prop. Woodland, Cal.

Dealers **Blake, Moffitt & Towne**
in 37-45 First St., San Francisco
FAPER Blake, Moffitt & Towne, Los Angeles
Blake, McFall Co., Portland, Ore.

Poultry and Rabbits for Profit

SMALL EGG PRODUCTION—WHY?

To the Editor: We have a flock of brown Leghorns, 70 two- and three-year-old hens and 60 pullets, 8 and 9 months old—130 in all. We feed 15 lbs. of Egyptian corn, one-third of the amount in the morning, the remaining two-thirds at night. This is fed in litter where the hens work for it busily early and late. They have "Surelay" (dry), before them at all times, also fresh water—and an abundance of green feed cabbage and cauliflower trimmings, lettuce, turnip tops, etc. Shell, charcoal, and grit are provided. A large number of the hens are well over the moult and combs are red. Pullets are fully developed and in good condition. They have no lice or mites. Can you tell us why we are getting only an average of 6 or 7 eggs a day? Do we feed enough? Would it be wise to add extra beef scraps to the "Surelay" mash?—R. T. M., Fresno.

The amount of grain mentioned, fifteen pounds, is approximately the correct amount for 130 hens and pullets, but as it is not stated how much mash these fowls eat per day we cannot tell whether they are receiving a balanced ration for egg production. To secure this balance they should consume about an equal number of pounds of mash and grains. If the fowls do not willingly eat an equal amount of mash, feed a smaller amount of grain until they realize that they must do so or go hungry. Frequently they go out on a hunger strike under such treatment but accept the proper diet within two or three days. The partial fast often does them good. The greens mentioned are good if fresh, and if fed regularly will not throw the ration out of balance no matter how much they may eat. However, cabbage leaves, when they become stale and wilted develop a peculiar acid, and when fed to laying hens or pullets will cause them to stop laying. At times it requires weeks and even months to bring them back to full lay after they have been affected by this acid. It would be a safe and economical experiment to add a moderate amount of meat scrap to the mash.

FATTENING TURKEYS.

To the Editor: We have about 60 young turkey hens and gobblers, weighing from 7 to 12 lbs. now. Would like to get them good and fat for Christmas market. Would you kindly tell us what feed would fatten them the quickest? Is it better to shut them in a barn or to let them run in a yard with plenty of green feed?—Geo. L. T., Chowchilla, Cal.

Turkeys fatten quickly when properly fed a liberal supply of almost any sort of sound grain. Some feeders claim that maize, the common Indian corn, is best, while others seem to be equally as successful with a mixture of grains, including barley, Egyptian corn, milo, etc. The feeding of whole or skim milk—sweet, sour, or as butter milk—adds to the attractiveness, flavor, and texture of the flesh. Turkeys that are fattened for market should not be permitted to exercise to excess. Some feeders confine them to very restricted quarters while finishing them for market, but others allow limited range and encourage them to exercise moderately. To prevent them from wandering they feed grain several times a day at regular intervals. Only the amount of grain that they will eat up clean should be fed at any time. Never allow any excess grain to remain to be picked up between meals.

TURKEYS MOPE AND DIE.

To the Editor: My turkeys suddenly become inactive and mope around; sometimes they will eat up to the last minute and again they won't eat for a couple of days, more or less, before dying. They always have a diarrhoea. I opened up some of them and found they all had their liver enlarged to

more than twice the natural size and covered with yellow spots. What is the trouble and treatment?—M. A. P., Soledad.

There are several diseases of turkeys that seriously affect the liver and cause it to be spotted, but apparently these turkeys have contracted the disease known as "blackhead." There are no peculiar external symptoms of this disease except the dark color of head and comb. Turkeys suffering from this disease always have a severe diarrhoea, the liver is greatly enlarged, and is marked with whitish or yellowish spots. Blackhead is a contagious disease and it is believed by some investigators to be caused by the same organism that is responsible for white diarrhoea in chicks. It is supposed that the infection is often carried into healthy flocks by sparrows, crows, and other wild birds, as well as chickens that are carriers of the disease germs, but may not be seriously affected themselves. Treatment of turkeys that have become seriously affected is of little use, but those that do not seem to be very ill

may be helped by giving Epsom salts or castor oil every three or four days. Remove such birds from the flock for treatment. Sprinkle the premises with air-slaked or ground lime. Move all well birds to fresh ground as often as possible and burn all dead fowls. The object is to prevent the spread of the infection, which is the only practical way to combat the disease. Do not allow turkeys to dwell with other fowls.

PROBABLY DISTEMPER.

To the Editor: My little turkeys are sick with a sore mouth. White blisters form under the tongue and sores on the corner of their mouths, and sometimes the eyes get sore but do not swell, but just stick shut. Have not found anything to stop the disease or cure it. What can I do?—E. E. A., Snelling.

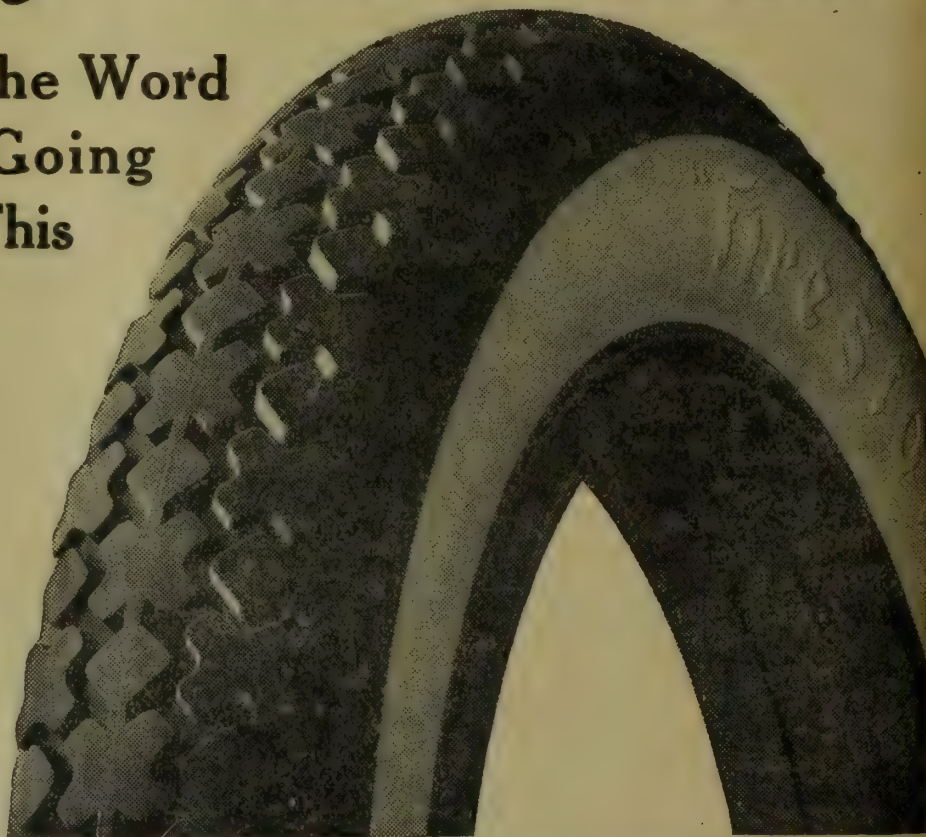
The age of the little turkeys is not stated but evidently they are very young and consequently did not during their early growth enjoy the advantages of natural spring conditions which provide some insects, grass and other bulky and not over-rich vegetation to fill the crop, cool the blood, and provide material for normal development. To successfully raise early

fall-hatched fowls of any sort the feeder must, in a great measure, supply artificial spring conditions. We think these little turkeys are suffering from a distemper that is the result of improper feed. Very likely they have had too much grain and other concentrated feed and could not obtain the necessary bulky materials that contain relatively little nourishment, but provide many little elements required for young growth and at the same time distend the crop thus exciting the flow of digestive juices necessary for healthy digestion. Medicine is of little value in remedying a case of this kind unless the cause of the disease is promptly removed. We suggest two or three doses of Epsom salts administered three or four days apart. This will tend to cool the blood and cleanse it of the unassimilated food. For a week or longer feed no grain or other concentrated feed. Supply as great a variety of greens and vegetables as possible. Buttermilk or sour milk would be excellent. Be sure they have a constant supply of grit, shells, charcoal, and ground bone.

Some breeders put a well-bred, strong, vigorous cockerel with twenty yearling hens, when mating Leghorns. That number is none too large.

"Buy Firestones"

That's the Word
That's Going
Round This
Year



WHEREVER you go you hear car owners passing the word—"Buy Firestones. They're the best cords this year." The reasons are many, but the conclusion is the same—Buy Firestone Cords.

Read these spoken advertisements for the New Standard Oversize Firestone Cord with Extra Heavy Non-Skid Tread:

"It gives me a lot more service than the mere guarantee."
"Not only fine service but a tire that looks right."

"The extra air gives easier riding."

"The non-skid tread is fine; it holds in all kinds of roads and yet there's no power wasted."

"I bought it because of its extra size and the Firestone reputation."

"You'll notice that you go farther on a gallon of gas."

"It steers easy and grips the road."

With the mouth-to-mouth tire advertising centered on Firestone this year no thinking tire buyer can afford to remain uninfluenced. See your dealer.

FIRESTONE TIRE & RUBBER COMPANY
Firestone Park Akron, Ohio
Branches and Dealers Everywhere

Firestone

Most Miles per Dollar

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

JANUARY, FEBRUARY chicks are money-makers, if you are equipped to handle them right and can put good stock into your brooders. That's our part—supplying them. Well bred and hatched right. Why not buy where quality, service and economy are to your advantage? Our breeds—White, Brown and Buff Leghorns, R. I. Reds, Barred and White Rocks, Black Minorcas. Write us your needs. Circular free. Mission Hatchery, Box 17, Campbell, Cal.

BABY CHICKS from selected S. C. White Leghorn hens. Write for prices, Tupman Poultry Farm, Box 7A, Ceres, Calif.

"GOLDCROFT" BUFF ORPINGTONS—Fine, well-developed cockerels; also cocks and hens. Prices reasonable. Samuel Abrams, Los Altos.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California. Stamps.

WHITE LEGHORN BABY CHIX—Heavy laying, Hoganized stock. March \$15.00 per 100; April and May, \$13.50 per 100. Safe arrival of strong live chix guaranteed. Pioneer Hatchery, 408 Sixth St., Petaluma, Calif.

BABY CHICKS—From my Single-comb White Leghorns, bred for heavy layers, which have been in the race for 12 years, and today is among the leaders. You don't go wrong by placing your order with me. Write for prices and terms. H. A. Schlotthauer, Exeter, California.

BROWN LEGHORNS—Light or dark—the farmer's fowl. Best foragers. Females, \$3.00; males, \$5.00 each and upwards. MAHAJO FARM, P. O. Box 597, Sacramento, Calif. At 1919 Oakland Show won 1st, 2nd cocks; 1st, 3rd, 4th cockerels; 1st, 2nd hen; 1st, 3rd, 4th pullet.

LAYING LEGHORNS AND BARRED ROCKS—A few dozen A-1 White Leghorns and Rocks of February and March hatch for sale. These birds are guaranteed layers and are shipped on a money-back basis. Prices \$3.00 and up. Geo. L. Horine, Winton, Merced Co., Cal.

TURKEY BREEDERS TAKE NOTICE!—My new Eastern Mammoth Bronze Toms have proved to be grand breeders. I raise quality, not quantity. Every bird guaranteed; return C. O. D. if not as I represent, so you run no risk. R. M. Dodge, R. D. 2, Bakersfield, Calif.

THOROUGHBREED S. C. White Leghorn chicks in 100 and 1000 lots from Hoganized and trapnested stock. Order early for spring delivery. Inventors and Distributors of "Forbros" Separator and trapnest combined. Forster Brothers, 2918 Otis St., Berkeley, Cal.

FINEST HATCHERY IN THE WORLD—Chicks—White Leghorns, Rhode Island Reds; Settings—100's, 1000's; hatched right in \$60,000.00 Brick and Concrete Hatchery from our Quality Heavy Layers. Reasonable prices. Pebbleside Poultry Farm, Sunnyvale, Calif.

LIGHT BRAHMAS—Large stock direct from the East. Cockerels, \$5.00 to \$10.00 each; pullets, \$5.00 to \$8.00, non-related. Golden Seabright and Black Cochins Bantams. Rouen Ducks. All prize stock. Emma V. Miller, R. D. 2, Box 534, Santa Cruz, Cal.

AN EVER-INCREASING DEMAND finds us better prepared than ever before to take care of our day-old chick business. Hatching White, Brown and Buff Leghorns, Anconas, Minorcas, Rocks, Reds and White Wyandottes. Interesting folder now ready. B. W. Archibald, Soquel, Santa Cruz Co., Calif.

BABY CHICKS—Order now for 1920 and get what you want when you want them. White and Brown Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for free circular. Stubbe Poultry Ranch and Hatchery, Box 67, Palo Alto.

BABY CHIX—We specialize in R. I. Reds, Barred Plymouth Rocks, Black Minorcas. Bred and mated for eggs, size, color. Dates made by us are kept, so order early. Popular price, any number. Denton Poultry Yards, Campbell, Cal.

CHICKS — EGGS — Hoganized White Leghorns, Brown and Buff Leghorns, Black Minorcas, Rhode Island Reds, Barred Rocks, Anconas, Blue Andalusians. Free circular. Order early. McDonald Poultry Ranch, King Road, San Jose, Cal.

"WATCH US GROW"—Baby chicks. Booking orders now for January and February delivery. White and Brown Leghorns, R. I. Reds and Barred Rocks. Safe delivery guaranteed. Order early. E. W. Ohlen, Campbell, Cal.

HOLLISTER HATCHERY—Day-old chicks of quality from selected stock. White Leghorn, Black Minorca and Plymouth Rocks. We guarantee safe delivery. Free circular and price list. Box 693, Hollister, Cal.

MODEL POULTRY FARM—White Leghorn specialists—our fifteenth year. Baby chicks and hatching eggs for sale. Also first-class breeding cockerels and cocks. W. C. Smith, Prop., Corning, Cal.

RED CARNEAUX for sale. I have about 50 pair of splendidly bred and mated working birds at a reasonable price. For particulars address Alfred Lindsley, care Humboldt Times, Eureka, Cal.

BABY CHIX—Hatched from our own stock in our hatchery. Hens are of S. C. White Leghorn Utility stock, bred for commercial laying. E. A. George, Petaluma, Cal., R. D. 2, No. 29.

HART'S BRONZE TURKEYS—Large, vigorous young stock of both sexes for sale; also year-old hens. Eggs in season by the setting or hundred. Albert M. Hart, Clements, Cal.

FOR SALE—White Holland Turkeys, S. C. Rhode Island Red cockerels, Guinea roosters. One Golden Seabright cockerel. Send stamp. E. A. McKinley, R. D., Ukiah, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Voden, Box 3, Los Gatos, Calif.

WHITE LEGHORN BABY CHICKS—Fertile and Tanager strains. Circular free. Henry Tarratt, Corning, Cal.

FOR WHITE HOLLAND TURKEYS write J. L. Fulton, Glenn, Calif.

MOVING YOUNG TURKEYS.

To the Editor: I have a ranch in the San Antonio valley back of Mt. Hamilton. I want to raise about one hundred turkeys on my place this coming year, but cannot go back there to live until April or May. Can I hatch out my turkeys here and when they are about two months old take them over there and turn them loose on the range? Would the different climatic conditions set them back or kill them? At what age would it be safe to move them?—R. F. S., San Jose.

Experienced turkey raisers successfully move young turkeys to distant points, even when they are as young as a week or less, therefore our correspondent should be able to move his eight-week-old youngsters with little or no danger. The change of climate from San Jose to San Antonio Valley during late April or May is not a serious matter, but they must not be packed so closely in the moving crates as to cause them to sweat and take cold when released at destination. However, the statement "turn them loose on the range," may indicate that it is contemplated, when moved, to allow them to shift for themselves. In that case all or nearly all of them may quickly die from several possible causes; this might occur even if they were four or six months of age when moved. At or before the time they are moved proper quarters should be provided to protect them and afford a means of control by the keeper. Some feed must be supplied in addition to what they may find on the range at that season. One of the chief causes of death loss by mountain turkey-keepers is depredations of wild animals. This is a matter to be seriously considered in advance of the change of location.

BALANCED RATIONS.

To the Editor: I am feeding feterita (in the head) and Sperry's Surelay mash (dry), with plenty of green feed, to my hens. What would make

FOR SALE—Baby chicks from good Hoganized S. C. White Leghorn stock, from D. W. Young and Tom Barron strains; \$15 per 100. 25% with order, balance C. O. D. Heavy breeds, 20c each. Custom hatching; capacity 15,000 eggs; set eggs every Wednesday; deliver chicks every Thursday. H. K. Biddle, Poultry Ranch and Hatchery, Aromas, Cal.

PRUSSIAN HILL POULTRY RANCH—Blue Andalusian Cockerels, extra fine, February hatch, \$5.00; Barred Rock and B. Minorca Cockerels, late March hatch, \$4.00. Hatching eggs, after December 20th—Andalusians, Rocks and Minorcas—at \$2.00 for 15 eggs. Order early. Geo. I. Wright, Mokelumne Hill, Cal.

PEERLESS WHITE WYANDOTTES—Our 200-egg strain, bred for years for show qualities and high egg production. 50 cockerels, 100 pullets for sale. Trios and mated yards. Eggs for hatching. Catalogue free. J. W. Atkinson, Box 8, 130 Willard St., San Jose, California.

PIT GAME FOWLS—Tested brood cocks, tested brood hens and tested brood stags; also have select fighting cocks and stags. Send 2c stamp for catalogue. Agee S. Broughton, Perdue Hill, Alabama.

THE TRAPNEST is the only way in telling your layers. Our stock is all trapnested. Come and see them. Single-Comb White Leghorns only. Columbian Poultry Ranch, Sunnyvale, Calif.

EARLY BABY CHICKS beginning with the first week in January. Will book orders for all through the season. Santa Clara Valley Hatchery, San Jose. Jos. A. Bihn, Prop.

PUREBRED CHICKS from selected bred-to-lay S. C. W. Leghorns, Barred Rocks, R. I. Reds. Order now for February-March delivery. Maxwell Hatchery, Madera, Cal.

"EASTMAN'S BRED-TO-LAY" Hoganized and trapnested Barred Plymouth Rocks. Eggs; cockerels, January chicks. Fairmead Poultry Farm, Fairmead, Cal.

LARGE BRONZE TURKEYS FOR BREEDING—Toms, \$8.00; hens, \$6.00. Order at once, stock limited. Address Chas. Dunlap, Box 31, Yreka, Cal.

FOR SALE—Large Bronze Turkey Toms from good laying hens. Also baby chicks. M. H. Taylor, Box 219, Ceres, Cal.

BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

WHITE HOLLAND TURKEYS—A few choice purebred hens and toms. Earl V. Smith, Loma Vista Ranch, Willows, Calif.

MAMMOTH BRONZE TURKEYS, Embden Geese and Collie Dogs for herding purposes. John G. Mee, St. Helena, Cal.

BABY CHICKS—(Thoroughbred White Leghorns). No weak ones charged for. Schellville Hatchery, Schellville, Cal.

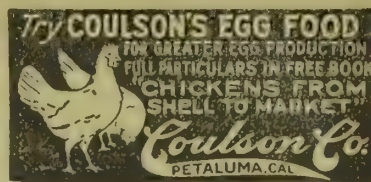
BRONZE TURKEYS AND EGGS—Limited number of breeders. Eggs by settings, hundred or thousands. M. M. Reiman, Planada, Cal.

BOURBON RED TURKEYS—M. Geo. F. Smith, Hardwick, Cal.

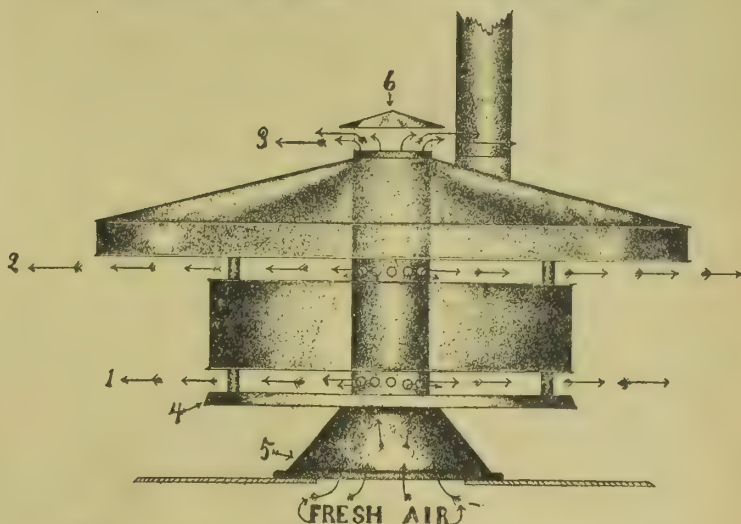
a better balanced ration?—B. E. S., Roseville.

An equal amount of grain and mash usually provides a balanced ration for egg production when the fowls are supplied with an abundance of greens. However, our correspondent will find that several kinds of grains will produce better results than any one sort. Fowls soon tire of one kind of grain; with several kinds before them they are certain to eat more feed and the

more feed they eat, if it is properly balanced, the more eggs they are able to lay.



THE Pride of Petaluma Brooder Stove



TRIPLE VENTILATION AND COMPOUND RADIATION FEATURES

Notice the three separate series of fresh air diffused from the ventilating shaft. They force the heat from the radiators and SWEEP the room out with fresh air, properly diffused and blended with just the right heat. IT VENTILATES IN SPITE OF THE OPERATOR.

NOTICE this stove has TWO RADIATORS. The top radiator is very large and uses the heat the second time, giving full benefit of great volume of heat that is WASTED with any SINGLE RADIATOR stove. Do your own reasoning. Our customers say we use half the fuel of any other brooder stove.

NOTICE the top radiator being very large, acts as a cone deflector to the lower radiator.

Our LATE AUTOMATIC regulator is the best and most accurate ever made.

This TRIPLE ventilator is working WONDERS everywhere and PETALUMA is discarding perfectly good 1919 brooder stoves for this Model. There must be a reason. Burns any OIL from FUEL OIL up and uses less than any other stove. TRY ONE. KEEP IT IF YOU WANT IT. RETURN IT IF YOU DO NOT. NO 43 ILLUSTRATED CATALOGUE FREE.

Kresky Brooder Stove Co.
PETALUMA, CALIF.

50,000 Dressed Turkeys Wanted FOR CASH!

Below you will find one of many unsolicited testimonials we have received since Thanksgiving.

Bangor, Cal., Dec. 2, 1919.

W. C. PRICE & CO.,
San Francisco, Cal.

We have your favor of November 27th, enclosing check for our shipment of Dressed Turkeys for \$699.90, for which accept our thanks. Am well satisfied with sale.

Will do business with you other years. If I should see any one that has turkeys for sale or anything else, will recommend your firm to them.

Yours truly, T. C. BEDELL.

We sold Fancy Dressed Turkeys as high as 55 CENTS PER POUND during Thanksgiving week, and we expect them to sell as high during Christmas week. Ship us all you can. Mark and consign all your shipments of produce to the old and reliable firm of

W. C. PRICE & CO.

244 and 246 Clay Street, San Francisco

Mark your name on Wells Fargo tags.



The Home Circle



"GOD'S IN HIS HEAVEN" STILL.

Lonella C. Poole.

O troubled hearts, forget your pain,
Your grief and loss, now once again
The merry Yule-tide brings
Its joy of giving, song and mirth
To gladden all the hearts of earth,
And once more celebrate the birth
Of our great King of Kings!

Come, little birds and friendly beasts,
And share with us the Yule-tide feasts
Earth spreads so lavishly!
O children, let your voices gay
Banish all gloom and doubt away!
Be wholly happy for this Day,
And dance around the Tree!

Ring, Christmas bells! Your message gives
Faith to believe that Truth still lives!
Ring, ring, with right good will!
For though humanity's bruised breast
Is throbbing with a wild unrest,
Man longs and strives yet for the best!
God's in His Heaven still!

A GLAD CHRISTMAS.

All day long, sitting by Sanaretta's washtub, Olio D'Antignac mused upon his Santa. As he pondered, he spoke to imaginary audiences, telling all his thoughts, gesticulating with his long, bony, loose-hung arms and legs, for he was a blind boy, not yet 10 years of age.

His people, once upon a time, had been actors and possessed genius; but that mattered not, it seemed, in his destiny, for so very poor had his mother and himself become that the tragedies, the hopes and fears of a lifetime seemed to form the little bundle that beat where his heart was.

And yet there were long hours when he was most unhappy, thinking of his mother, with her hacking cough.

The winter was so severe, and Sanaretta's cough had grown so much worse, that just before Christmas Olio despaired of her ever being able to earn any more food. Finally he went with his mother from house to house, begging everyone to help find him a home. While Sanaretta was going from house to house to do the washings, Olio had the privilege of eating one square meal a day with his mother; but now that she was growing so much worse, they despaired of even that.

Oh, if he were only a man and could work for his mother! He could only think—and pray to his Santa!

He had almost given up, when the professor of a small college on the beautiful hills overlooking the village sent for his mother one day in haste to come to his home, and while she washed, keep his children for the day, so that he and his wife might go to a nearby city to meet his old college friend and chum, a very great medical man.

The thought came to Olio like an inspiration: The professor was one man so far above their own station in life that they had never even thought to appeal to him to find himself a home. He would make a last effort, he determined.

All day long Olio had imaginary games with the laughing, romping, mischievous children, although they really played with him scarcely at all—only the baby.

Once, just as they were leaving, they heard the baby ask Olio to tell her a story of Santa, and the children paused to listen. Before Olio could even begin his story the other children began, telling, all at once, what they wanted Santa to bring them. The long list of things they named made Olio's heart beat faster. But at last they were through, and the room grew still for a long moment when they asked Olio what he wanted Santa to bring him.

Now Olio could scarcely answer a question without telling a tale of something that really happened when

he was in Old Mexico, for his life had been some better there.

"When I was in Mexico," he began, "they told me if I would write on a piece of paper the things I wanted Santa to bring, and send it through the fire up the chimney, Santa would surely bring it. And I did write, and when Christmas came and I found that Santa forgot me, I sat on the doorstep and cried all day—for mother was away washing. After a time an old tramp came by and he sat down on the step by me and we told our troubles. He asked me how I sent my letter to Santa. When I told him he laughed a big laugh and then he told me how to find him sure enough, and since that he has always brought me what I asked for."

"What did the tramp tell you?" the children cried.

"Why, that old tramp said—what do you suppose he said?" Olio suddenly gasped, protruding his long neck, with his questioning chin in the air.

"What?" the children laughed.

"He said," Olio went on, "that I should have the real Santa, not that sort of a Santa. He said that when the real Santa was born, men went so wild with joy that they dressed

Now there was a corner in the wash room, forbidden to the children, just because the cistern pump was broken. Even the professor had that morning cautioned the children to keep away from that corner, and it was one of those commands children instinctively obey.

But it is easy for babies to forget.

In another moment the golden-haired baby darted through the wash room, past Olio, into the forbidden corner to hide.

His heart stood still. He was afraid to try to go to her, or to call the others for fear of frightening her. At last he cried: "Come back, baby girl, or you will fall in the well!" Ere his voice died he heard a splash and the baby's scream.

Olio rose quickly, groping his way to the open cistern. As he did so he called loudly to his mother, telling her what had happened. The mother did not answer. It seemed to Olio now, as the thought flashed through his mind, that she had been gone a long time to hang out that handful of clothes.

Olio was just able to reach the child by stretching his long arm to its fullest and leaning into the well himself, but he was afraid to attempt

Little waves of delight danced over his snug, comfortable body.

He heard the baby's laugh. Its mother crooned softly, close by. He rejoiced when he heard her exclaim: "Yes, baby's cold will soon be well!"

His own mother's familiar cough smote upon his half-awakened ear, with a not unpleasant sound. It was followed by the professor's voice in a comfortable, reassuring tone:

"You need not worry about your son having a home, for if Dr. Ford's plans fail, we'll adopt your boy and give him a home. Madam, Dr. Ford here, is an old college friend, a medical man of repute, who is spending the Christmas vacation this year with me. He came with me from the city yesterday. He has examined the boy's eyes and he considers his blindness due to ignorance and neglect of the cause of his trouble, and he says—"

"Oh, what does he say?" Olio demanded, sitting up in bed.

"I am Dr. Ford, son," came in strange voice to Olio, as a big hand patted his head. "Next Christmas you will see as well as I can."

"But, doctor, I want to see my mother's face for once before she must die!" Olio pleaded.

The doctor walked once more to the bed: "Now, my son, if your mother dies, it will be a death from neglect. Her trouble is only a bronchial affection, which may be cured speedily."

"And," broke in the professor, "my wife and I want to always look out for you both!"

"You see, mother, I told you the real Santa Jesus never forgets!"—By Betty Bush-Winger.

WHEN IS A PERSON OF AGE?

A statement as to when a man becomes of legal age is printed in an Eastern farm journal, which seems curious and interesting. Claiming to be the law as well as court rulings, the following is the quotation as printed:

"The rule is well established by the English and American Courts that a person is twenty-one years of age on the first moment of the day preceding the 21st anniversary of his birth. As the Delaware Court has said:—

"A person becomes of age on the first instant on the last day of the 21st year next before the anniversary of his birth; thus, if a person were born at any hour on the 1st of January, 1801, even a few minutes before twelve o'clock of the night of that day, he would be of full age at the first instant of the 31st of December, 1821, although nearly forty-eight hours before he had actually attained the full age of twenty-one, according to years, days, hours and minutes; because there is not in law in this respect any fraction of a day; and it is the same whether a thing is done upon one moment of the day or another."

MARSHMALLOW GINGERBREAD.

One egg well beaten, 1 cup sugar, ½ cup molasses, ½ cup milk, ½ cup melted shortening, 2 cups flour, 2 teaspoons ginger, 1 teaspoon cinnamon, 1 teaspoon salt, 1 teaspoon soda.

Sift dry ingredients. Beat egg, add sugar, molasses and milk and add gradually dry materials; mix well, add melted shortening, and pour into a well-greased baking pan and bake in a moderate oven. When cooked, place about eight marshmallows on top of the gingerbread; return to the oven until melted.

SHE KNEW.

Marjorie has attained to the dignity of the kindergarten. A few days ago she proclaimed proudly at the dinner-table, "I know how much two and two make, and free and two, and four and two." "And what," said her father, "do you and I make, Marjey?" With out a moments hesitation, the little maid answered, with a dimple and a smile, "Sweethearts." And all the family were satisfied with Marjey's arithmetic. New Orleans Picayune.

THE CHRISTMAS MESSAGE.



CHRISTMAS TIME, the one time of all others universally given up to mirth and innocent joy, ought not to be darkened by the contrasts that pain us continually throughout the year. It seems as if there were no place for any but happy people at a season when love and good wishes overflow to all mankind. The churches, the stores, the good-natured crowds that throng the streets, the eager children, busy with their planning and their delightful mysteries—all seem involuntarily to hint of the time when the dream of a universal brotherhood shall work itself out at last in the lives of men.

But we are not all happy. For some of us, the outward form of all that made Christmas dear and fair, is covered with the ground. Many of us have had our hearts so torn by the suffering of dear ones that it seems wicked to be happy.

The Christmas meaning, though rightfully expressed by merriment and gifts and unusual generosity, nevertheless lies far deeper than these. Its revelations are not alone for the young or the happy. Our hearts may ache, but the Christmas message comes to bid us live for the peace that is in the heart. The Christmas message is more than one of temporary good will to men and partial peace on earth; and the Christ child may be born in our hearts again in new purpose, new hope and new aspiration.

themselves up like a Santa Claus and went everywhere ringing bells and giving candy and toys to all the children. He said that sort of thing was all very well for rich children, but poor, little ragged kids like me had better not trust too much in the Santa Claus men; but that they must tell the real, sure enough Santa Jesus in heaven when they want things. He said the other Santa was an imaginary plaything, while my Santa was real.

"Sittin' there on the door step, with the snow all meltin' round us and making mud puddles, the old tramp taught me how to pray to the real Santa Jesus, and then he went on limping down the alley."

The children were growing impatient. They looked upon Olio as a foolish dreamer. "Well, what did you ask him for this time?" they demanded.

"I have asked him to send me a home this Christmas—a real, sure enough, good home, where I may stay when mother goes away," he half whispered.

Soon Sanaretta went out into the snow to hang out the steaming clothes in the icy air. Still Olio dreamed.

lifting her out. The opening in the floor was a large one and he was barely able to maintain his hold by keeping his body taut at full length upon the floor. Besides he was weaker than most boys of his age.

The clock struck five. He was tempted to drop the child, but he only fastened his fingers tighter in a death-like grip.

Straightway he caught the words: "Mother! Father!" in the children's voices and knew that the professor and his wife had returned. The door opened and he heard them running frantically to the cistern.

Then stars danced before Olio's eyes, and he sank into a dizzy blackness where there was a familiar swish-swash of water, followed by a cooing, baby voice, and the feel of wet hands caressing his cheeks.

After a time he again grew conscious of voices. Yes, it was surely the professor's children in an adjoining room telling what Santa had brought them; and he felt, rather than saw, the big Christmas tree, with its load of toys they talked about.

He had been asleep, and he lay now in a warm room on a soft bed.

It was Christmas morning!

SPIRITUAL LIFE.

To have courage without pugnacity.
To have conviction without bigotry.
To have charity without condescension.
To have faith without credulity.
To have love of humanity without mere sentimentality.
To have meekness with power.

—Charles E. Hughes.

"SKINNY" FOLKS. LONGEST LIVED.

In an address delivered at Chicago last week before the American Institute of Actuaries H. W. Butholph, Indianapolis, who has devoted years to the study of the statistics of life insurance companies, made these observations:

That thin persons live longer than fat persons.

That being underweight is not nearly as just a cause for alarm as being overweight.

That the moderate use of alcoholic beverages is not likely to lessen a person's life span.

That the high nervous strain under which Americans live has not increased this country's death rate compared with that of Great Britain.

That farmers live longer than persons who reside in cities.

That the Middle West is the most healthful locality of the United States in which to live.

That the extreme South is the most unhealthful section of the United States in which to live.

That negroes have a much heavier mortality than either the whites or the American Indian.

That one-tenth of all insured persons' deaths are due to accident, suicide or murder.

He said that the Government war risk plan adopted for the soldiers during the war had increased the business of private life insurance companies, who are at present enjoying the most profitable year in the history of the business in this country.

EASY-AND-OFTEN HOUSE CLEANING.

Keeping the dirt out of the house as far as possible is the first step in simplifying house cleaning. It is easier to keep walks, steps, porches, and sills clean than to remove the dirt from rugs and floors after it has been tracked inside the house. Clean shoes and rubbers mean less dirt for the housekeeper to combat.

When cleaning, remove the dust thoroughly. Right methods mean removing, not scattering the dust about to settle again.

Do the heavy cleaning a little at a time and avoid the spring and fall house cleaning.

Use water and cleaning agents sparingly. Too much of either injures wood and all finishes as well as weakening glue, paste, and cement. Always rub until dry the surface which has been dampened.

Train the family to leave things in place and in good condition. Good habits are worth cultivating, and this one also simplifies the work of the housekeeper.

BUTTERSCOTCH RICE PUDDING.

Wash thoroughly and drain 1 scant cup of rice. Boil until cooked, then set on back of stove until all water has evaporated. Beat well one egg, add to rice and then add one pint of milk and sweeten slightly. Add the following butterscotch mixture: Boil together ½ cup water and 1 full cup brown sugar, adding piece of butter size of walnut. Boil until a slightly thick syrup is formed. Add teaspoon vanilla and mix this syrup thoroughly into the rice. Serve when cool. The flavor is better than if eaten warm.

KEEPING APPLE CIDER SWEET.

Fill fruit jars with the fresh apple cider. Add a tablespoonful of sugar to each quart. Place rubber and cap in position, partially tighten, or cap and tip the tin cans. Sterilize in hot-water bath outfit for 10 minutes; in water-seal outfit for 8 minutes; in the steam-pressure outfit, under 5 pounds

of steam, for 4 minutes; in the aluminum pressure cooker for 2 minutes. Remove jars, tighten cover, invert to cool, and test joint.

Note—If you desire the apple cider to be a little tart or slightly fermented, it will be necessary to let it stand for two or three days before you sterilize, and then add about two minutes of time to each schedule given in the recipe.—From U. S. Extension and Home Economics.

COMMUNITY WELFARE LEAGUE.

The people of Escalon, San Joaquin County, are alive to the fact that successful living means more than just money-getting and money-saving, important as these may be.

Realizing the need of keeping the young people's interest in the home community, they have started a movement for the organization of a community welfare league. A number of preliminary meetings have been held to bring forth discussion of plans.

It is the purpose to provide amusements of various kinds and to use all possible efforts to promote the social welfare of the community.

CLAM OR OYSTER COCKTAILS.

Clams and oysters for cocktails should be small, fresh and very cold. Chop a sweet red pepper very fine, add to one cup of tomato catsup or tomato sauce, and a dash of Tabasco sauce, if desired, a few drops of Worcestershire sauce, and a dash of Tabasco sauce, if liked highly seasoned. If preferred, a cocktail mixture may be purchased at any grocery store to which the oysters may be added just before serving. Serve in wine or cocktail glasses or in green pepper cups.

CALIFORNIA EGG-LAYING CONTEST.

Report for Week Ending Dec. 7th, 1919.

Leading pens to date:

W. J. Neff, Santa Cruz, W. Leghorns, 111 eggs.

W. Wood, Santa Cruz, W. Leghorns, 97 eggs.

C. K. Hale, Santa Cruz, W. Leghorns, 91 eggs.

S. L. Gibson, Santa Cruz, W. Leghorns, 91 eggs.

C. T. Brown, Santa Cruz, W. Leghorns, 90 eggs.

Leading Individuals to date:

D. B. Walls, Petaluma, W. Leghorn hen No. 16, 17 eggs.

D. B. Walls, Petaluma, W. Leghorn hen No. 18, 16 eggs.

Leading pens for week:

W. T. Neff, Santa Cruz, W. Leghorns, 42 eggs.

D. B. Walls, Petaluma, W. Leghorns, 34 eggs.

S. L. Gibson, Santa Cruz, W. Leghorns, 32 eggs.

W. Wood, Santa Cruz, W. Leghorns, 32 eggs.

High hens for week:

D. B. Walls, Petaluma, W. Leghorn hen No. 16, 6 eggs.

D. B. Walls, Petaluma, W. Leghorn hen No. 18, 6 eggs.

Bellow Bros., Lakeside, W. Leghorn hen No. 30, 6 eggs.

W. J. Neff, Santa Cruz, W. Leghorn hen No. 285, 6 eggs.

Chas. Lehman, Santa Cruz, W. Leghorn hen No. 363, 6 eggs.

The farm bureau of El Dorado county has organized a poultry department with branches in most of the centers.

THE BIRD FAMILY.

A minister's wife has been married three times. Her maiden name was Partridge, her first husband was named Robins, her second husband Sparrow, the present Quail. There are now two young Robins, one Sparrow and three Quails in the family.

One grandfather was a Swan and another a Jay, but he passed away and so he has become a Bird of Paradise. They live on the Canary Islands, "and," comments a newspaper on the above, "the name of the fellow who wrote this is Lyre and he is a relative of the family."

WATCH THE ADS.

How many of the women readers of the "Press" are noticing the advertisements of home fixtures and appliances from week to week? An investigation will often bring a saving of time, money and labor.

"EQUAL RIGHTS."

Janet came in with a startling philosophy of life. She said: "Mama, Joe told Betty he would fight all her battles for her. Just told her when she got into trouble he'd do the fighting."

"Well, Joe is a very gallant little boy, isn't he?"

"Gallant! Joe's selfish. Don't you suppose Betty would like to do a little of her own fighting? Joe wants to do it all."

APRICOT ROLL.

Take twelve ounces of flour, one-half ounce of sugar, one-half ounce of butter, one-half pint of warm milk, four ounces of apricots (if dried, soak over night) one ounce of salt and one ounce of yeast.

Mix the sugar, salt and butter in a bowl, then add the warm milk in which yeast has been dissolved. Finally add the flour and make into a smooth dough. Allow to rise for one hour, then cut the dough in pieces of one ounce each. Roll a few apricots on each and let raise for a half-hour more. Put in a pan, wash with egg, and bake for fifteen minutes.

DREADNAUGHT
BLAZING-AWAY-IN-COST-DEFENCE!



1920 RESOLUTIONS

Your first, one and the most important, should be the Heat Problem—start the new year right—make everybody happy. Turn the cookstove or heater into a real Gas Stove.

Remember, there is a big difference between Oil-Gas from kerosene that is properly matured, dry and clean, and the usual wet vapor that is a carbon maker, dirty and expensive.

Study the lines of the Dreadnaught Burner. Give the subject a little thought and you will understand why we talk about the "straight lift of the gas" and the little square block—it's the drying process that perfects the gas. This is a vital point usually lost sight of in Burner construction. Let us give you further details—write for our circular; it will be mailed promptly.

BURNER & VALVE—

COMBINATION NEEDLE VALVE & DRAIN

PARCEL POST, PREPAID ANYWHERE...\$8.50

SCIENTIFIC SPECIALTIES CO.,
Manufacturers,

310 South Hill Street,
Los Angeles, Cal.

Agency contracts can be made with the San Francisco Office, 10 Seventh St.



**We pay you
all that your furs are worth
— and you're the judge**

Send your furs to us and get top prices for them. We are manufacturing furriers—the largest in the West—and give you highest prices on raw furs.

Most furs shipped to us are made up by us—therefore, no deductions for commissions and grading. The price we quote you is the price we pay you.

**We pay all Parcel Post
and Express charges**

Hundreds of trappers send us their furs every year because they know that we give them fair and square treatment. Pack up your furs today and ship to us. If our check isn't large enough—send it back and we'll return your furs at our expense. Is that fair? Write for price-list—today!

H. LIEBES & CO.

177 POST STREET, SAN FRANCISCO

*Ship your furs to the nearest market
— and get your money quick!*

HIGH SCHOOL GRADUATES

and others
WANTED

This State wants teachers
NOW

Prepare in 4-10 months.

**WESTERN NORMAL, BERKELEY
CALIF.**

Westrolac
442-444 Sansome St.
San Francisco, Cal.

CHRISTMAS CANDIES.

The cream candies of the confectioner often seem beyond the skill of the housekeeper, but if directions are carefully followed, the results may be most successful. Fondant is the basis for cream candies and to make, take 4 cups of granulated sugar, $\frac{1}{2}$ teaspoon cream tartar and 2 cups boiling water. Put the sugar and cream of tartar in a saucepan, add the boiling water and stir until sugar is dissolved. The mixture should be stirred slowly from the center of the pan in order to avoid having grains of sugar gather on the sides of the saucepan. The saucepan must be kept free from sugar or the fondant will become "grainy."

Cover the kettle until boiling point is reached, then remove cover and cook until the syrup will form a soft ball when dropped in cold water. This takes about ten minutes. When cooked, remove from fire at once and set aside to cool in the pan it was cooked in.

It is important that the syrup should cool evenly, therefore do not pour out into a dish, nor set the pan in cold water.

When cool, stir vigorously with a wooden spoon until the syrup has changed to a white, creamy, glossy paste. When too stiff to stir, turn out and knead on a board until light and creamy. Then place in an earthen bowl or jar, cover with a damp cloth and put away for 24 hours.

If, in spite of care, the fondant becomes grainy or sugary after it has been stirred, put back into the saucepan with additional hot water; stir until the sugar is dissolved, cover the pan and cook to the soft ball stage again.

After the fondant has set for 24 hours, it may be made into a variety of candies. For walnut creams, flavor fondant; take off pieces the size of a small walnut, roll into balls in the palms of the hands, and press a walnut meat on each side.

For chocolate creams, make balls of the fondant as described above, then set aside to dry for an hour. Melt unsweetened chocolate and roll each ball in it, using a hat pin to move them about and lift them out. Each candy should be placed on waxed paper to dry.

The fondant may be used as a covering for candied fruits or any nut meats. To do this, melt the fondant over hot water, flavor, and roll the nuts over in it, placing on waxed paper to dry.

To color fondant, add the color by dipping a toothpick into the color and mixing with the fondant. It takes very little to make a delicate shade. Flavorings should be added by the drop to avoid thinning the fondant too much.

Cocoanut bars or balls may be made by adding cocoanut to the fondant; in fact, there seems to be no limit to the combinations that can be made, using fondant as a base.

DECEMBER.

A wrinkled, crabbed man they picture thee,
Old Winter, with a rugged beard as grey
As the long moss upon the apple-tree;
Blue-lipt, an ice drop on thy sharp blue nose,
Close muffled up, and on thy dreary way
Plodding along through sleet, and drifting snows.
They should have drawn thee by the high-heapt hearth,
Old Winter, seated in thy great armed chair,
Watching the children at their Christmas mirth;
Or circled by them as thy lips declare
Some merry jest or tale of murder
Or troubled spirit that disturbs the night,
Pausing at time to rouse the smouldering fire,
Or taste the old October, brown and bright.
—Southey.

CHRISTMAS GIFTS FROM THE COUNTRY.

[Written for the Pacific Rural Press.]

"I built a chimney for a comrade old,—
I did the service not for hope of hire;
And then, I traveled on in winter's cold,
Yet all the day, I glowed before the fire."
—Edwin Markham.

This expresses the Christmas spirit which should possess us in the making of gifts. Not the value of the gift, intrinsically; but the thought which prompts the giving with the love back of it warms the hearts of the giver and the receiver, alike.

Too many of us knit our brows almost in despair over what we can give to the friend who is long of purse and thus possessed of many luxuries, perhaps. And so we either choose something far beyond our means, or sigh: "She has everything now, I can't afford to get what she is accustomed to, and I won't send something cheap." Yet just a little thought, a little "service not for hope of hire," would bring the glow of love and content.

To the country woman who has city friends there are unlimited possibilities all about for bringing to that more-than-likely socially care-worn one a breath of fresh air, a vision of

broad fields, a suggestion of the quiet and rest so much needed.

If you are near the woods, spend a few hours in gathering greens to decorate the city apartment. A few sprigs of mistletoe which sell for fabulous prices at the city florists, a box of boughs from the pepper tree with its bright red berries, even some branches from the eucalyptus with the curious seed-pods—all these and many more may be found in almost any country place.

Then from your store of jellies and jams, canned fruits, dried fruits or other products of the farm you can choose something acceptable.

You have your dairy products—cottage cheese, butter, or a jar of rich, thick, "real" cream.

There are the poultry yards and the pig pens to choose from, also,—a fowl, a basket of eggs, some head-cheese or a spare rib.

And as for raisins, figs, nuts, apples, oranges, and yes—even lemons, who would rather not have such a gift which means you than some useless gewgaw which means nothing?

Above all, let your gifts be an expression of yourself, and your distant friend, when she receives your message, will pause in her round of duties and come and sit with you awhile and refresh her spirit.

THE PUZZLING HYPHEN.

"As to lady-birds, let me tell what happened in Westport, Mass., while my family were living there. The teacher was giving the youngest scholars their first introduction to the hyphen, and they had 'lady-bug' before them on the blackboard. They knew 'lady' and they knew 'bug,' but no one in the class knew what little line in the middle might mean, and they were scared. Suddenly one little fellow remembered the sign of subtraction in arithmetic, and made up his mind that he saw just what was meant; and he read it off gleefully, 'Lady, take away bug!'—Christian Endeavor World.

"Oh, do look at that dear little lamb!" said Frances, on seeing a young lamb for the first time in her life. "Isn't it pretty?" asked mamma. "Yes; and it is so natural, too. It squeaks, just like a toy lamb, and has the same sort of wool on its back."



GETTING breakfast isn't the tedious job it used to be, thanks to modern conveniences—and Ghirardelli's Ground Chocolate. Besides, the "Ghirardelli breakfast" is not only much easier to prepare, but it's also more wholesome, more nutritious, more sustaining! Ghirardelli's is food and drink both!

Never sold in bulk—but in cans only.
In $\frac{1}{2}$ lb., 1 lb. and 3 lb. sealed cans—
at the store where you do your trading.

Say "Gear-ar-delly"

D. GHIRARDELLI CO.

Since 1852

San Francisco

(P6)

GHIRARDELLI'S Ground Chocolate



Instant heat—
when and where
you want it

Pearl Oil in a good oil heater, brings instant comfort at the touch of a match. No smoke, no odor, no dust, no dirt. Clean and economical.

Pearl Oil is refined and re-refined to be pure and clean burning. Sold in bulk and five-gallon cans. Order by name—Pearl Oil.

We recommend Perfection Oil Heaters.



STANDARD OIL COMPANY
CALIFORNIA

CHRISTMAS SNOW.

Mother Sky sits up aloft,
Cuddling her pretty geese,
Tending them with care and love,
Till the winter's cold increase.

Mother Sky has said today,
"Now the frost is thick and white,
I will make my feather bed,
I will pluck my geese tonight.

"Oh, how cosy I shall be,
On my soft and downy bed,
Underneath my coverlid,
With a pillow for my head!"

Old man North Wind heard her talk,
As he peeped behind the sun.
Then he laughed, "O Mother Sky,
We will have a little fun."

Mother Sky has plucked her geese,
Held between her ample knees.
But the feathers all have flown
On old North Wind's mighty breeze.

Gayly, gayly, did they fly,
All the air was soft with down,
And a robe of spotless white
Covered in our little town.

Who will pity old Ma'am Sky
For her feathers blown away,
When they see the children's glee
And the rapture of their play?

Shouting, leaping, with their sleds,
How they make the welkins ring,
Rosy cheeks are all aglow,
Though the cold may bite and sting.



What do you get out
of tea?

Taste and feeling.
Common tea—you know
how it tastes; and the
tannin in it is bad for
nerves and digestion.
Good tea has the real
tea-flavor: rich, delightful,
exquisite. It is the cup
that cheers.

Schilling Tea is the
fine practical economical
tea of this country.

There are four flavors of Schilling
Tea—Japan, Ceylon-India, Oolong,
English Breakfast. All one quality. In
parchmy-lined moisture-proof packages.
At grocers everywhere.

A Schilling & Co San Francisco

Christmas snow at Christmas tide
Is the best of all the year,
For it comes with holly boughs,
And the good old Christmas cheer.

THE SCHOOL CHRISTMAS PROGRAM.

What are you doing to help your
school in its Christmas program?
Have you sent word to the teacher
that you are willing to do whatever
you can? Are you making this an op-
portunity to meet the strangers in
your district?

With all our talk of Americaniza-
tion, in no place and at no time can
we make a stronger appeal to the for-
eign element than through the school
at Christmas time. Just to work with
you for the common happiness of her
children and of yours will mean more
to the wistful mother who is more
than eager to "be one of us" than any
preachments about the glories of de-
mocracy.

That great American who was
Santa Claus to the little group at Oys-
ter Bay for so many years, who was
never too busy nor too much absorbed
in larger affairs to remember the
children, who gave of himself so free-
ly,—he will be missed this year by
those who loved him, but his example
remains for all. We quote from his
"American Ideals":

"The great writers, who have writ-
ten in prose or verse, have done much
for us. The great orators, whose
burning words on behalf of liberty, of
union, of honest government, have
rung through our legislative halls,
have done even more. Most of all
has been done by the men who have
spoken to us through deeds and not
words, or whose words have gathered
their especial charm and significance
because they came from men who did
speak in deeds."

CLEANING-DAY UTENSILS.

Before buying any household device,
decide whether it will pay for itself in
the long run by saving time and
strength or wear and tear, or if it
will make some especially disagree-
able task less unpleasant. Devices
which can be used for many purposes
are seldom employed by the house-
keeper for more than one, and often
they are more cumbersome to handle
and less easily cleaned.

A cleaning cloth should be soft and
loosely woven, so that it will take up
dirt easily and itself be easy to clean.
A duster takes up dirt better if a few
drops of water or oil are sprinkled
on it. Beware of too much moisture
or oil, for it leaves streaks. For wip-
ing very dirty places use soft paper,
cotton waste, or rags, which may be
thrown away. Keep the cleaning
things together in a convenient place.
Put them away clean. Hang brushes,
mops, and brooms when not in use.

Clean string mops by shaking over
a damp newspaper or a can. Wash
occasionally in hot water with wash-
ing soda or soap and dry quickly.
Sprinkle a few drops of oil on the oil
mops after cleaning.

Long handles on brooms, brushes,
and dustpans save the back, the office
of Home Economics Kitchen, of the
Department of Agriculture suggests.

Clean carpet sweepers frequently.
Empty the box on damp newspaper
and use old scissors and buttonhook
or coarse comb to remove the hairs
dirt on the brushes. Keep the bear-
ings oiled.

BEE CULTURE FOR WOMEN.

Mrs. Martinelli gave a fine demon-
stration of the possibilities of bee cul-
ture on the part of women at the
last meeting of the Home Demonstra-
tion Department of the Farm Bureau,
at Ripon, San Joaquin County.

Although she has not entered into
the business upon a commercial basis,
Mrs. Martinelli has sold honey of the
finest quality in small amounts. She
has made a study of the business, and
is provided with all the necessary
equipment for carrying it on success-
fully, and she thinks there are splen-
did opportunities for women in this
work.

Karo



Make Your Christmas Candy at Home with Karo

THE variety of wholesome candies so
easily made at home with Karo syrup
gives a really intelligent solution of the
Christmas candy problems.

Its lots of fun for the children themselves
to make it and Karo always insures success.

Christmas candies cost more than ever this
year. Karo candies are as good as can be
bought and at a fraction of the cost of good
store candy.

The Most Delicious Caramels You Ever Tasted

KARO CARAMELS

- | | |
|------------------------|----------------------|
| 1 cup Granulated Sugar | 1/4 cup Vinegar |
| 1 cup Karo | 2 tablespoons Mazola |
| 1/4 cup Water | 1 teaspoon Vanilla |

Boil the sugar, Karo, water and vinegar six minutes,
and add the Mazola. Cook till it forms a soft ball in
cold water. Remove from fire, and stir in the vanilla.
If preferred, one-half cup of candied cherries, cut in
halves, may be added. After heating thoroughly, turn
into tins well oiled with Mazola. Mark in squares when
cool, and cut when cold. Wrap each cube in waxed paper.

FREE Beautifully illustrated Corn Products Cook
Book of 64 pages containing more than a
hundred valuable recipes for candies of all kinds, cakes
and pastry of every variety, sauces, and salad dressings.
All recipes originated by leading professional cooks
and endorsed by Domestic Science Experts. Every
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Lights with a Match!

NO torch needed with this new
lamp. Just use a match, as with the old
oil lamp. Gives a brilliant, steady, white
light of 800 candle power, brighter than the
brightest electric light, safer than the safest
oil lamp, cheaper than the cheapest candles.



Coleman Quick-Lite

makes and burns its own
gas from common gaso-
line. No wicks to trim—
no globes to wash. No
dirt, grease, smoke or
soot. Absolutely safe,
no danger of fire or ex-
plosion. Fuel can't tip-
ple—no danger if tipped
over.

Coleman Lamp Co.
Successors to
Cole Lite & Sales Co.,
120 S. Los Angeles St.,
Los Angeles, Calif.

Write our office for Catalog 21-B.P.

VEGETABLES.

As a result of the freezing weather in Oregon, Idaho and Washington, the supply of potatoes from those States has been cut off, consequently a sharp advance in prices will be noted. Very good receipts of California stock. Many of the Burbank's are going into storage and will be held for the January market. Onions in light supply, but good demand and higher. Prices for all staples are generally higher.

Potatoes, Northern Burbanks \$4.25@4.50
do, Idaho Russets, cwt.\$4.50
Sweet Potatoes\$2.25@2.50
Onions, Stockton, yellows, cwt.\$3.85@4.00
do, White Globe, cwt.\$4.00@4.25
do, Australian Brown\$4.75@5.00
Cabbage, per 100 lbs.\$2.50@3.00
Lettuce, crate75c@1.00
Rhubarb, per 30-lb. box70c@1.25
Peppers, Bell, lb.12c@17c
Celery, crate\$5.00@5.50
Cauliflower, crate\$2.00@2.25

HAY.

This market reports another advance in prices. They are \$1 higher than quoted last week. Demand is very good and receipts fair.

F. O. B. Los Angeles.

Barley hay, ton\$25.00@29.00
Oat hay, ton\$28.00@31.00
Alfalfa Northern ton\$30.00@32.00
Alfalfa local, ton\$32.00@35.00
Straw\$14.00@16.00

WEEKLY BUTTER AVERAGES.

Cents per pound for Extras.		San Francisco		Los Angeles	
Week Ending		1918	1919	1918	1919
Jan.	2	51.40	66.19	50.16	63.16
"	9	51.08	61.00	50.00	64.00
"	16	52.33	61.70	50.50	64.16
"	23	52.50	55.83	52.00	62.16
"	30	53.00	44.91	51.83	49.00
Feb.	6	50.80	43.58	49.66	47.33
"	13	52.00	46.80	48.00	47.60
"	20	51.41	51.58	48.00	53.16
"	27	51.30	53.90	49.33	45.00
March	6	50.68	56.16	50.00	59.00
"	13	51.18	55.58	49.50	58.00
"	20	47.83	54.41	47.00	56.00
"	27	46.30	56.41	43.30	58.00
April	3	43.16	54.23	42.16	55.50
"	10	39.25	57.16	39.50	56.00
"	17	40.50	52.41	37.16	54.00
"	24	40.50	52.41	38.16	54.00
May	1	40.83	52.41	39.00	54.00
"	8	40.66	52.91	39.00	54.00
"	15	40.46	55.16	41.00	58.00
"	22	40.33	57.91	41.00	59.00
"	29	42.30	57.91	39.00	59.00
June	5	43.90	54.12	41.58	57.00
"	12	44.92	53.58	40.58	57.00
"	19	46.50	53.16	41.75	57.00
"	26	47.42	52.83	53.00	55.00
July	3	48.08	52.37	48.00	55.00
"	10	48.90	52.12	47.50	54.00
"	17	50.83	52.71	48.66	56.00
"	24	52.66	54.24	45.16	57.00
"	31	52.16	55.08	51.00	57.00
August	7	52.16	55.50	50.83	59.00
"	14	51.66	52.33	49.00	57.00
"	21	52.25	52.66	49.58	56.00
"	28	53.00	52.66	50.00	58.00
Sept.	4	53.00	56.20	50.00	59.00
"	11	54.90	58.70	50.33	61.00
"	18	57.80	59.70	51.87	62.00
"	25	61.33	60.58	56.17	66.00
Oct.	2	64.75	62.70	58.00	67.00
"	9	64.50	63.41	59.33	67.00
"	16	62.50	62.90	60.00	65.00
"	23	61.75	62.00	60.00	65.00
"	30	60.50	62.25	69.50	64.00
Nov.	6	59.60	62.66	58.83	64.00
"	13	60.00	64.50	57.00	66.00
"	20	61.00	63.83	57.25	66.00
"	27	61.60	64.30	58.75	67.00
Dec.	4	62.60	76.30	60.00	67.00
"	11	63.00	63.91	60.10	67.00
"	18	63.50	64.60	61.01	67.00
"		64.60	....	62.16	....

WEEKLY EGG AVERAGES.

San Francisco		Los Angeles	
Week Ending		1918	1919
Jan.	2	52.80	75.60
"	9	60.91	69.91
"	16	65.66	58.70
"	23	65.66	52.58
"	30	61.25	48.75
Feb.	6	58.50	42.00
"	13	44.40	40.90
"	20	44.75	36.41
"	27	42.40	37.40
March	6	36.83	37.58
"	13	37.91	37.16
"	20	40.66	38.16
"	27	39.50	40.41
April	3	38.19	42.41
"	10	37.58	42.91
"	17	33.16	45.10
"	24	40.80	45.00
May	1	41.66	45.00
"	8	40.08	46.50
"	15	39.16	47.91
"	22	40.50	49.16
"	29	38.66	47.58
June	5	40.80	45.50
"	12	48.30	47.60
"	19	41.00	45.91
"	26	44.32	49.66
July	3	44.91	43.97
"	10	48.30	47.60
"	17	47.66	47.66
"	24	47.91	48.38
"	31	48.83	53.16
August	7	49.50	55.50
"	14	62.08	55.00
"	21	56.33	51.80
"	28	59.20	53.91
Sept.	4	62.40	56.70
"	11	63.70	61.50
"	18	61.30	61.83
"	25	60.17	62.75
Oct.	2	65.42	69.70
"	9	65.08	69.91
"	16	71.30	67.70
"	23	78.88	72.25
"	30	86.41	76.08
Nov.	6	87.90	81.25
"	13	86.00	80.20
"	20	77.25	78.88
"	27	77.25	78.88
Dec.	4	82.00	80.90
"	11	82.08	79.16
"	18	79.65	71.16
"	25	82.00	....

LIVESTOCK NOTES.

(Continued from page 867.)

One of the calves is sired by Bonnie Brae 8th out of a Domino dam, and the other is a son of Beau Blanchard, for which Jesse Engle & Son recently refused \$35,000.

Reports from Montana indicate rather serious conditions on the cattle ranges of that State, owing to the shortage of feed and extremely cold weather. One rancher slaughtered 17 head for beef rather than try and carry them through the winter.

Frankenheimer Bros. of Stockton are running about 1400 head of Short-horns on their range, 35 miles south-east of Stockton. Their senior herd sire, Greenwood King 2d, is from the T. S. Glide herd at Davis. This sire is having a pronounced effect in building up the herd, they report. They recently sold a carload of steers direct from the range that averaged 1257 lbs. after the shrink at 3 years old.

Sheep.

Joe Levy of Manteca, proprietor of Calla Grove Stock Farm, is leaving for Idaho, Utah and Wyoming, this week, to buy several carloads of Hampshire sheep. This stock will all be registered.

Walter Priddy, shepherd for Bullard Bros. of Woodland, was in San Francisco recently after the fall trip at the various fairs and livestock shows. He reports a good time at the Pacific International at Portland, where the Bullard flock won all the blues but one, and all championships and grand championships with plenty of competition. Mr. Priddy was sorry that it was impossible for them to show at the Chicago International this year.

Miscellaneous.

Glenn County Fair dates are announced for September 27 to October 2, 1920. They expect to have a bigger fair than ever.

To obtain better accommodations at the fairs when showing stock, the herdsmen in charge of the purebred stock of the State have organized an association to assist them in procuring what they need. J. E. Thorpe of Lockeford was elected president, and E. F. Curtis of Modesto, secretary. Those who know the life a herdsman leads while on the fair circuit, realize the difficulties under which they labor. They are obliged to live on the fair grounds almost always, without proper shelter or toilet conveniences. Often the restaurants are of the poorest and charges the highest. We hope ill get what they need.

SCHOOL LAND SCRIP SALE.

A public auction sale of scrip will be held by W. S. Kingsbury, Surveyor General, at the State Capitol, Sacramento, at ten a. m., Monday, January 5, 1920.

Scrip can be purchased only by citizens of the United States who are residents of the State of California and who have not filed applications for school land with the Surveyor General amounting to 640 acres. Scrip is not transferable. It is sold in forty-acre lots for cash, and the surrender of the scrip is payment for that amount of government land.

Persons who have only purchased school lands at public auction are qualified to purchase scrip.

The purchaser of scrip is entitled to apply through the Surveyor General for non-mineral land of the United States.

Homestead and desert land entries can relinquish their entries through the Surveyor General and acquire title to the land through the purchase of scrip. The applicant need not live on or improve the land.

The proceeds from the sale of scrip go to the support of the public schools of the State.

For violating the State fruit standardization law four Watsonville fruit packers were each fined \$50 in Judge Samels' court in Oakland last week. The fruit, which was marked "fancy," was wormy and contained decayed spots.

George Peters, president of the California Certified Seed Potato Association, went recently to Los Angeles to attend two meetings of the organization regarding the growing of seed potatoes in the State. The price paid for the seed now is \$5.50 per hundred. Mr. Peters says: "If the potato seed is grown in this State this price will be greatly reduced as well as the quality of the potato being better and the crops more certain. As it is, unless the seed is certified, the crop is a gamble."

Tulare is trying to secure a plant to gin cotton. Tulare cotton is now ginned at Fresno.

Classified Advertisements.

MISCELLANEOUS.

TRACTORS.—One of the oldest and best on the market, to exchange for realty in Bay section. I have retired from the tractor business, recommending my pre-war business, and have 2 ten-horse power at \$1850; 1 15-horsepower at \$2850, new, up to date, with special low gears and wide rims for heavy work. Will exchange for improved or unimproved property in San Mateo or Bay Counties. Eri H. Richardson, 77 O'Farrell St., San Francisco.

FOR SALE.—At Antioch, 750 wood trays, 72 inches long, 28 inches wide, 3 inches deep, inside handles each end, 1x3 cleats on bottom for stacking. Ideal for drying fruit. Will entertain any reasonable offer. Illinois Pacific Glass Co., 15th and Folsom Sts., San Francisco.

ASPARAGUS ROOTS.—Palmetto bright green, 40 cents per dozen; \$3.00 per hundred. Seed corn. Country Gentlemen, 10-lb. lots, 15 cents per lb; 12 1/2 cents per lb. in 100-lb. lots. Address R. M. Graham, R. F. D. No. 1, Box 83, Colton, Cal.

MADE OF REDWOOD, Hawley's Perforated wooden well casing, the best and cheapest well screen made. Send for descriptive circular. G. M. Hawley, La Mesa, California.

ALL SIZES OF PIPE and screw casing, both new and second-hand, dipped and undipped. Guaranteed. Prices right. Sheeter Pipe Works, 304 Howard St., San Francisco.

\$2,000 HOLT "30" FOR SALE.—In good condition; tracks almost new; and a five-disk Moline plow. Address: J. M. Nelson, 16 N. First Street, San Jose, Calif.

WANTED.—Position as herdsman or superintendent stock ranch. Experienced A. R. O. work, showing, calf raising, and in growing alfalfa, corn and beans. Best references. Address 2932 Eye St., Sacramento.

WANTED.—Layne & Bowler, Byron Jackson, or Johnston deep well pump, capacity 1,000 to 1,500 gallons per minute. Prefer the direct connected with electric motor. Geo. A. Smith, Corcoran, Cal.

COTTON PICKERS AT WESTHAVEN Ranch, Westhaven, Fresno county, Calif. Large acreage. Long job.

REMANUFACTURED PIPE.

All sizes standard pipe and wrought iron screw casing. All kinds of fittings. Guaranteed good as new. Write for prices. Weisbaum Pipe Works, 160 Eleventh street, San Francisco.

25 H. P. FAIRBANKS MORSE Gas Engine in good condition for sale. Also portable steam boiler and engine. \$500.00 takes both. Massey Thomas, Gilroy.

AT A BARGAIN.—K hand-power stump-cable, including 2 blocks, 1 take-up, 200 feet cable—almost new. Fred H. Bente, 333 College Ave., Santa Rosa.

HOLT 30-CATERPILLAR—new tracks, engine recently overhauled. 5 disc plow, 8-ft. double disc harrow. A bargain. \$2,000. Fair Oaks Ranch, Willels.

FIRST CLASS DAIRYMAN, married, wishes position as herdsman or dairy foreman, lifetime experience; best of references. Box 1730, Pacific Rural Press.

FORDSON TRACTOR.—Used very little and in good condition. Oliver tractor plow. A bargain. \$600. L. M. Ulery, King City, Cal.

CROLEY'S BALANCED HOG FEED.—The cheapest feed to fatten hogs. Write Geo. H. Croley, Townsend St., San Francisco, Calif.

SANDUSKY 10-20 TRACTOR.—Just overhauled, guaranteed good as new. R. A. Sevier, Arroyo Grande, Cal.

SUDAN.—We want to buy Sudan grass seed. Send us samples. Bomberger Seed Co., Modesto, Cal.

WANTED.—Used 6-ft. Double Disk in A-1 condition. 142 R. B. Alum Rock Ave., San Jose.

COUNTRY LANDS.

196 ACRES, WITH Stock and Tools, \$5000
In fine farming section, few hours one of leading cities of U. S., near good town, 16 miles large local city. Fertile tillage has produced 100 bu. corn, 250 bu. potatoes per acre; spring-watered pasture; estimated 2000 cords hardwood; 13-room house, large stock barn, wagon, barns, corn houses, etc. Owner includes pair good horses, 6 cows, bull, much other stock, complete list farm tools; \$5000 gets all; part cash. Details page 19 Strout's Fall Catalog Farm Bargains 23 States; copy free. E. A. STROUT FARM AGENCY, 831AF, New York Life Bldg., Kansas City, Mo.

FOR RENT.—\$1.00 per acre, 320 acres level silt land, 12-inch flowing well, large reservoir and 12 h. p. pumping plant; no buildings; 6 miles west of Elmo, 9 miles N. W. of Wasco, Kern Co., Cal. Also 160 acres level silt soil close by, \$1.00 per acre, and 190 acres rich level black silt soil in shallow water belt adjoining railroad station of Stoll, Tulare Co., Calif., \$1.50 per acre, or will sell any of this land on very easy terms. Owner, Fred B. Palmer, 131 West First, Long Beach, Calif.

30-ACRE PEAR LAND for sale in Lake county—11 acres in pears. Crop of years sold this year for \$1400. Land all under cultivation. Price \$9,000; half down. Near a surveyed highway. R. M., Box 412, Lakeport, Cal.

I HAVE CASH BUYERS for salable farms. Will deal with owners only. Give description, location and cash price. James P. White, New Franklin, Mo.

TRACTOR PLOW BARGAIN

CALIFORNIA PLOW COMPANY

(Formerly Spalding-Robbins Plows.)

8 new "Ground Hog" tractor disc plows specially designed for hard ground. Now at Oakland warehouse. Do not want to move them to our new plant at San Jose. (1-4 furrow, 2-5 furrow, 3-6 furrow, 2-8 furrow.)

140 Polhemus Street, Write for Circulars, SAN JOSE

TRACTOR PLOW BARGAIN

Two John Deere Heavy Engine Disc Plows, practically new; used for demonstrating only; plowed only 100 acres.

HEALD'S ENGINEERING AND AUTO SCHOOL

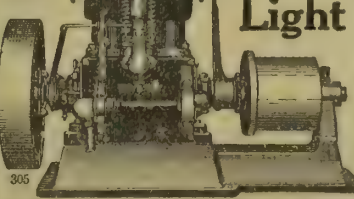
1220 POST STREET, SAN FRANCISCO

CUSHMAN

8 H.P.—2 Cylinder Weighs Only 320 Lbs.

Original 4 to 20 H. P.

Light Weight, All Purpose Farm Engines



Lead the world in superiority of design, material, construction and equipment—no other line of engines built for farm work comparing with them.

They weigh only 40 to 60 pounds per horsepower—only about one-third as much as ordinary farm engines—yet run even more steadily, quietly and economically.

They do every job that any other engine can do, and many jobs other engines cannot do. Equipped with Throttling Governor, Carburetor, Friction Clutch Pulley and Water Circulating Pump without extra charge.

Write for Book on Light Weight Engines. Cushman Motor Works, 956 N. 21st St., Lincoln, Neb.

Cushman "Does More" Electric Light and Power Plant

It does more for the farmer than any other outfit—combining both an Electric Light Plant and a Portable 4 H. P. Power Plant in one outfit, at practically the cost of an electric light plant. Equipped with the famous Cushman Engine and Cushman Self Starter. Ask for Book on Light Plants.



Cows know what they like

Not only must the feed for your cows *be* good—it must *taste* good to them! Your cows know what they like. And—you know that the most profitable cow is the cow that converts the most feed into money. It will pay you to feed SUREMILK because your cows “take to it” naturally. They will yield more milk—and that means more money.

SUREMILK is a highly concentrated grain feed. It has a higher feeding value than any one grain because it is a *mixture of grains*—and, therefore, more palatable.

Moreover, comparative feeding tests have proved that SUREMILK will give better results—either more butter fat or greater increase in weight—than any single grain.

Special note to hog-raisers

Hog-raisers have found that feeding SUREMILK builds the porkers up and fattens 'em up. It's better than any one grain such as corn or milo or millet—because it is a mixture of *many* grains. Economical, too—because it is highly concentrated in feeding value and does not bulk.

If you want to know just how different stock feeds compare in food value—send for the new edition of our booklet, “Converting Feed Into Money.” Full of practical information and profit-hints. Send for this booklet today—it's free. Simply cut out and mail the coupon below.

STOCK AND POULTRY FOOD DEPARTMENT

(A122)

SPERRY FLOUR CO.

STOCKTON • CALIFORNIA

SUREMILK

“A Sperry Product”

STOCK AND POULTRY FOOD DEPARTMENT

SPERRY FLOUR CO.

203 Weber Avenue, Stockton, California

Gentlemen:

Please send me, without obligation, a copy of “Converting Feed Into Money”—showing the true food-value of different stock feeds.

Name _____

Address _____

How the California Feed Law Affects Proprietary Feeds

By GEORGE R. McLEOD
Agricultural Department
Sperry Flour Co.

All proprietary feeds sold and distributed in California after the first of November, 1919, are affected by the feed law passed at the last session of our Legislature. This law not only requires the names of the different ingredients, but also the minimum percentage of protein, the minimum percentage of fat, the maximum percentage of ash and the maximum percentage of fibre contained in the feed.

Similar laws have been in force in many of the Eastern and Middle Western states for the last ten years, resulting in the education of all consumers of feed. In the different states where these laws have been in effect for some time, consumers are now buying feeds on the actual net feeding value that they contain, without regard to color, texture, etc.

California feeds have been bought and sold largely on color and texture, the feeder depending on his eye to determine the value of the feed.

What Goes Into a Feed?

All feeds are composed of moisture, ash, fibre, protein, carbohydrates and fat. A feed low in moisture has more value than one high in moisture, because this element can be supplied cheaper from the well. Ash is the mineral matter contained in any feed and a low ash content denotes high feeding value. Fibre is the structure around which nature builds the other substances during the growth of the plant and it has little real feeding value, although some is necessary, as it makes a feed more bulky and allows the digestive juices to act more freely. While a certain amount of fibre is digestible, the cost of digesting and assimilating is nearly as great as the feed value derived from it. It is on this account that a low fibre content also denotes a high feeding value.

Summing up the different substances which go to make an economical mixed feed, it is necessary to select one with a low moisture, low ash, and low fibre content—as the average feeder can supply these more cheaply himself.

The Feed Must Taste Good

Palatability is another factor that enters into the value of a feed, inasmuch as the animal that converts the most feed into money is the most profitable one; and a feed must be palatable for an animal to consume a large amount of it. A mixture of grains always has a higher feeding value than any one grain fed alone, because it is more palatable on account of the variety.



WE WISH ALL OUR READERS ANOTHER HAPPY AND PROSPEROUS NEW YEAR!

VOL. XCVIII—No. 26

Forty-ninth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO

DECEMBER 27, 1919

LOS ANGELES

Greatest Year in California Agriculture

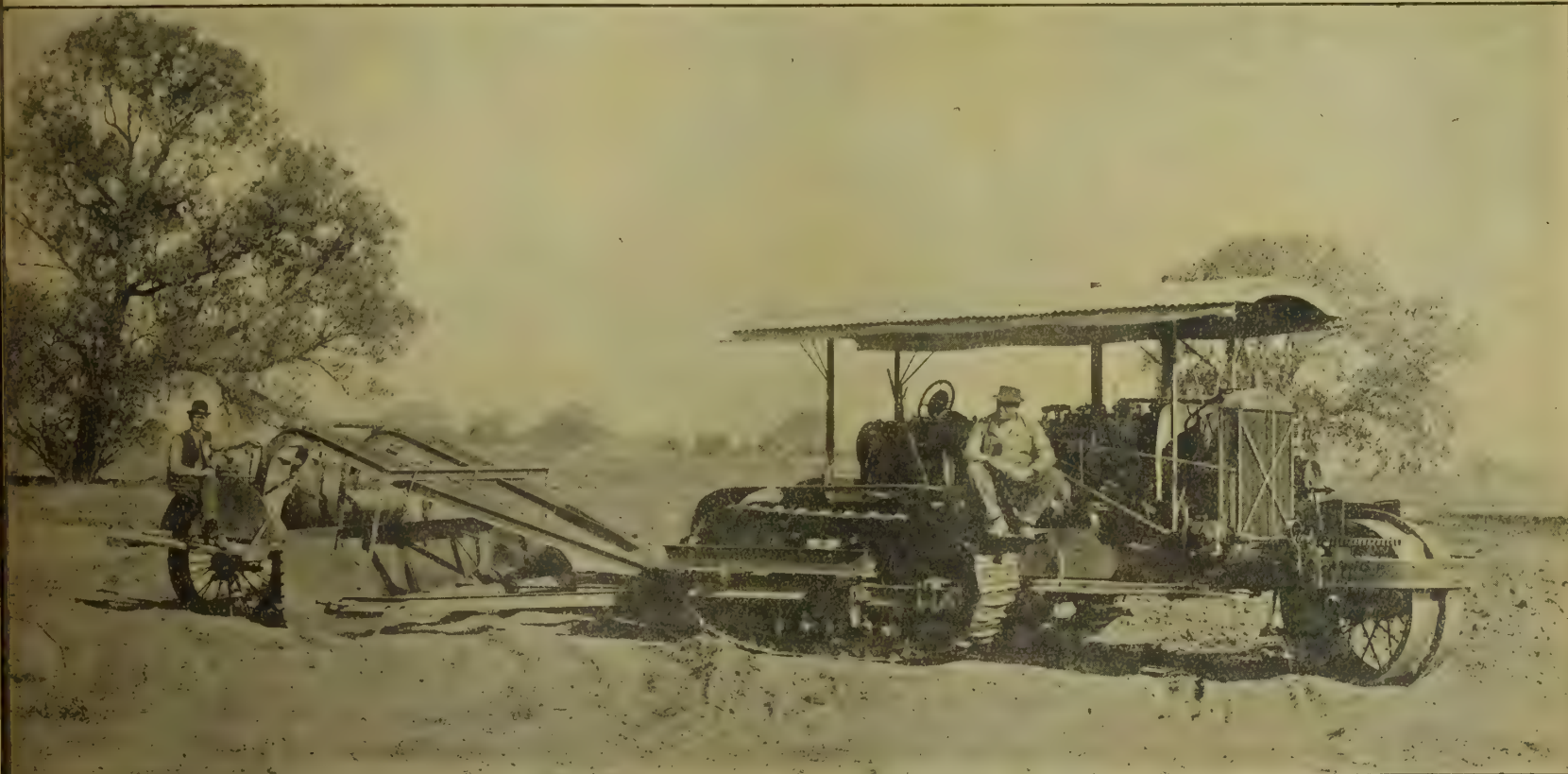
Written for Pacific Rural Press by R. E. Hodges.

LAST DECEMBER we chronicled the highest value and greatest acreage of farm crops ever produced in California. That might have been considered a high mark for years to come; but the figures for 1919 prove it was only a stepping-stone to greater achievement. Farm values to the producers of a few leading farm crops in 1919 totaled \$485,555,000 as shown by figures printed on other pages, furnished by E. E. Kaufman and J. E. Rickards, of the U. S. Bureau of Crop Estimates. These do not include the thousand and one crops of less importance which bring many millions more of income to our ranchers, nor do they include any of the livestock and dairy products which are valued not far below the products of agriculture or horticulture. These are discussed fully on other pages of this issue.

The farm value of the leading field crops alone was \$260,477,000, an increase of \$16,878,000 over 1918. The increase might have been much greater had it not been for the shabby treatment accorded our bean grow-

producers are this year getting over \$225,000,000 for the leading fruits of California, and it is also significant that this figure is an increase of more than \$50,000,000 over the record values of 1918. Fruit production is increasing faster than any other line in California; and it is due to the safe markets assured by co-operative organizations. Consumers are greatly benefited by the increased production, and producers are not hesitating to pay the unheard of prices asked for nursery stock. Every tree available will be planted in orchards this winter. The unorganized field crop producers may well take heed.

Prune growers are receiving four times the money they received last year. Raisin growers are receiving nearly \$18,000,000 more. Peach growers are getting about \$10,000,000 more than they did in 1918; and pear growers sold for a \$2,000,000 increase. Apple growers had a heavy crop and high prices—a 50 per cent increase over last year. Apricot growers are getting over \$13,000,000 for their relatively small production of 165,000



Development of California farm land for more intensive cropping by irrigation is going on at a rapid rate. Power machinery is a great factor.

ers. Agricultural regulators may well note that bean growers turned 197,000 acres in California alone from beans to other crops due to what is considered unfair treatment. So quickly do they respond to market conditions, whether the latter are manipulated or not. This year's total bean crop is valued at less than half that of 1918.

Value of the 1919 wheat crop was double that of 1918, and the acreage was nearly doubled. Barley lost some acreage, due to the market stagnation at planting time, but a rise in prices and better yield per acre increased the total value of the crop by nearly three million dollars. Grain sorghums decreased a little in acreage and more in total value, but Indian corn increased in acreage and dropped some in value due to the lower yields and prices. Rice showed a 30,000 acre increase and a decrease in yield per acre, but an increase in total production and a 50 per cent increase in total value. Rice growers will get over \$7,000,000 more for the 1919 crop than for that of 1918. Cotton growers also get practically the same increase in dollars and percentage. Hay growers get \$14,000,000 increase over last year. Sugar beet growers get more money than last year in spite of the fact that about two-fifths of the planted acreage was not harvested, due to various unfavorable conditions.

The Greatest Increase Is in Our Fruits.—It is a glorious fact that

tons of fresh fruit. Almond and walnut growers exercised great self-restraint in setting their prices; but while their tonnage is relatively small, their returns are high. Walnut growers are getting fifteen and a half million dollars for about 26,500 tons and almond growers are getting nearly \$3,000,000 for 6,800 tons. Orange and lemon growers could not prevent the high prices they received for an increased crop because they offer each lot on the open market for whatever price the buyers will bid. The orange crop is reported slightly less than last year, but at that the returns to growers fall not far short of \$50,000,000. The lemon crop is 50 per cent greater than last year and its growers are getting about \$12,744,000. Table grape production and prices increased over last year. Wine grape production decreased but prices increased. In both cases some loss occurred due to car shortage, but the farm value of the table grape crop is estimated at \$9,000,000 and of the wine grape crop at \$7,500,000.

Most of our California ranchers have small cause for complaint over their financial returns, even though the costs of production were never so high before. Most ranchers have money in the banks, a great deal of which will be spent for labor-saving machinery, fertilizers, and better home equipment. Consumers have no real cause for complaint, because California farmers have produced more food than ever before.

PACIFIC RURAL PRESS

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W. H. SCHRAEDER - Advertising Manager

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NEW YORK OFFICE - 381 Fourth Ave.
CHICAGO OFFICE - Conway Bldg.

EDITORIAL STAFF

E. J. WICKSON - Editor
R. E. HODGES - Assistant Editor
THOS. F. MCCONNELL - Livestock
H. E. PASTOR - Poultry

EDITORIAL

A GOOD YEAR GONE!

WE GIVE thanks for the good things which the closing year has brought to California and we rejoice over the perils which have not arrived. All through the year the champion of disorder has menaced our substance; the profiteer has made it well-nigh impossible to live, and near the end of the year the false prophet essayed to throw our rag-wrapped skeletons upon a bi-plane of blast and quake to waft us to what windrow of desolation in the illimitable ether, neither he nor he who gave respect and publication to his abominable untruths knew nor cared. But neither anarchist, nor profiteer nor prophet, nor he who served either of them, has wholly prevailed against us. Are we not still alive? Aha!

A FARMER WINS OUT!

When we think of the many fakes, exactions and discriminations which are put upon our farmers (and the Farm Owners and Operators Association gave an excellent review of them on page 852 of our last issue), we are prone to wonder how they succeed in saving their industrial lives. And yet farmers always have and, for the life of the world, they always will. The oldest book of the Sacred Scriptures, written long before Moses thumbed out his book of Genesis upon his prehistoric typewriter, tells the story of an old farmer of the land of Uz who homesteaded on a tract of vacant wilderness and pursued a policy of thrift and production until the assessor listed him for 7,000 sheep, 3,000 camels, 500 yoke of oxen, 500 she-asses and a very great household. In fact this old farmer was counted the greatest of all the men of the east. And he trusted in the Lord and though his sons and daughters went to the devil in all the ways known to the ancients, the old man told the devil to go to hell where he belonged and continued to offer sacrifices daily not only for himself and the old lady but for all his erring children. Then it was the devil stumped the Lord to let him try to put one over on the old man, claiming that he was only good because of what there was in it for him and not because he really liked it. And the Lord said: "Go to it so long as you do not kill him." And so the devil burnt up all the family but the old man and his wife (whom he saved for a "strike leader"); ran off all the live stock, destroyed all the crops and threw the old man on an ash-pile with as many boils on his back as there are holes in a barn-door after a farm-boy's shooting-match. And while the old man writhed in his misery the devil sent the old woman and a bunch of Bolsheviks, "humanitarians" and weather-prophets to tempt him to deny his faith in the principles of trust and fair dealing by which he had formerly prospered. But it would not work, for the old man declared he would rather have boils on his back than sin in his soul—

Then Job answered the Lord and said: Who is he that hideth counsel without knowledge? * * *

I have heard of thee by the hearing of the ear; but now mine eye seeth thee * * * So the Lord blessed the latter end of Job more than his beginning!

Thus did Job, the farmer of ancient record, do a good job and his example liveth to this day. For all the good things of the closing year let there be thanksgiving; for all the evil, incurred or falsely feared, let there be repentance and humiliation; for all there is to come, either of good or evil, let there be hope and trust guided by truth reasonably discerned and foretold. We have had narrow escapes—the dangerous narrowness thereof being in our own lack of faith and knowledge!

THE GREATNESS OF THE CLOSING YEAR.

But the chief end of this issue of the Pacific Rural Press is not preaching. It is to set forth concrete facts upon which each thinking reader can preach for himself. Prominent space is given to actual records and careful estimates of what agriculture has done, during the year 1919 for the prosperity of Californians and the development of the State. We are exceedingly fortunate in the fact that the United States Department of Agriculture has established a California branch of its statistical work and by the efforts of its able and devoted representatives in San Francisco has organized throughout the State a reporting force of observers by whom crop-figures are made available with the dew of the morning—after still upon them. This is in marked contrast to the dried and shriveled and to the fanciful and inflated estimates—in both of which directions annual reviews have unavoidably erred hitherto. Although these figures, which are amply given and commented upon on other pages, may not be perfect, they are so much better and are traceable to honest and intelligent effort at compilation, that we are delighted with the opportunity to set them forth. It is desirable that they be appreciatively received and considered in the spirit of constructive criticism—that the government may be encouraged to continue its effort and perfect its system if error can be pointed out in either effort or achievement. Although there may be a claim that the State should do this original work in collection of industrial facts for itself, there remains the fact that figures by the general government will be received by the outside world with more confidence than any declarations by the State for itself ever could be; also that such figures are more comparable with the statistics of other states than our home-made figures are likely to be. Thus not only a universally credited review of our direct achievements but a showing of our relative standing with other states in the various lines of production is provided for.

We have supplemented the government figures in the crop lines which they cover with such data as we can compile of production in other branches of our farming industry. It will be gratifying to all who rejoice in the advancement of California to learn how great are the volumes and values of farm production which are being attained. It is now rendered reasonably certain that the figures of 1919 which will take their places in the national census of 1920 (to be taken next month), and that they will show forth great increases over the last entry in the decade-series of the U. S. Census Bureau, which was that of 1909. It is important also to have surety that the gain in population, in financial operations, in manufacturing and commerce will show that our State growth has been symmetrical and complete, and will thus demonstrate the even and satisfactory development of all the interests of the commonwealth.

A FINE LINE OF EXPORTS!

If we mistake not, economists agree that the solvency and prosperity of any country depend upon the character and volume of its exports. Therefore we see deep and enduring significance in this announcement:

New York, Dec. 21—The Army transport Buford, the "ark" carrying back to soviet Russia Emma Goldman, Alexander Berkman and more than 200 other radicals, sailed today. The Buford was stocked with provisions sufficient to last 500 persons sixty days. The destination is not known, even to the captain, who has sealed orders to be opened twenty-four hours away from port. The radicals have been promised they will be sent to "red Russia." All were well provided with Amer-

ican money and clothing to withstand a rigorous winter.

As to the character of these exports it may be said they are of a kind least needed in this country and therefore their shipment counts us the greatest net gain. As to their volume, it is undoubtedly true that it is much less than we could wish it were. Judged, however, by the volume of perditionous hot air it is capable of generating, the cargo of the Buford is no mean quantity. General Leonard Wood, who has charge of suppressing anarchy in this country, is reported as saying the other day: "Those who are aiming at the destruction of this country should be shipped out in ships of stone with sails of fire and with hell as the first port of call." The words are somewhat picturesque, but wholly patriotic.

If some kind-hearted reader should think these comments harsh and that we should deal more gently with the erring, let him harden his heart with a fuller understanding of the peril which actually impends. As the ship Buford, in the gray of the morning, was passing under the gleam of the torch surmounting the statue, "Liberty Enlightening the World" in New York harbor, several of the deported anarchists shouted these words:

"We are coming back and we'll get you. To hell with America! This is the beginning of the end of the United States government. I am not going to stop my work as long as life rests with me. The anarchist movement will be carried on in the United States, although the intellectual heads, the real top of the movement, are now being sent away."

Such treachery to American aims and purposes would have shocked almost into insensibility our ancestors who established the government. They could hardly have conceived it to be possible. It is for us to realize such infamy and to effectively protect law and order and the attainment of progressive liberty, as the constitution of this country provides, against those who "fear not God, neither regard man."

ATTACK ON PRODUCERS' CO-OPERATIONS.

Perhaps the same bunch of politicians which attacked farmers' selling co-operations during the last legislature is now instigating a petition-movement among consumers calling upon Governor Stephens to remove Market Director Weinstock and call an extra session of the legislature to pass laws against profiteering. It is possible also that the effort is being urged by some kinds of merchants who desire to get for themselves the rewards which producers are now getting by their co-operative selling organizations. It is reported that Governor Stephens has said that he will do nothing of the kind, but the onset which is now being made upon the farmers' rights to co-operate and sell collectively should be understood and combatted by those who know the purposes of these organizations, so that those who do not know these purposes shall not be deceived and made to support the schemes of politicians and commercial profiteers. In the course of a public communication which Col. Weinstock is making this week the following indisputable facts are set forth:

"Without collective action for co-operative marketing, it is a practical certainty that the consumers would pay fully as much as they are now paying and the producers would get far less than they are now getting, all of which would tend to discourage them from further production." This has been illustrated by past conditions in California. Therefore, to deprive the producer of this right to organize, which would in no way help the consumer, would throw the State of California, so far as marketing of its farm products is concerned, back into the chaotic and unsatisfactory condition of the past, thereby tending to discourage increased

CALIFORNIA WEATHER RECORD

The following rainfall and temperature record is furnished the Pacific Rural Press by the United States Department of Agriculture Weather Bureau at San Francisco for the week ending December 22, 1919.

Stations—	Past Week	Seasonal To Date	Normal		Highest	Lowest
			To Date	To Date		
Eureka	1.30	8.38	14.67	06	38	
Red Bluff	.34	3.86	8.72	54	32	
Sacramento	.11	3.00	6.03	64	34	
San Francisco	.30	4.32	6.90	60	43	
San Jose	.01	3.10	5.18	66	30	
Fresno	.00	1.48	2.89	70	32	
San Luis Obispo	.00	5.18	4.04	76	36	
Los Angeles	.00	4.27	4.13	76	50	
San Diego	.00	2.20	2.47	72	48	
Winnemucca	.00	2.60	2.82	48	4	
Reno	.00	3.86	3.25	54	14	
Tonopah	.00	1.59	3.48	48	24	

acreage, and by decreasing production put further burdens on the consumer."

Producers are playing fair in their co-operative organizations. They are jealously guarding the true co-operative principles they have invoked to enable them to continue to feed consumers. Deluded consumers should not allow displaced middlemen to use them to batter the safeguards which producers have established around consumers' true interests and their own!

QUERIES AND REPLIES

By the Editor.

Inquirer Must Give Full Name and Address.

Mustard Growing.

To the Editor: Wild mustard grows on my ground like a canebreak. Does it follow that tame mustard would do well? Please tell me where the requisite data can be found regarding tame mustard, answering the usual queries regarding planting, harvesting, soils, etc.—H. S. E., Princeton.

Most of the mustard grown in California, and most of the knowledge about it also, are confined to the Lompoc district of Santa Barbara County. The occurrence of wild mustard is a good pointer toward the commercial crop—a good part of which is black-seeded wild mustard either reaped by itself or screened out of barley. Recently more white mustard has been produced. Mustard is grown like grain, and handled with the same machinery and it is necessary that the plant should grow so that this can be done. Mustard which grows as you describe could hardly be handled economically—unless you could run a wood-yard in connection with a mustard-thresher. Profitable conditions seem to require that the plant should stop growing and go to seed at a reasonable distance from the ground, and probably your land is too moist and rich for that. We should not try to break into the Lompoc mustard growers' monopoly without going down there and calculating on the conditions which enable them to do it. War always makes mustard high and we imagine that it will be rather a close business again—unless you can get some assurance that mustard can be used in hot drinks in place of ingredients now prohibited.

Foothill Fruit Tree Gumming.

To the Editor: My plum and cherry trees are gumming badly. What is the cause and is there any remedy for it? Location cannot be the trouble, as it is as prevalent on high ground as on low. The trunk on a good many of my young trees, from crown to root, has a greasy look. Do you think it will kill the trees? The gum on some of them is very heavy.—Inquirer, Bowman.

This trouble has been reported on stone fruits from the higher foothills for many years. We are not aware that the cause has been demonstrated either by practical observers or by systematic investigators. If definite conclusions have been reached by either party we shall be glad to hear of them. It has been imagined to be due to the super-heating of the surface soil, which is common where the sun has such chance to get at the soil around the root-crown as it has on slopes at that altitude. The late Felix Gillet had much trouble with it in trying to propagate and establish the imported prune varieties and he concluded that bark conditions at the budding region had something to do with it and that he could escape it by growing his trees "true from the root"—that is by growing them from cuttings or suckers without budding. If it is due to soil-heat, thorough white-washing and keeping down the heat by mulching around the trees ought to be preventives. It is capable of killing the trees.

Sprouting Myrobolan Pits.

To the Editor: Kindly give the proper method of germinating myrobolan plum seed: I have used about 10 pounds of seeds the last three years trying to sprout them, but they will not start for me.—E. A., Farmington.

To the Editor: I am considering planting some myrobolan pits for roots for nursery stock to replace lost trees in my orchard. What is the best time for planting, budding and grafting, also the best depth of planting?—J. S., Los Gatos.

The secret of an easy start for myrobolan and other plum pits is not to allow them to become dry. As soon as the surface becomes well dried after washing from the ripe fruit, the pits should be sandwiched with sand and kept reasonably

moist. When the ground is deeply moistened by the fall rains the pits may be planted in nursery rows or they may be kept in the sand or put in a sprouting bed and examined from time to time and planted in nursery rows after the sprouts are out a little. This is the way to get a full stand in the rows, as only the pits which have started are planted. If the seeds have been allowed to dry out after gathering they should be soaked a day or two and then put into the sand or seed-bed for sprouting. It is all the more necessary to do this forced sprouting with dry seed because only a part of them will start even with such treatment. As for the details of getting home-grown trees, there are so many suggested and so many devices for insuring the work with the least trouble, that we have made them a leading feature of our book, "California Fruits and How to Grow Them," and have described the best ways for growing trees of all kinds of fruits—including budding and grafting operations for each of them. Everyone who proposes to grow his own trees should at least start with the advantage of this information. He will have plenty left to learn by experience, but he will save many times the cost of the book by not trying to pull the whole subject out of his own noddle or take the chances of getting it by line-fence talks with his neighbors.

Plowing and Transplanting Oranges.

To the Editor: We have a ten-year-old orange orchard which has never been plowed. There is a heavy plow pan at about five inches deep. Would you plow it and how? Is it profitable to move 5-year-old orange trees, and what would be the process?—J. R. A., Merced.

We would start in whenever the soil works well and plow the middle as deeply as we could without pulling out large roots—raising the plows when coming nearer to the trees. The point would be to get under the plow-pan even at the loss of some roots. We would not stop for small roots for they will be readily restored when you get air and water into the soil—providing you use manure generously and irrigation water as required. Five-year-old orange trees can be successfully moved by taking them up with good sized balls; if you rig up a good lifter to get them out of the old holes, onto a sled and then into the new holes, which should be large enough to take the balls and to make sure that the filling around them is well done and water-settled. The tops should be cut back considerably. The transplanting can be successfully done, but we are not sure that it can be profitably done. It would probably require more skill and money than to start with good young trees.

Almonds, Chickens and Alfalfa.

To the Editor: I am up against the dangers you mentioned in your issue of November 12, as possible with chickens, chicken houses and alfalfa. I have five acres of almonds and am putting one acre in alfalfa among the trees. Can I save that acre of almonds by careful irrigation? The droppings from chicken houses and other places I am taking to an apricot orchard. I know what sour sap will do, yet I believe I can do it. What do you think?—P. G., Oroville.

Why, yes, if you neither drown nor famish the trees for the sake of the alfalfa, and if the chicken manure is not in excess amounts, the trees ought to like the situation. The growing alfalfa will postpone the souring or over-nitrating of the soil—which is dangerous when an orchard is turned into a hen yard and kept at it too long.

Bean Straw Not for Silage.

To the Editor: Will it pay to put bean straw into the silo? Can it be put upon corn after the silo is about half full? The cost would be about \$65 to put 50 tons in. Or would it be better to feed it without putting into the silo?—W. L. D., Modesto.

We are not sure that it cannot be done if properly cut, moistened and tramped down, but even if decay should be arrested it would be rather nasty in flavor. In its natural condition it is a fine roughage to feed with corn silage and we should use it that way.

Bearing of Imperial Prunes.

To the Editor: I have one acre of Imperial prunes four years old, and up to this time I have had no fruit. I have read that it is necessary to have another variety to pollinate them. I have room enough on the east to plant five or six rows more trees. Shall I plant a row or two of Sugar

prunes and fill out with the Imperial, or what is best in this case?—C. W. E., Kingsburg.

Passing the point that your trees are rather young to bear and that the Imperial may have other reasons for shy-bearing than lack of effective pollination, it may be said that the University experiments, as summarized by Professor Tufts, show that the Imperial imperatively needs association with other varieties and that the common French and Sugar prunes have been shown to be good pollinators for it. Therefore, your proposition to plant Sugars is reasonable so far as pollination goes. The Sugar is proving profitable with many growers for its large cured-size and as a shipping plum also—though its flavor and texture when cured are inferior. We would be personally inclined to brace up Imperials with French rather than Sugar, unless you can prove from nearby experience that Sugars are particularly profitable.

Plowing Frozen Soils.

To the Editor: Experienced ranchers in my immediate vicinity inform me that it is poor for the soil, and poor crops of grain will result if the land is plowed when it is frozen. We have been having very cold frosty mornings this last week, and the ground is hard, but eventually when the ice thaws out won't the ground soften? Would you advise not to plow under these conditions and why?—H. K., Fresno.

The kick against plowing hard frozen ground would probably come from the team rather than from the soil. The effect of frost on the soil is disintegrating, or, as the common expression is, frost "slacks" the soil—the analogy coming from the crumbling of lime while slacking its thirst for water. This "slacking" of the soil by frost is an ultimate effect and while the process is going on the soil should not be worked nor trampled upon. The first effect of thawing is to fill the soil spaces with water and if plowed then the effect is to run the particles together or to puddle it—just as it is from plowing the soil when it is too wet from rainfall or irrigation. Do not, therefore, plow the land when it is thawing, and the reason is not because the ground is frozen but because it is too wet from the immediate after effects of freezing. "Let the frost get out of the ground" really means "let the excess water from thawing distribute itself" before plowing.

Scions and Bud-Wood.

To the Editor: I have a lot of California black walnuts to be grafted. Should the wood for grafting onto these and the myrobolans be taken now or left on the trees until the time for grafting and budding?—R., San Jose.

It will be safer and easier to leave the walnut scions on the trees until February and then take them, while still dormant, and put them in moist sand in a cool place until you graft them in a little later—just before the growth starts in the stock. Plums are budded on myrobolan and the buds are taken from the new growth when the budding is done—that is next July and later. If, however, you are grafting plums the same rules apply as for taking walnut scions.

Rye Grass for a Low Place.

To the Editor: Will Italian Rye grass kill alfalfa or not? I have a piece of low land in the middle of an alfalfa field, where alfalfa will not stand more than two years or less. I am advised to sow rye grass on it for cow feed. Do you think it will do well?—C. P. B., Madera.

The advice given you is good. Rye grass will not kill alfalfa in a place suited to alfalfa, but it will grow triumphantly on places where alfalfa is killed by standing water. It will also endure considerable alkali; more in fact than all other introduced grasses except Bermuda. Therefore, if you have much alkali to reckon with, Bermuda is better than Rye.

Plum Aphis.

To the Editor: When the leaves came out on my prune trees last spring I noticed they were covered on the under side with millions of small bugs, light in color, and on top the leaves were covered with honey dew. What is the best and most effective spray for this trouble and when should it be applied?—C. W., Kingsburg.

It is the plum aphis. Spray thoroughly as soon as you see the first of them next spring with a good spray pump and nozzle to hit the under sides of the leaves. Use 40 per cent tobacco extract, one pint to 200 gallons of water and repeat as soon as you see them multiplying again.

Outlook for Tariff on Oriental Beans

By Aaron Sapiro, Attorney for California Bean Growers' Association.

In September, 1919, the California Bean Growers' Association authorized C. L. Preisker of Santa Maria, C. K. Hardenbrook of Lompoc, and Aaron Sapiro of San Francisco to go to Washington as a Tariff Committee and present to Congress the justification for a tariff on foreign beans, particularly Asiatic beans. The committee determined to make the tariff campaign a national issue and not merely a demand for protection by California bean growers and arranged for conferences with bean growers and dealers of Colorado, Michigan and New York, so as to secure the active support and co-operation of the bean industry of the United States.

The New Mexico Bean Growers' Association authorized the California Tariff Committee to represent them formally in any presentation at Washington.

At Denver, Colorado, the Association committee conferred with representatives of the Rocky Mountain Bean Jobbers' Association, Colorado Bean Growers' Association and the field agent of the United States Bureau of Markets. The pinto bean situation was thoroughly discussed and the Colorado growers and jobbers arranged to have a representative to assist in the tariff presentation at Washington on or about October 8. On October 4, the Tariff Committee had an important meeting at Detroit with representatives of the Michigan Bean Jobbers' Association, the Gleaners and certain agricultural papers. At the end of the conference, the Michigan men arranged to send a delegation to Washington to participate in the presentation before the Ways and Means Committee of the House of Representatives on October 13 and agreed, in the meantime, to secure full data on cost of production and other pertinent information. On October 5, your Tariff Committee held a conference at Buffalo, with representatives of the New York Bean Growers and Jobbers. This group also agreed to send a delegation to Washington to present the New York data and assist generally in the fight.

California Representatives Give Material Assistance.

The committee then proceeded to Washington and sought counsel from California Representatives as to the best method of procedure. Throughout the entire work, your committee was guided by Congressman Julius Kahn of San Francisco and Congressman Hugh Hersman of Gilroy. The other representatives of California in Congress, particularly Mr. Darber of Fresno, and Mr. Osborn of Los Angeles, were very helpful. There is, however, a definite obligation to Congressmen Kahn and Hersman for the shrewd and far-sighted guidance of the former and for the untiring energy and intelligent persistent work of Hersman throughout every detail of the campaign. Congressman Kahn called a meeting of the California delegation and had the matter generally presented to them. He secured the agreement of the delegation as a whole to support the efforts of the Tariff Committee.

The committee then devoted itself to collection of data and adjustment of plans with Congressman Osborn, who had theretofore introduced a bill providing for a 2-cent tariff on beans.

The data of your Tariff Committee showed that adequate protection would warrant a 4-cent tariff. When the facts were presented to Congressman Osborn it was agreed that an amendment should be made to the pending bill, raising the tariff from 2 cents to 4 cents. Mr. Hersman then brought your committee into contact with Mr. Fordney, chairman of the Ways and Means Committee; Mr. Kitchin, the ranking Democratic member thereof; and with other members of the committee, so as to generally acquaint them with the problem prior to the formal argument.

Your committee met with the dele-

gates from New York and Michigan and finally agreed that each set would be represented by one speaker and that the speakers should all present the problem from the standpoint of the growers of the nation as a whole. All of the data at hand was gone over with these delegates, reviewed and analyzed, and a well rounded argument completed to be presented by three chosen spokesmen.

During this period, Messrs. Priesker and Hardenbrook were engaged in gathering statistical data and sounding out Congressmen. These conferences were carried on daily, so that no possible source of information or influence could be overlooked between October 6 and October 13, when the first formal presentation was to be made. On that day, the bean tariff was formally argued before the Ways and Means Committee and Congressman Osborn presented his bill with a brief summary of its purposes. He was followed by Congressman Hersman, who made some pointed remarks and the representatives of the growers of California, Michigan and New York presented their case.

American Product Discriminated Against.

The California delegation gave a complete analysis of the costs of production of beans in the Orient and in California; the total importations, noting the enormous increase during the last three years; the destruction of markets for the American bean growers by reason of this Oriental competition; the discrimination against the American bean growers by a representative of a western importing company and an official of the Food Administration; the present deplorable condition of the bean growers of California; and the general arguments to show that the public was not benefitting by the present situation and that only Japanese speculators and a few American profiteers could support the present policy as against the needs of the American public and the American farmer.

The Michigan delegate, Mr. Simpson, presented an analysis of the cost of growing beans in Michigan and general reasons for helping the farmer with the bean tariff.

Mr. Strivings, representing the New York growers, made a statement covering the situation of the bean growers in New York State. He presented figures on the cost of production and showed that they had made no real profit for years. He summarized the general arguments of policy and made an argument that was practically unanswerable.

On October 17 your committee was recalled for cross-examination by the Ways and Means Committee; and was subjected to a series of questions which brought out and emphasized all of the substantial arguments for the tariff. The proceedings were then read over and corrected by your Tariff Committee and then put to print for

the Ways and Means Committee, about November 1.

In the meantime, Congressman Hersman, together with Messrs. Preisker, Hardenbrook, had interviewed the leading members of the Ways and Means Committee and found out their attitude on the tariff question. Hours of argument were needed in order to answer objections and to make clear the points touched on in the general presentation but not thoroughly analyzed. Excellent work was done by Congressman Hersman and Messrs. Preisker and Hardenbrook in conferring with these Congressmen. It is difficult to conceive the amount of patience and actual labor involved in these interviews.

Much Prejudice Overcome.

Unfortunately a great deal of prejudice had been engendered against the California bean growers, by remarks attributed to some of our own California Representatives, to the effect that the California bean growers had caused their own troubles by refusing to sell to the Government at reasonable prices. Of course, this statement was erroneous, and was so disproved; but it took a great amount of persuasion and definite argument to make these issues clear and plain in the minds of officials who naturally listened to their own group more readily than to special pleaders.

Congressman Kahn wired Chairman Fordney, who was absent, asking that he have the Ways and Means Committee meet to pass on the tariff, advising the committee of his own personal views. Mr. Fordney replied, suggesting that he favored the tariff and, in order to save time, Mr. Kahn tried to persuade Senator Penrose, chairman of the Senate Finance Committee, to attach the tariff bill on one of the bills now pending before the Finance Committee, as an amendment, and when the bill, as amended, should come before a conference committee. Mr. Fordney, representing the House of Representatives on the conference committee, would approve a bill fixing "a good stiff tariff on beans."

The Senate Finance Committee, however, had determined to take up no new matters until the treaty was disposed of and it was therefore impossible to arrange either for a hearing or a vote with the Finance Committee. A telegram was sent to Chairman Fordney, requesting him to have his committee meet during his absence and take up the matter. Chairman Fordney then wired the senior member of the Ways and Means Committee, with whom Congressmen Kahn and Hersman conferred.

Final Report Made.

The final report from Congressman Hersman, addressed to the Tariff Committee, is as follows:

"I have just had an interview with Mr. Green who is acting for Chairman Fordney in his absence, and he tells me that it will be impossible to

get our bill for the adequate protection of domestic beans through Congress at this session. He further assured me that after conference with the committee and the House leaders it is the understanding that the matter will be given early consideration at the regular session.

"The splendid presentation that you made of this matter before the Ways and Means Committee, and the able co-operation of your colleagues, has had the desired result and while it is physically impossible to press the case to an early conclusion, nevertheless the splendid showing made in the interest of the bean men has thoroughly convinced the committee of the urgent necessity of speedy legislation. You may be assured that I will continue to exert my utmost efforts in the interest of our co-operative marketing associations."

The next session begins in December and we have the assurance that the tariff will be brought up early in the session.

Present Status Favorable.

The present status of the tariff campaign is favorable. A sufficient showing has been made before the Ways and Means Committee to warrant the tariff. Messrs. Preisker and Hardenbrook have personally seen enough of the members of the committee to know that the probable majority is sympathetic. Representatives of other states, particularly Michigan and New York, have been vitally and actively interested in the case.

Members of the Ways and Means Committee have become champions for the bean tariff. George M. Young, one of the members of that committee, wrote the Tariff Committee on November 8, 1919, as follows:

"I have also been thinking further about the bean protection bill. No one during all my experience on the Ways and Means Committee has ever made so strong and convincing a case as yourself. If any members of the committee have doubt as to the amount of protection to which your people are entitled, it is not on account of any lack of skill and thoroughness upon your part."

A splendid beginning has been made. The first and most important steps have been successfully undertaken. The Tariff Committee has presented the matter before the Ways and Means Committee and unquestionably impressed that committee with the necessity for relief.

Too much credit can not here be given to Messrs. Preisker and Hardenbrook, of the Tariff Committee, for their tactful and untiring work while in Washington, more than a hundred conferences being held with various government officials and members of the House and Senate. Every possible point of information was searched out and analyzed, and every personal phase was thoroughly covered by them, including the adjustment of certain personal difficulties that seemed almost insurmountable, such as allaying the prejudice against the California bean growers by reason of erroneous statements.

Several members of the Ways and Means Committee commented that in all their experience they had never been so impressed with the thoroughness and sincerity of a case.

The California Bean Growers' Association owes its thanks to the various Representatives mentioned, as without their support and constant and untiring service your committee would have been unable to accomplish a third of what was done.

Your committee also pays a tribute to Senator Phelan for his labor in our behalf in trying to secure bean purchases through the President and for his sympathetic attitude on all of the problems of the bean growers, as well as Senator Johnson who also assisted in the matters relating to the Finance Committee and will unquestionably prove of vital importance when the tariff is reported out.

ACREAGE, PRODUCTION, AND VALUE OF AMERICAN BEANS.

State	Acreage Planted			1919	Bushels per Acre			
	1916	1917	1918		1916	1917	1918	1919
New York	190,000	250,000	200,000	.....	6.0	7.5	3.3	...
Michigan	470,000	537,000	543,000	.....	6.6	6.1	9.0	...
Colorado	38,000	250,000	252,000	.....	11.2	7.8	6.5	...
New Mexico	64,000	207,000	149,000	.....	6.6	3.3	4.0	...
Arizona	5,000	19,000	592,000	.....	9.5	8.0	4.0	...
California	340,000	558,000	*1,865,000	395,000	16.4	14.5	*14.5	11.3
Total	1,107,000	1,821,000	*1,865,000	1,251,400	9.7	8.8	*10.0	11.3
State	Total Production in Bushels			1919	Farm Price per Bushel			
	1916	1917	1918		1916	1917	1918	1919
New York	1,140,000	1,875,000	1,660,000	.....	\$6.45	8.10	6.70	...
Michigan	2,102,000	3,294,000	4,887,000	.....	5.15	7.60	5.00	...
Colorado	424,000	1,950,000	1,838,000	.....	4.20	4.80	4.40	...
New Mexico	425,000	683,000	596,000	.....	3.50	5.45	4.30	...
Arizona	48,000	152,000	72,000	.....	4.35	5.80	5.00	...
California	5,576,000	8,091,000	*8,384,000	4,475,000	5.00	6.20	5.40	4.35
Total	10,715,000	16,045,000	*17,397,000	11,488,000	5.10	6.50	5.28	4.28
State	Total Value to Producers			1919				
	1916	1917	1918		1916	1917	1918	1919
New York	\$7,353,000	\$15,188,000	\$11,122,000	.....			
Michigan	15,975,000	25,034,000	24,435,000	.....			
Colorado	1,781,000	9,360,000	7,207,000	.....			
New Mexico	1,488,000	3,722,000	2,503,000	.....			
Arizona	209,000	882,000	390,000	.....			
California	27,880,000	50,164,000	*48,353,000	19,466,000				
Total	54,686,000	104,330,000	*91,863,000	49,181,000				

*Revised December, 1919.

Acreage, Production and Value of Leading Crops in California

(Compiled by E. E. Kaufman and J. E. Rickards of U. S. Bureau of Crop Estimates.)

Crop	Unit of Measure	1919	1918	1919	1918	1919	1918	1919	1918	1919	1918
		Acres	Acres	Yield per Acre	Yield per Acre	Production	Production	Producer's Price Dec. 1	Producer's Price Dec. 1	Total Value to Producers	Total Value to Producers
Corn	bu.	37,000	85,000	33.0	35.0	2,871,000	2,975,000	1.79	1.93	5,139,000	\$5,742,000
Wheat	bu.	990,000	506,000	16.5	15.0	16,335,000	7,590,000	2.04	2.16	33,323,000	16,394,000
Oats	bu.	175,000	175,000	30.0	32.0	5,250,000	5,600,000	.96	0.94	5,040,000	5,264,000
Barley	bu.	1,000,000	*1,320,000	30.0	26.0	30,000,000	34,320,000	1.41	1.15	42,300,000	39,468,000
Potatoes	bu.	88,000	90,000	129.0	143.0	11,352,000	12,870,000	1.71	1.20	19,412,000	15,444,000
Sweet Potatoes	bu.	8,000	7,000	137.0	170.0	1,096,000	1,190,000	1.79	1.50	1,962,000	1,785,000
Rice	bu.	142,000	112,000	55.5	65.5	7,881,000	7,336,000	2.67	1.90	21,042,000	13,938,000
Hay, tame	tons	2,352,000	2,376,000	1.81	1.25	4,257,000	2,970,000	17.20	20.00	73,220,000	59,400,000
Hay, wild	tons	177,000	182,000	1.16	0.95	205,000	173,000	12.00	19.00	2,460,000	3,287,000
Beans	bu.	395,000	592,000	11.3	14.5	4,475,000	8,584,000	4.35	5.40	19,466,000	46,353,000
Cotton—lint	lbs.	173,000	173,000	270.0	8.5	48,817,000	46,710,000	.43	0.30	20,991,000	14,013,000
Sugar Beets	tons	*75,000	101,000	*8.2	8.5	*615,000	858,000	*11.00	9.95	*9,372,000	8,534,000
Hops	lbs.	11,000	11,000	1625.0	1136.0	17,875,000	12,500,000	...	0.20	...	2,500,000
Onions	bu.	*8,440	8,200	350.0	26.7	...	2,870,000	...	1.25	...	3,588,000
Grain Sorghums	bu.	170,000	176,000	25.8	26.7	4,386,000	4,696,000	1.54	1.68	6,755,000	7,889,000
Apples	bu.	...	...	...	...	8,640,000	6,560,000	1.45	1.30	12,528,000	8,528,000
Peaches	bu.	Green basis	...	...	...	17,600,000	11,920,000	1.50	1.40	26,400,000	16,688,000
Pears	bu.	Green basis	...	...	...	4,500,000	4,240,000	1.80	1.40	8,100,000	5,936,000
Prunes	tons	Dried basis	...	...	...	130,000	45,000	240.00	150.00	31,200,000	7,250,000
Almonds	tons	Green basis	...	...	...	165,000	136,000	80.00	...	13,200,000	...
Walnuts	tons	...	...	...	...	6,800	4,500	440.00	...	2,992,000	...
Oranges	boxes	...	...	...	...	26,500	20,000	560.00	...	15,440,000	...
Lemons	boxes	...	...	...	...	17,516,000	18,500,000	2.75	...	48,169,000	...
Grapes—	boxes	...	...	...	...	5,310,000	3,767,000	2.40	...	12,744,000	...
Raisins	tons	Dried basis	...	...	...	180,000	167,000	210.00	120.00	37,800,000	20,040,000
Wine	tons	...	...	...	...	250,000	315,000	30.00	...	7,500,000	...
Table	tons	...	...	...	...	180,000	171,000	50.00	...	9,000,000	...

*Our own unofficial figures.

THE biggest noise just previous to the assembling of the State Legislature last spring was occasioned by the demand for more economy in the State Government. The noise rolled away like thunder and the lightning struck in one place. It did not shake loose many of the political job holders. Practically the last bill introduced however, and put through to the Governor with a rush, was No. 1112, creating a State Department of Agriculture to consolidate the various agricultural departments and run them with \$40,000 less money than they had used the preceding two years. Curiously or not, it was a city man with no agricultural interests who introduced the bill and put it over. Probably this was the biggest cut in expenses made by the State Government to appease the demand for economy.

Well, it succeeded wonderfully in a way which was, perhaps, of no great moment to the introducer of the bill; but is of great benefit to agriculture.

Despite the cut of \$40,000 in appropriation just when all salaries, materials, and living expenses have advanced prodigiously, the State Department of Agriculture under Director G. H. Hecke, on July 22, 1919, launched a program which will multiply the saving of \$40,000, for it has already inaugurated more work than was before attempted by the separate departments.

Mr. Hecke delivered one of the chief addresses at the recent Farmers' Union convention in Oakdale.

Need Equitable Land Taxation.

Referring to his proposition that all co-operative agricultural organizations appoint delegates to an Agricultural Legislative Committee, which will sponsor laws in favor of farmers and fight vicious proposed legislation, one of its big jobs will be to secure equitable taxation. An instance of taxation which encourages large land holding and discourages intensive farming, is the Durham State Land Settlement. Dr. Elwood Mead gives figures which show that the taxes on the estate in 1918 were \$2,716. In 1919, after the estate had been subdivided and settled, the taxes on land alone, not including improvements, totaled \$9,200. On the Lott property the taxes on land alone in 1918 were \$1,006 and in 1919, after settlement, they had quadrupled. This shows how settlement increases the revenues of the State far more than the projects cost the State; but it also shows a reactionary system of taxation which the Agricultural Legislative Committee could correct. Another piece of work for this committee would be the Japanese exclusion policy. It should be handled in the interests of agriculture. "We all know that Oriental farmers have not been a benefit to our fruit markets, but have destroyed confidence in fruit packs."

But agricultural officials, such as the State Director of Agriculture, the Dean of the State Agricultural College, the State Market Director, etc.,

Agricultural Department for Less Money

(Written for Pacific Rural Press.)

should keep hands off entirely. The committee should be composed entirely of bona fide growers, including representatives of animal industry and fields crops and general organizations, such as the Farmers' Union, etc.

Agricultural Departments Consolidated.

The next Legislature should be an Agricultural Legislature, because agriculture is the biggest industry in the State. Our fruit products last year were valued at \$200,000,000 in round figures, other plant products were valued at \$350,000,000, dairy and animal products at \$200,000,000. Our gold production, during the same time, was about \$23,000,000.

It is fitting that such a large and fundamental industry as California agriculture should have a well-co-ordinated department of the State Government to protect its interests.

The State Department of Agriculture is composed of two divisions and another may soon be added. The Division of Plant Industry has five distinct offices: (1) executive; (2) plant quarantine; (3) plant pest control; (4) standardization; (5) viticulture.

The office of plant quarantine maintains inspectors at Eureka, San Francisco, Santa Barbara, San Pedro, and San Diego, who inspect every incoming boat from top to bottom. Any tourist might bring one fruit in his luggage infested with a pest or disease from which we are free. The Mediterranean fruit fly is one of the most dreaded of these. It has already spread from Mediterranean countries to Australia and Hawaii, but if it should become established in California it would cause millions of dollars of loss to our fruit growers and would cause immediate quarantine by all Eastern States against our fruits. Such pests might also come in from surrounding State by rail. The County Horticultural Commissioners are expected to prevent introduction of these by examining incoming shipments. These officials are of vital importance. Growers should cultivate their acquaintance and insist that county supervisors support their work adequately.

Cotton Boll Weevil Menace.

California is the only country of importance in cotton growing which has not been invaded by the boll weevil. Many of our growers are feeling

the need of better seed and are clamoring that quarantine restrictions be lifted so they may get cotton seed from other States. Mr. Hecke held a meeting with cotton growers in Southern California right after the Farmers' Union convention. He told them that under no circumstances could the quarantine be released; and he suggested the advisability of certain growers paying primary attention to seed growing for our own State.

Chestnuts a Coming Crop.

Since chestnut blight has killed a large proportion of chestnut trees in the East, California has every prospect of developing this crop commercially. But it will be necessary for the office of plant quarantine to keep the blight out.

Expensive Lack of Quarantine.

Citrus canker has been known in the Orient, but never reached California, due to our quarantine service. Florida did not have such quarantine. In 1911 citrus canker was imported there, and it spread like wildfire. The U. S. appropriated \$600,000 to fight it. Individuals subscribed \$180,000. The Florida Legislature appropriated \$150,000, all to fight the battle which could probably have been avoided by spending a few thousand dollars in quarantine service.

The office of plant pest control has several sections. One of these has charge of rodent control and employs several traveling supervisors.

Several insectaries are maintained in various parts of the State to collect and breed beneficial insects and parasites of injurious insects. This office maintains collectors abroad to search for such desirable aids in plant pest control. The cottony cushion scale at one time threatened our entire citrus industry. It was not such a pest in the country it came from. An investigation revealed the fact that it was controlled by vedalia beetles. These were imported to California and we no longer dread this scale. Black scale exists in South Africa, but is no menace there, so we have a man there seeking the control parasites, which will be propagated at our insectaries and liberated where they will do good. Last year, when grasshoppers destroyed many crops in the Sacramento and San Joaquin valleys, this office gave effectual aid.

The office of standardization has given California fruits and vegetables

a standing in Eastern markets which enables our heavily increasing crops to be sold at a profit where only a few years ago fraudulent packing had made Eastern markets afraid to pay a real price for our products.

The office of viticulture will apply itself to the problems affecting our grape growers, notably what to do with wine-grape vineyards and their products.

The Division of Animal Industry includes the former State Dairy Bureau, the Cattle Protection Board, the State Veterinarian's office, etc. Combination of the work of veterinarians and dairy inspectors has already worked an economy.

SUNBURNED AND WATERY TOKAYS.

(Written for Pacific Rural Press.)

Tokays frequently sunburn in the eastern Stanislaus district, where M. J. Kline has about 30 acres which yielded a gross weight of 200 tons of grapes last season. In two different seasons he has lost half of the crops this way. Faulty pruning and irrigation are blamed. It has been the practice in this region to top back the vines shortly before ripening in order to help the color, which usually is deficient. This absolutely won't do, according to Mr. Kline, who says they can beat Lodi on size of berries to overcome the handicap of poorer color. Winter pruning may help overcome sunburn of the fruit by leaving more spurs on top of the vine and shaping it to encourage more leaves over the fruit. The first ten acres planted by Mr. Kline were staked up. They made nice vines and a big crop; but the fruit burned worse than the block planted later and headed closer to the ground.

Late irrigation during hot weather is also held responsible for some burning and some waterberries this year. The ground was flooded and where water stood longest on low places Mr. Kline found the most burning and the most watery berries, which had to be cut from the lower ends of the bunches before packing. On higher ground a few feet from such spots, the grapes were fine and had good color this season. The correct practice, as figured out in this case, is to give the grapes a thorough irrigation about April and then hold the moisture by repeated fine cultivation to avoid all later irrigations.

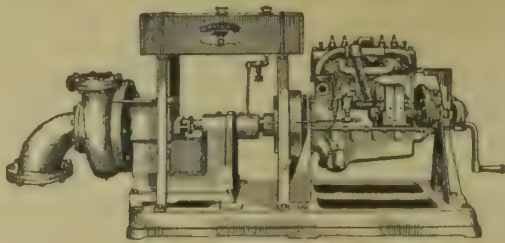
By inaugurating a new system for the orange shippers at Porterville, deliveries of paper and other packing-house stock are being made by motor truck from Los Angeles, the headquarters of the California Fruit Growers' Exchange. Experimental deliveries of other and more bulky materials will be made.

Fig growers of Tulare county have effected a temporary organization, preliminary to the formation of a marketing association along the general lines of the California Associated Raisin Company.

FARM ANIMALS IN CALIFORNIA, DEC. 31, 1918 AND 1919.

ESTIMATED NUMBER AND VALUE.

	Number		Value	
	1918	1919	1918	1919
Horses	435,000	424,000	39,585,000	41,128,000
Mules	63,000	61,000	7,875,000	7,991,000
Beef Cattle	1,701,000	1,723,000	71,612,000	70,951,000
Dairy Cattle	561,000	567,000	44,319,000	57,004,000
Sheep	2,943,000	3,002,000	35,316,000	35,272,000
Hogs	1,003,000	1,043,000	18,054,000	17,994,000



This product makes good

IF a canvass were made of California farmers a certain percentage of them would give it as their opinion that, as a rule, no direct connected gas engine pumping unit could be expected to give any great degree of service.

And they would be honest in their opinion, based, however, entirely on their own or their neighbor's experience with a rig put together on the ranch in a more or less hit-or-miss manner—probably utilizing an engine unfitted for the work.

There is real danger to the manufacturer putting out a unit of this type that might not give continuous service for years to come.

Fill out and mail to US

Our Bean Universal Direct Connected Engine Driven Unit has made good—

—is making good every day now.

It is a success—a complete success.

It is driven by an extra heavy vertical type engine fully governed for complete safety at all times—connected direct to our Universal 4-inch pump.

It's a flexible rig and inexpensive to install and operate—it consumes but 7 to 8 gallons of distillate in 10 hours steady running.

Here's your pump if your head is not too high. Ask us about it. Use the coupon.

Bean Spray Pump Co.

311 W Julian St., San Jose, Cal.

Branches: Fresno Los Angeles

Distance to water below surface of ground
Probable distance to water when pumping
If water is to be raised above surface of ground, how high? (Length and size of pipe line)
Volume of water desired (Gals. per min.)
(Inches)
If you have pit, give width..... length.....
depth.....
H.P. of motor or engine if you have that equipment.....
(Give total depth of well)
Inside diameter of well.....
Is well straight and true?
Is electric power available?
Name.....
Address.....
Rural Route No.....
311 Box.....

BLACK WALNUT SEEDLINGS

We
Grow
Trees
That
Produce

We still have a good stock of fine, strongly rooted black walnut seedlings that can be set out right now—

3-4 ft.

4-6 ft.

If you are planning a walnut grove, plant these seedlings now and graft to them later on. You will get a grove that will pay you handsome profits and be a source of steady income. Write for our prices.

Elmer Bros. Nursery

"The Nursery that Helped to Make Santa Clara Valley Famous"

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Send for Booklet, "Fertilizer Efficiency"
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**ZANTE
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CONCORD, EHRHARD

JOHN H. WHEELER
St. Helena, Calif.

Berry Growers Had a Banner Year

(Written for Pacific Rural Press.)

Eight million four hundred and forty-seven thousand seven hundred pounds of berries were marketed in 1919 for members of the Central California Berry Growers' Association, as reported by Manager F. M. Wit. About one-third of these were sold directly to canners who also bought some on the open market.

Unprecedented Prices Paid.

Direct sales of strawberries to canners opened at 10 cents per pound net to the grower for field run; but as the season advanced, the demand increased and toward the end of the season growers were receiving 14 cents net, with ice cream manufacturers paying 15 cents for selected stock. On the open market where 4,245,480 pounds of strawberries were sold, the prices ranged from 17½ to 30 cents per pound.

Blackberries to the canners sold at an average of eight cents per pound; and Loganberries averaged nine cents.

These prices seem high, but they illustrate forcibly the fact that if producers do not get a fair return for their labor and investment, they will go out of business, and consumers' prices will be raised by the law of supply and demand. It also illustrates the fact that only by organization can producers permanently maintain prices high enough to enable them to keep on producing. Last year the unorganized berry-producing districts, in Southern and Eastern States, were forced out of business. The strawberry acreage of the United States, which in 1916 totaled 108,000 acres, according to Mr. Wit, decreased to 59,000 acres in 1919. During that period the Pacific States slightly increased their acreage, being generally organized. The supply in the East having greatly decreased, Eastern packers called on the Pacific States for cannery berries. Without growers' organizations here, the Easterners would have been unable to get berries in any quantity at any price and consumers would be deprived entirely.

Prohibition Increases Demand.

Prohibition has stimulated a great demand for soft drinks in which large quantities of crushed fruit, especially berries, are used. Greater prosperity of workers and their families due to high wages and inability of most of them to spend their money on booze has enabled them to pay the prices which have been received.

Raised-Bottom Boxes to Be Used.

A dry-pint container has been

adopted by the Association for use next year to conform with Federal and State legal requirements. It is of such size and shape that it can be used either in standard shipping crates or in the chests now commonly used. It has the advantages pointed out for raised-bottom boxes in our discussion of that subject while it was pending in the Legislature last spring. But it has not the chief disadvantage, which was that the empty boxes required too much space to ship economically. They could not be shipped flat and made up in the field on account of extra breakage by that system. The box adopted by the Central California Berry Growers' Association is stapled at a central factory and then flattened for shipment. Its bottom is stapled to only one side, but it has a wedge-shaped cut in the other end of the bottom which permits the wedge point to be inserted in a slot already cut through that side. It is the work of an instant to take the flattened boxes, square them up, and fix the bottom firmly in place. This box was patented last April. Each one will be stamped with the net weight and contents of berries. The berries will not be faced as heretofore. Facing is more or less deceptive and it costs extra money. Economy in handling the berries will go far toward popularizing organized marketing.

Increased Acreage in Association.

An increase of 389 acres of berries handled by the Association in 1919 over the acreage handled in 1918 indicates growing popularity. The organization in 1919 handled 109,100 sixty-pound chests of strawberries from 1022 acres, 10,281 chests of Loganberries from 164 acres, 14,674 chests of blackberries from 149 acres, and 6,940 chests of raspberries from 168 acres. These figures must not be taken to indicate average crops. For instance the acreage of strawberries includes first-year plants which bear lightly if at all, and four-year-old plants whose bearing is on the wane.

Membership in the Association includes 222 growers in Santa Cruz, Monterey, San Benito, Santa Clara, San Mateo, and Alameda counties, controlling about 96 per cent of the strawberries and 85 per cent of the bush and vine berries grown in these counties. The Association this year made no attempt to regulate selling prices. Its charge for supervising sale of the fruit on a commission basis is six cents per chest or one-tenth of a cent per pound.

Prune and Apricot Growers Must Sign Up

H. G. Coykendall, general manager of the California Prune and Apricot Growers, Inc., announces that January 20 had been set as the final date by which 20,000 additional acres of prunes and 6,000 acres of apricots must be signed by the association or it would go out of existence.

Failure of the fruit growers to give the required support to their non-profit co-operative organization, Coykendall said, would mean that the association would decline to exercise its option on growers' crops for the years 1920 and 1921. This, he said, would leave the marketing of the best crops in the hands of the independent packers and would throw the industry back into the chaotic conditions which ex-

isted prior to the formation of the association.

Emphasizing what the association had meant to the fruit growers of the State, Coykendall said, that the association had already paid out almost \$15,000,000 to its grower members for their 1919 crops, and he estimated that the association would put \$22,000,000 into their pockets when the final settlement is made.

The California Prune and Apricot Growers, Inc., is the State-wide growers' organization which was organized May 1, 1917, as a selling organization with the announcement that it represented three-fourths of the prune and apricot growers of the State.

TRY THIS FOR VINE HOPPER.

People sometimes turn sheep in their vineyards in the fall to clean up all the leaves and litter, mainly for the sake of getting rid of the leaf hopper. The theory is bad, for the sheep probably take away more fertilizer than they leave, the tramping of the ground is bad, and the vines are somewhat weakened if leaves are eaten that are yet growing on the canes.

Instead of sheeping a vineyard, people who are worried about the hopper might try this plan. Run a double furrow down each row, rake

all the leaves in it, then throw back the soil on the leaves and litter. You not only clean up the hiding place of the hoppers and so protect next summer's growth, but you get full fertilizing value from the leaves. Benefits from this reason alone may justify the method if the labor expense is not too great. That expense will depend upon the rush of other work and the efficiency and cost of labor. Anything that can add to the size and quality of the crop is likely to be profitable if the cost is not too great in the first place. To try this plan on a small strip of vineyard would show any rancher what the cost would be.

SERVICE

WATSONVILLE, : : : CALIF.



BULLETIN

TELEPHONE : WATSONVILLE, 176

ORTHO CRUDE OIL EMULSION GRADE "A" sets a new standard of quality for winter spraying for prunes and apricots with an individuality that is distinctly its own, for the outstanding features of Ortho Crude Oil Emulsion Grade, "A" are:

FIRST—Its a PERMANENT Emulsion and not made to be used as soon after received as possible, for it will keep over a great length of time and hold its emulsifying quality as good as when received.

SECOND—Ortho Crude Oil Emulsion Grade "A" will mix with the hardest kind of water without any decomposition and the water has no apparent effect of any consequence on the emulsion.

THIRD—Ortho Crude Oil Emulsion Grade "A" is compatible with lime-sulphur solution and other sprays can be used with it to advantage in the control of insect pests.

These three features are the results of considerable experimentation by Mr. W. H. Volck, our Director of Research, and we believe it to be a notable achievement to take a spray of such high quality as our Ortho Crude Oil Emulsion has been and add to it these features.

Ortho Crude Oil Emulsion Grade "A" is processed from natural gravity crude oil and the results of that processing insures:

1. PERMANENCY.
2. COMPATIBILITY (mixes with hard water, lime-sulphur solution, etc.).
3. KILLING QUALITIES.
4. GREAT PENETRATION.
5. EASE OF APPLICATION.
6. SPREADING QUALITY.
7. LOW COST.

FIRST—PERMANENCY. Ortho Crude Oil Emulsion Grade "A" is guaranteed to keep for two years without decomposition. We will replace, at our expense, any crude oil emulsion that shows any sign of decomposition during a period of two years.

SECOND—COMPATIBILITY. Ortho Crude Oil Emulsion Grade "A" is compatible with a great many different kinds of spray, such as Lime-Sulphur Solution and Bordeaux Mixture. This opens up a field of combination sprays which reduces the cost of application of spray; it insures better results by the use of a combination of two sprays such as Ortho Crude Oil Emulsion Grade "A" and Ortho Lime-Sulphur Solution.

Ortho Crude Oil Emulsion Grade "A" is not decomposed by the hardest kind of water and will mix in mineral water as well as the softest spring water without any change. If desired, 4 to 6 pounds of caustic soda can be used for each 100 gallons of diluted spray for killing moss.

THIRD—KILLING QUALITIES. Ortho Crude Oil Emulsion Grade "A" has great killing qualities for it controls San Jose Scale and Brown Apricot Scale, and as a general insecticide is most effective. And in addition

Ortho Crude Oil Emulsion Grade "A" is sold in barrels and the gallons determined by weight, so that each barrel will have the exact net gallons stenciled on it instead of the barrels averaged, as is oftentimes done.

Ortho Crude Oil Emulsion Grade "A" contains 66 per cent natural gravity crude oil.

W. H. VOLCK, Director of Research.

to this it has a decided stimulating effect on the trees, which makes it one of the best winter sprays to use on Apricots, Prunes, Pears and Apples, during winter as a dormant spray.

FOURTH—GREAT PENETRATION. Ortho Crude Oil Emulsion Grade "A" is made up of a large number of very minute particles of oil which have been emulsified to insure its fine state of subdivision that it might penetrate into insects. Its fine state of subdivision is, perhaps, finer than any other emulsion that has ever been marketed. Under the microscope the high quality of Ortho Crude Oil Emulsion Grade "A" is readily demonstrated. The microscope shows that Ortho Crude Oil Emulsion Grade "A" is made up of exceedingly fine particles, and those particles are permanent in their emulsified condition—unlike the breaking down of fine particles into larger particles in many so-called emulsions that are on the market.

FIFTH—EASE OF APPLICATION. Ortho Crude Oil Emulsion Grade "A" flows through a pump without any corroding effect, and more spraying with this Ortho Crude Oil Emulsion Grade "A" can be put out in a day than with any other spray. The emulsion will flow readily from the barrel and only needs to be placed in the spray tank and mixed with water to form a perfect spray mixture. Any other spray can be used in conjunction with it easily—lime-sulphur is added after the crude oil emulsion has been mixed with the water. Large quantities of caustic soda can be added to the emulsion without decomposition.

In spraying with Ortho Crude Oil Emulsion Grade "A" three points should be remembered:

First—Use the emulsion of proper strength—usually 12 per cent actual oil.

Second—Apply at proper time; i. e., while the trees are dormant from January 1st to time of visible bud swelling.

Third—Apply with great thoroughness so as to cover all twigs and branches perfectly. The tree should be dark brown to black when the emulsion has dried down and the branches and twigs should be uniformly coated. In doing this it might be necessary to apparently waste considerable of the spray, but the increase in cost will be compensated by better results.

SIXTH—SPREADING QUALITIES. Ortho Crude Oil Emulsion Grade "A" being finer subdivided than others, will cover more surface; and not containing any chemicals which will react with hard water, the emulsion will spread over a larger surface. It has been a usual experience with people that have had considerable experience with emulsions that 25 barrels of Ortho Crude Oil Emulsion will cover about the same surface as 32 barrels other makes.

SEVENTH—LOW COST. The cost of Ortho Crude Oil Emulsion Grade "A" is very moderate. On account of large quantity production of Ortho Crude Oil Emulsion Grade "A" we have been able to give an emulsion of great quality at a cost which is not excessive to the Orchardist.

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SEATTLE

NEW YORK

Pruning for More Fruit and Less Wood

(Written for Pacific Rural Press by D. J. Whitney.)

For decades past, or ever since fruit growing by Americans got a good start in California, there has been a standard method for pruning our leading deciduous fruits, like peaches and apricots. Now, amazing as it is, we find from the source of greatest authority upon the matter, the College of Agriculture, that we have been all wrong and that we should alter our pruning methods. "Once seeing is worth a hundred times telling." Through the Farm Bureaus of the State, demonstrations are being given to peach growers and others interested. This is a report of things seen at such a demonstration.

Deciduous fruit trees are of two kinds. The first, represented by the peach and apricot, will make a good shoot and strong branches, or laterals from it, all in one season. The other type, represented by the apple and pear, makes the shoot one year and the laterals from it the next year. The demonstration described and rules indicated, applies to the first type of tree. In certain ways they will apply to the second type.

Treatment of the Young Tree.

The young tree comes from the nursery. If its top will allow it, leave three good, well-spaced side branches to form the main frame of the future tree. Cut the ends back a little. Remove other shoots, but do not cut too close to the trunk. Leave a very short stub, for close cutting may destroy the blind buds in the bark, which should send shoots out next year to shelter the bark and to provide food for the plant.

The earliest spring growth will come from the upper buds on the three leaders left and these new shoots will grow faster and stronger than all the other shoots. If the tree when planted is one-sided or there are not three good leaders, cut back to a switch, then when spring growth gets a good start select the three best and nicest spaced sprouts and pinch back the ends of the others. Also, if three leaders have been left, pinch back any shoots that are likely to grow too strong for them. Certainly pull off any water sprouts.

Now, these smaller shoots give strength to what they grow on. Take a soft, new, quick-growing, light green shoot and examine the leaf very closely and it will be watery and the valuable green particles in it will be few. Pinch off the tip of the shoot and the leaf color will darken quickly. Those rich dark leaves will have a multitude of green particles. Each will be making food from air and water, with the help of the sunlight, and that food will flow into the trunk or branch near the leaves and make it strong, thick and rich. Therefore, these side shoots are very good and if they are too quick growing they can be pinched back.

The First Winter.

By next fall you should have a nice little tree, with three good long branches ready to start a frame, all side shoots having been kept back by summer attention so that no heavy cutting needs to be made, and the tree will also be well balanced. You can cut back just a little toward the top of each of the three shoots, leaving each about the same height and cutting to a lateral. The big change over the old system is that these leaders are not cut away back.

They will NOT therefore send out a bunch of shoots where they have been cut, but will make a nice, moderate growth the next season. If they have branched about shoulder high during the summer, all right.

If they have grown too long without branching, they can be cut back to laterals about shoulder height in order to make them form the necessary main branches, provided they have not branched too much. Beginning from shoulder height a tree can have five to seven branches all right. For the fine stuff coming out along various parts of the tree, leave a good supply of it and leave it pretty long. It will supply food next year, thicken

the branch it grows on, and protect the bark from sunburn, and probably bear a good deal of fruit.

Makes Bark Very Cool!

Actual tests have been made at the Davis farm to see what this bark protection by twig growth did. Where short shoots had come from the trunk of the young tree, the leaves cooled the trunk 15 degrees, so that the temperature of the bark was only about 88 when the outside temperature was 103 or 104.

Proof of the Padding.

There is a 40-acre orchard in Fresno county, owned by Geo. Feaver of Fowler, that has been started by this system. This summer, in its third season, it produced 25 tons of peaches. A thing like that is a strong commendation of the system, for it will beat out the old style pruning as much later as it does when young. But look:

Louis P. Bizant of the same district had an old orchard started in the ordinary way, but wanted to get the advantage of new methods. In order to play safe both ways he pruned half of it as usual. The other half he pruned according to the new methods as well as they could be applied to the conditions, and took off four boxes more of fruit per tree with the new style of pruning than he got off the remainder, and left his trees in A-1 condition.

The Theory of the Thing.

Here is the theory of the thing. If you cut back heavily in the old way you do several things: you make a whole lot of vigorous shoots come out the next spring and these are wood growths, not fruit growths; you leave big wounds in the tree into which rot comes easily so that few old peach orchards can be found which are not nearly ruined. (This is true with lots of other fruits, too.) You also remove a lot of plant food that the leaves have worked to construct and the soft, quick-growing shoots that such heavy cutting causes to come out are not as good in gathering sugar and starch as the greener leaves and slower growths are. Therefore, a tree pruned with little cutting can bear heavier crops than old style trees without feeling the strain.

More Explanation.

There are certain facts about spacing branches, letting in light, and so on that everybody knows. Otherwise, the main idea in the new system, as far as trees of full growth is concerned, is to leave fruiting branches long and with plenty of buds. When this is done the sap will not rush to the top, as it does when a bunch of suckers comes out at a heavy cut, but the sap will run out at the little shoots all along the stem and there will be fruit wood growing well all the way down to the crotch. As it is, when a bunch of Orientals get through an orchard, everything in fruit and new growth runs to the top and the tree gets higher and higher and harder and harder to manage.

The difference in this system of pruning will be clear in giving an example. Mr. Fletcher of the University Farm, who conducted the demonstration, took an old style tree with a bunch of shoots on top, as usual, and instead of cutting them down to within a foot of the old wood, he removed a very few of them and a little of the wood that was growing along the leaders, and removed the top of the shoots about a third of the way down, cutting to a lateral, a thing that would not cause sucker growth to come out next year and leaving three times as many buds on them as a bunch of Oriental pruners would leave.

The following winter no hard cutting will be needed. These old shoots, then two years old, can be cut back to a lateral at about the same height as before and the same thing can continue indefinitely.

Most important of all, the system can be applied to old trees almost as well as to trees started right.



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ORCHARD SPRAY

Banner Apple Crop at Watsonville

(Written for Pacific Rural Press by W. H. Schrader.)

Apple growers in the Watsonville district have had their banner season this year. They have just harvested the largest crop ever grown in the valley. Part of the crop is still in cold storage, so it is impossible to give exact figures at this time. A. W. Tate, inspector for the Standardization Department, a conservative authority, estimated that shipments will total this year three and a quarter million boxes as against two and a half million boxes last year. The price for fancy apples at the beginning of the season was \$2.00 per box. It is now \$1.85 for fancy and \$1.50 for B grade. The growers will average round \$1.60 per box. About 60 per cent of the crop will be shipped and about 40 per cent went to friers, canneries, cider and vinegar works. The latter brought about \$40 to \$55 per ton. At these figures the total crop will bring over \$7,000,000.

There was an extraordinary heavy setting of fruit on the trees this year and this together with the dry season and the difficulty of getting the soil into good tilth, caused a very heavy drop. However, the windfalls brought such good prices at the driers and canneries that the loss on this account was slight.

The decline from the opening prices was due partly to delayed shipment

bringing the apples into competition with those from the northwest and the east and partly to industrial unrest and agitation against H. C. L.

While labor was scarce and high, none of the crop was lost from lack of help. While some of the growers became frightened early in the season and paid higher prices the average was about 7½ cents per box for picking and 6 cents per box for packing. These were the prices paid by Rodgers Bros. who are among the largest growers and shippers in the district and who run a drier as well. Mr. Rodgers stated that at these prices, workers earned \$5 to \$10 per day, and even more.

The Rodgers Bros. orchard receives the best care and irrigation. Just what a good apple orchard can and will do with proper care and handling is shown by a block of mature Newtown Pippins in their orchard which turned off an average of 25 lug boxes per tree. Of these 25 per cent went to the drier, 12 per cent were grades and the balance fancy. If you wish to know the return per acre, allow 60 trees to the acre, 1¼ packed boxes to each lug and at the above prices figure it out for yourself. If we gave the results you would probably have to check up the figures anyway before you could believe them.

Why Redwood Grape Stakes?

(Written for Pacific Rural Press.)

Grape stakes are made of redwood for the simple reason that redwood will remain in the ground for long periods without rotting. There are, though, two kinds of redwood—coast redwood and mountain, or Sierra redwood. Both will resist decay, but

otherwise there is an immense difference between them. The coast redwood is tough and will stand a big strain; the mountain redwood is brittle and will snap off easily.

Consequently a person will see a pile of coast stakes and think they are too thin and weak to be worth much, and he will see a pile of mountain stakes and think they are fine, they are so straight and thick, but actually one will be about as valuable as the other. Any difference is likely to be in favor of the coast wood.

The difference in woods is easy to discover. Coast redwood has a very strong grain so that when it is split, it is likely to split clean for the whole length of the wood; each fiber holds together if it can and if it has to break it will splinter strongly. The fibers of the mountain redwood are so weak that the wood is hard to split true. Instead of splitting all along the grain, the fibers are likely to break sideways very easily. On split posts, for example, it is usual to find shoulders on one side of the other where the grain has broken. One wood will split, the other will break in chunks. The one that splits is tough and strong; the one that will not is weak and brittle.

Whether for fence posts or grape stakes, coast redwood is preferable unless the other is so thick as to overcome its natural weakness. If not much side strain is to be put on the mountain redwood, it will prove very durable and satisfactory.

Several years ago grape stakes were worth only 4½ and five cents. Now they are ten cents each.

IS RHODES GRASS PRACTICAL?

To the Editor: Would like to ask your opinion in regard to Rhodes grass, whether it is a pest and would be hard to eradicate when once planted. Is it as good stock food as advertising circulars seem to indicate. Feed through the summer here is very scarce, and some grass that would stay green throughout the summer would be very welcome.—W. N. R., Watsonville.

We have recently printed all we know about Rhodes grass but would like to hear from any subscribers who have had experience with it. Our impression is that it makes good feed, but not so rich in nourishment as alfalfa; that it will thrive on less water than alfalfa, but will not stay green throughout the summer except on moist land; and that it will not be hard to eradicate.

[This is one of a series]

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DEPARTMENT B

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Here and There in the Fruit Business

Frosted Grapes Spoil in Transit.

A little experiment in Tulare county tested the keeping qualities of Emperor grapes after the severe freeze of the last week in October. Considerable argument was used at that time as to the degree of frost injury necessary to prohibit the packing of this fruit. As it required several days for slight injury to develop, Commissioner Chas. Collins feared to draw the line too tightly at first, but placed in cold storage a sample crate taken from a lot which was being packed for Eastern shipment. At the same time, he had packed for experimental purposes a crate of more severely injured fruit. These crates were placed in cold storage October 30 and were opened 30 days later. Both were in very bad condition, the more severely injured fruit not being edible at all, while 90 per cent of the better grade had stems covered with mold and there was much soft fruit. Mr. Collins' office is also conducting some experiments with grapes packed in drums under various conditions, but these will not be opened until the holiday season, as they are supposed to keep until that time in many cases when shipped.

Eucalyptus Planting Paid.

Some years ago there was lots of talk about the fine outlook for eucalyptus planting as a source of valuable hardwood; and the proposition for a time rivalled oil wells as a get-rich-quick scheme for promoters. Taking a chance on the outlook, the Mineral King Fruit Company, near Visalia, made some extensive plantings on their ranch, and although the bonanza profits from hardwood did not develop, the trees have been quite a success from a stove-wood standpoint. They are in the delta where moisture is plentiful and the trees needed no attention after getting a good start. Seven-year trees yield 35 and 40 cords of wood per acre, worth \$10 per cord, standing. Growth after cutting is very rapid so that in five years this yield is duplicated, utterly without attention or risk of bad seasons or other dangers. While other crops might have been selected which would have paid greater profits, the eucalyptus account is balanced with black and not with red ink.

A New Fig Bulletin.

Maintaining that Fresno is the best fig-producing center in the world, and giving news and data on the industry, the third installment of the Fig Bulletin of the Fresno Chamber of Commerce is now in the hands of the printers and will be ready for distribution shortly. About 5,000 copies of the fig bulletins have been issued by the chamber since the first of the year. The production for 1919 is given at 20,000,000 pounds, which is an increase of 1,000 tons over 1918. The bulletin further declares that 80 per cent of this fig production is grown in Fresno county. By far the greatest amount of the fig production listed is the Adriatic variety, 14,000,000 pounds being the production for this variety, against 3,000,000 each for Smyrna and Black Mission figs. The Smyrnas brought the best price, however (20 cents), while the Adriatics brought 15 cents and the Black Missions 13 cents.

Wrap Young Fig Trees.

Merced County Horticultural Commissioner Arthur E. Beers advises the following: A frost severe enough to injure young fig trees is possible at any time now and young trees should be wrapped at once. Freezes early in November have often proved more injurious than colder weather later in the season. Trees usually freeze worst just above the ground, so that this part of the trunk should be well protected. Injury to the tips is not serious, but injury to the trunk and main branches is an unfortunate setback for the tree. Cornstalks and milo maize stocks are the best materials to wrap around the trees.

Watch Oriental Pruners.

If a man can do his own work in those things that require care, he is

frequently better off. Take pruning, for example. Put an Oriental in vineyard or orchard and show him exactly what is wanted. He can learn how to do it all right and will work a few trees or vines nicely. Then his old way will gradually work back into his head and he will begin to combine his method with your method. Soon it will be half one and half the other, and in a very short time afterward all his way and none your way and he will not know it. Otherwise, you can stay right close the whole time, for habit will be stronger than any teaching. Consequently, contracting work by a bunch of Orientals is one of the best possible ways to keep from adopting any improvements.

Bark Protection for Young Trees.

When the trunk of a young tree gets too large for a tree protector and the latter is removed, the bark will be very delicate and easily hurt by sunburn, even in winter, so it should be whitewashed. A good whitewash for the purpose is made of seven pounds quicklime, three pounds sulphur, and one pound salt. It can be put on as a spray or with a brush. Also, in pruning a two- or three-year-old tree and taking out a big branch (which will never have to be done with the new style pruning found so successful by the College of Agriculture), the bark behind it and formerly shaded by it will be very tender and this whitewash will do a great deal to protect it from sunburn, gum, and borers. The trunk of a young tree just set out should also be whitewashed, as the bark of that will be tender on account of the pruning given to it.

Ship Only Clean Fruit.

January 1 is the date set by Solano County Horticultural Commissioner Frank Owen, after which a quarantine on all fruits and vegetables violating the standardization law will be vigorously enforced. Mr. Owen has been giving dealers time to clean up their stocks without drastic measures; although one shipment of diseased apples was ordered to be sorted at the expense of the shipper. A carload of scabby potatoes was seized December 12, and released on promise that no more would be received.

Ornamentals Held at Pasadena.

Inspector Thorndike of Pasadena has on a number of occasions during the past few months refused shipments of ornamental stock from Eastern states or required their treatment for pests. He has refused currant bushes from New York State because of the White Pine Blister Rust quarantine. Shipments carrying mealybugs were intercepted from Pennsylvania and New Jersey and a box of roots from Ireland were received through the mails and refused entry.

Red Scale Infested Fruit Intercepted.

Three lots of lemons infested with red scale have been stopped by District Inspectors in Los Angeles County recently. W. E. Landon held up 25 boxes consigned to a packing house in the San Dimas district. B. R. Bowles turned back one packed box destined for San Fernando Valley through the parcels post. J. R. Hyans stopped the sale of 40 packed boxes of lemons brought into the Long Beach Market. The latter two shipments originated outside of Los Angeles county.

Coming Horticultural Examinations.

Director Hecke announces examinations to furnish a list of eligibles for the position of County Horticultural Commissioner, to be given by the State Department of Agriculture, as follows: 1. At Independence, Inyo county, January 13, 1920. 2. At San Luis Obispo, San Luis Obispo county, January 15, 1920. Applications must be filed in Sacramento at least seven days prior to the date announced above for the examination.

Revenue officers have seized two thousand gallons of wine in a series of raids here in Napa recently.

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32x4	16.60	21.15	3.25
33x4	17.30	22.00	3.35
34x4	17.80	22.50	3.45
36x4		26.60	
34x4 1/2	24.00	30.35	4.20
35x4 1/2	25.00	31.65	4.30
36x4 1/2	25.45	32.20	4.45
37x4 1/2		35.75	5.10
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Time to Prune Grapes

[Written for Pacific Rural Press by D. J. Whitney.]

The labor problem enters into this proposition, as it does now more than ever before in every question of ranch policy. If men can be kept working all winter the labor supply in a district is likely to be good. If they have to loaf too much, they are likely to head elsewhere, making a deficiency of help later, and higher wages than a rancher is likely to be able to pay if he expects to come out square. From the labor side of it therefore, it is advisable to start vineyard pruning early and so avoid the danger of having the work done too late in the spring.

From the standpoint of the vine several things are to be considered about the time to prune. For practical purposes pruning can begin without danger whenever the canes are fully dormant. Otherwise the later the pruning is done, the better for the next crop, particularly with Muscats. This has been proved conclusively by experiments. Muscats also will stand later pruning than Thompson's. They can be pruned with no special harm after the sap has started to flow well in the spring, while Thompson's should be all pruned before that time.

Vines are not completely dormant

as soon as the leaves fall off. In a mild fall they may be nearly so, but when a sudden hard frost kills the leaves before they are ready to fall and then a rain knocks them off, the canes are likely to be well supplied with sap and sugar, a great deal of which will gradually find its way back to the trunk and roots in preparation for next season's growth. If the canes are cut off too early, this food is lost. If it is given a chance to get back to the roots, it is saved; otherwise it is doubtful.

Normally, the vines are completely dormant for pruning purposes during January and the latter half of December, when a man can prune without fear of trouble.

If vines are pruned while the sap is flowing vigorously and a hard freeze comes, it will do far more injury than if the bleeding were not taking place. A. E. Way, viticulturist at the Kearny ranch, says he has seen big vines cut to the ground by a hard frost at such a time, when they would not be injured a particle if they were not bleeding. Otherwise the sap that comes freely from a cut cane in spring contains little plant food and the vines do not seem to feel its loss.

ing it, again force it to the ground. About forty horse power will be required to operate the fan.

Two of the finest orchard properties in the Oakdale district changed hands last week for around \$100,000 each.

Carlots of apples from the Paradise district of Butte County were shipped this season for the first time. Fifteen carloads had been shipped before mid-December.

Figures compiled by the railroads as of December 10 show that of oranges to date the total consignments from Central California having been 2,706 cars, as compared with 2,037 cars to the same date last year.

The sale of 1,000 tons of dried peaches, the surplus of last season's record crop, has been authorized by the directors of the California Peach Growers' Association. The large crop of the past season found a ready market, and was sold in record time.

Reports from Butte County state that the orange crop this season will exceed that of last year. The crop appears materially heavier where a cover crop was grown, or where weeds and grass were allowed to remain unmolested after the spring plowing.

Sixteen carloads of honey have been shipped out of Imperial this season and more will follow. This will make up the average crop for the Valley. A carload of honey contains from 300 to 350 cases of 120 pounds net. There are estimated to be 47,000 colonies of bees in Imperial County apiaries now.

Sir Percy Fitzpatrick, one of the leading orange growers of South Africa, author and traveler and prominent in South African politics, was a visitor in Porterville recently and spent some time conferring with local packing house men, exchange officials and shippers on methods of growing, packing and marketing oranges in vogue in California.

PRUNING DEMONSTRATION AT PASO ROBLES.

To the Editor: On Tuesday, December 16, Harold E. Alley, Horticultural Commissioner for San Luis Obispo County, gave a demonstration of the new system of pruning deciduous fruit trees on H. G. Merrill's ranch near Paso Robles. About 60 persons were in attendance, mostly almond growers around Paso Robles. All took a lively interest and kept Mr. Alley busy with their questions.

Most of the trees pruned were almonds, but other fruits were also taken into consideration. Mr. Alley has had wide experience in this sort of work, and in addition has recently received personal instruction from Professor Tufts at Davis.—H. G. Merrill, Paso Robles.



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The average at the last Farm Bureau Hog Auction Sale was 14c for 4 carloads with 60 consignors. Sale held December 11th.

HORTICULTURAL JOTTINGS.

Oregon apples were badly damaged by the recent freeze.

The Palo Verde Valley is to be tried as a possible date growing district.

The campaign for increased acreage to be signed up in the prune and apricot association is to close Jan. 20.

Oroville claims the distinction of shipping the first olives from California to Eastern markets this season.

Orange splits having been banned from shipment by the Standardization law, growers at Lindsay are starting a concerted movement to find the cause and remedy.

A million dollars worth of wine was announced to be shipped from San Francisco to the Orient December 27. It is said to be the largest single shipment of wine ever made in the world.

It is estimated that the orange growers of the Redlands district have received, during the past year, more than \$6,000,000. There is every indication that the crop for the coming year will be even larger.

Heavy fogs which rolled into the Porterville district from the high Sierra saved some early oranges from damage by the unusual cold. The fog blanket protected the trees from rays of the sun until the cold moderated each day.

Women orange pickers are in demand in the Lindsay district. Workers are paid 6 1/2 cents per box and a bonus of 1/2 cent per box if they stay the entire season. Light housekeeping rooms are furnished at reasonable rates.

To provide for adequate space for the increased size of the National Orange Show, to be held in San Bernardino on February 13 to 23, the exposition directors have leased Urbana Park, a big pleasure resort, and the construction work will begin at once. Ten acres will be covered with tents.

The Home Industry League has warned the olive producers and packers of California that prompt action must be taken to prevent injury to the olive industry from a sensational poisoning story being circulated through the East. In a letter to the olive men President Baldwin Vale of the Home Industry League urges that vigorous propaganda be started to combat the impression that the ripe olive is dangerous as food.

C. K. Towt, a widely-known orange grower of the Lindsay district, has a new plan for protecting a ten-acre orange grove from damage by cold. He is constructing a tower about forty feet in height, to be centrally located in the grove, on which is to be a fan which will draw the cold air from about the trees and after warm-

What One County Farm Bureau Is Doing

(Written for Pacific Rural Press by R. D. McCallum, Modesto.)

The adoption of plans for a statewide membership drive, the formation of a Tri-County Marketing Association, passage of strong anti-Japanese resolutions, ratification of the National Farm Bureau constitution, appointment of W. H. Heileman of Willows as permanent secretary of the State Farm Bureau, and unanimous re-election of George H. Sawyer as county president were some of the important actions taken by the members of the Stanislaus county Farm Bureau in their sessions on December 11th at Modesto.

The day's activities were divided into a session of the State Regional Directors of the California Farm Bureau Federation and a meeting of the marketing committees of Merced, Madera and Stanislaus counties in the morning and the annual meeting of the Stanislaus County Farm Bureau in the afternoon. This session was featured by the election of officers and addresses by State President W. H. Walker of Glenn county and Dean Thomas Forsyth Hunt of the College of Agriculture, and by reports of the farm bureau accomplishments submitted by various committee chairmen.

The morning session of the regional directors of the State Federation was the first meeting of that body since the formation of the California Farm Bureau Federation at Berkeley on October 23rd. At this meeting the machinery of the Federation was put in motion. Probably the most important matter taken up was the appointment of W. H. Heileman of Willows, Glenn county, California, former Farm Advisor for Glenn county and prominent farmer, as secretary of the Federation. Mr. Heileman has been intimately associated with the farm bureau for the past five years, and is well qualified to assume the duties of that office.

Dean Hunt of the College of Agriculture gave a very interesting address on the "Trend of Agricultural Prices," pointing out the rise in the price of farm products since the war and using Bradstreet's index of prices, showing the difference in the purchasing price of the dollar before the war and at present. Commenting on the Farm Bureau, he said: "I have spoken of the Farm Bureau movement as in my judgment the most representative and effective means of concerted action among farmers of the United States. It is not only concerted, it is representative. The Farm Bureau movement is built up on the principle of democracy. There are four or five hundred farm centers and they have no power to do anything except what has been delegated to them by you—they are your representatives. Each farm center elects its director, and its director represents its center. It is therefore truly representative of the farmers."

The reports of the farm bureau accomplishments during the past year, as submitted by the various committee chairmen, were significant indications reports showing that the County Farm Bureau as an organization has been active in all phases in agriculture and has not neglected economic matters. Three departments of the Farm Bureau alone; namely the wool pool, auction sales and fire protection, saved the farmers of this country over \$95,000 during the past year. A brief summary of the work of the Farm Bureau, as outlined by President Geo. H. Sawyer, is as follows:

1. Co-operated with the Turlock Irrigation District relative to irrigation and drainage problems.
2. Called mass meeting of farmers at Turlock relative to the marketing of 1918 bean crop.
3. Saved over \$74,000 this year for the farmers as the result of the fire-fighting organization.
4. Co-operated with the Bean Growers' Association in an effort to secure a tariff on Asiatic beans.
5. Co-operated with the Stanislaus County and Turlock Boards of Trade in an endeavor to discourage the renting and selling of land to Japanese.
6. Farm Bureau instrumental in urging and supervising construction of telephone lines in Hickman, Waterford, Roberts Ferry and Montpelier districts.
7. Farm Bureau has stood for better roads in rural communities and in many districts have co-operated with the Board of Supervisors of county to this end.

8. County Farm Bureau active in backing up county fair and urging county fair ground at county seat.

9. Farm Center at Patterson conceived the idea of the Patterson District Fair.

10. Published Farm Bureau Monthly, giving timely hints on agricultural subjects.

11. Committees of Farm Bureau appeared before legislature and Governor in behalf of the passage of appropriations affecting farm bureau work.

12. Requested action of congressmen and legislators on the bean tariff, wheat dockage, Japanese questions and appropriations.

13. As a result of the selected dwarf milo seed introduced into the county, milo planting has spread over the entire county.

14. As a result of the honey sorghum campaign for silage and syrup purposes last year, a sorghum mill was built at Hughson this year.

15. The farm bureau took the initiative on the wheat dockage fight, to secure compensation on valuable dockage.

16. Constructed seven farm bureau silos of the wood hoop type.

17. Farm Bureau initiated the second wool pool that has been held in the county and in co-operation with the Farmers' Union shipped a carload of wool to Boston, which netted the farmers 34 cents a pound while local buyers were only offering 35 to 40 cents per pound.

18. Organized auction sales for livestock at Modesto and Turlock in the county. To date, 77 carloads, or 5577 hogs, have been sold for \$182,850.22. It is estimated that a saving of 10 per cent was made to the farmers of \$18,285.02.

19. Farm Bureau has taken lead in advocating construction of a livestock sales pavilion, for purebred auction sales of livestock in conjunction with the county fair building.

20. Organized Swine Growers' Department of the farm bureau.

21. Tested monthly cows for the dairymen through the cow-testing department of the farm bureau.

22. Held four poultry demonstrations with a total attendance of 233.

23. Co-operated with the local labor bureau through the farm bureau.

24. Two of the farm centers in county are planning to build community halls.

25. Held a mass meeting of fig growers of the county to discuss the various problems relative to the fig industry.

State President W. H. Walker, in his address to the members of the farm bureau, stated that in the farm bureau the farmers of the nation had a movement of tremendous force which is now being crystallized into action. Capital represents but a small minority of the people and organized labor includes only 2.5 per cent of those in gainful occupation, he said, but nevertheless they were controlling all legislation while the farmers, representing 34 per cent of the people, were carelessly staying away from the council table that directs the national affairs.

The following officers were elected for the ensuing year: Geo. H. Sawyer, President; R. W. Sweetland, Vice-President; Geo. T. McCabe, Secretary-Treasurer; C. A. Hilton, Modesto, W. F. Beard, Modesto, D. J. Walton, Turlock, R. H. Frazer and L. S. Hadley, Directors-at-large.

Elmer Lamb of Ceres, who is leaving the county, was named honorary director-at-large in appreciation of his services.

PROTECT YOUR TOOLS FROM RUST.

Nearly every man owns at least a few tools, such as chisels, hammers, augers, saws, wrenches, files, etc.

These tools as a rule are infrequently used. They are often kept in places where they are exposed to moisture and consequently rust. Almost all tools with the possible exception of hammers are rendered less efficient by rust.

When it is so easily prevented, it seems strange that steps are not taken to do it. It is well worth while to save the tools as every one knows that has had occasion to buy any new ones lately.

Probably the best tool protector and carrying case for a small kit may be made in the shape of a roll from a piece of pyroxylin coated fabric having a napped or fleecy back. This material is thoroughly waterproof, and if care is taken in wrapping the tools in it after use, it will prevent moisture from reaching them and no damage from rust can occur.

The material is durable and will last a long time. It is obtainable at many department and general stores where it is sold under the general name of leather substitute. There are many leather substitutes on the market sold under various manufacturers'

trade names. Practically any of them will answer very nicely for the use specified.

SHORT COURSES FOR BEE-KEEPERS.

The commercial beekeepers' short course at University Farm November 10-22 drew an average attendance at each session of about 100. Behavior of bees, bee diseases, beekeeping practices, and local bee problems were studied enthusiastically. Manager Justice of the California Honey Producers' Co-operative Exchange appeared Wednesday evenings to tell the students what the Exchange has done, and why.

The almost complete failure of the honey crop in the San Joaquin Valley the past year caused a loss of interest among the producers of that territory, as is usual. The attendance at the Fresno course was smaller than in former years, but those taking it were keenly in earnest and determined to make the most of the instruction given, many of them being among the largest producers of honey in the State.

A very large attendance and close attention greeted the lecturers at Riverside, this point being the center of honey production in Southern California. Many lady students were noticeable here, and several beekeepers followed down from Fresno to more thoroughly absorb the instruction given by hearing it a second time. This fact was also noted at San Diego, the last station in the course, where a very large attendance was registered, when the scattered settlement of the county is considered.

The increasing number of women students of beekeeping during the past few years is a fact that impresses one. San Diego county, especially, has a number of successful women beekeepers who are producing honey on a commercial scale.

The main thought sought to be impressed on the minds of commercial honey producers by this course of instruction is better bee-keeping to secure a profitable force of bees earlier in the season. Thousands of tons of honey go to waste each year from the

early honey-producing plants, such as manzanita, orange and black sage, simply because there are not enough bees to secure it. Much of this can be saved by a better system of wintering, that will give a big force of worker bees in time to take advantage of these early honey-flows.

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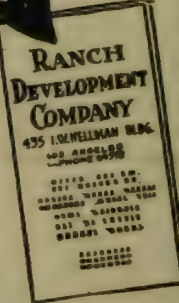
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CALIFORNIA WILD CLOVER.

To the Editor: I send a little sample of a red clover which grows naturally on my ranch. I wish to know its correct name and its feeding value, both as pasturage and for hay as compared to alfalfa. Do you consider it as good as burr clover for dairy cattle and hogs? I wish to sow some and would like to know how much seed per acre to sow and if it requires a nurse crop. After taking the first crop for hay, could I get a second crop by irrigating? My land is overflow bottom land with an adobe and clay subsoil. This kind of clover grew nearly waist high last spring on a piece of land that I volunteered, having wheat on it last year.—T. J. S., Geyserville.

[Answered by Prof. P. B. Kennedy, University of California]

The plant which your correspondent sends in for identification is one of the native clovers, *Trifolium melananthum*. Too little credit has been given to the members of this genus as they occur in California. There are at least fifty different species in the State, growing under a great diversity of soils and climate.

Some are perennials, others annuals. They may be found by the sea, in the woods, in swamps, or on dry hillsides. Some prefer sand, while others are most at home in heavy adobe. Even the highest alpine meadows are not without them.

The sum total of their value as food for stock on the range and stubble pastures must be very great as they are all palatable and nutritious.

It has also occurred to me many times that they must have an important bearing on the fertility of the soil, and this perhaps explains how we are able to grow a crop of oats year after year on the same land. After the oats is cut for hay we will find the stubble teeming with half a dozen or more species of these little clovers.

It is one of these that your correspondent wants to know about. This particular one, *Trifolium melananthum*, grows mostly in damp soil. It is an annual with a straggling habit, and will continue to grow so long as there is any moisture, even if grazed off several times during the spring or summer.

Pound for pound we would consider it equally as good as burr clover or alfalfa either for pasturage or hay for all classes of stock. We have never seen it growing anything like "nearly waist high" as described by your correspondent, and as the stems are very fine and the leaves abundant, the yield under such circumstances must be enormous. It will grow again if irrigated.

No seed can be secured on the market, and so it would be necessary to save your own seed. As the seeds are very small, ten pounds per acre would be ample. After the grain is drilled in, using about one-half the usual rate of seeding, the clover should be broadcasted on the surface and very lightly harrowed or brushed in.

We, of course, take it for granted that your desire to grow this clover in preference to alfalfa is because your soil and climate are not suitable to alfalfa. It is just possible, too, that you wish a short rotation.

County Horticultural Commissioner Knowlton advises that Kern County has 1100 acres of cotton. They have had no trouble in obtaining plenty of good pickers. The gin is running a capacity of about 10 bales per day. Under the supervision of the Department of Agriculture, Kern county is endeavoring to produce pure cotton seed, and this season has a nucleus for the production of enough seed for supplying all of the valley district.

The growing of cotton in commercial quantities in the San Joaquin valley is attracting hundreds of people to that section, many of whom are planning to plant the coming season. Comparative figures compiled by the California Products Company indicate that at least 30,000 acres will be planted next season in the territory between Bakersfield and Corcoran, as against 4000 acres last year.

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Crop Growing Without Irrigation

(By Hardy W. Campbell, Farm Advisor for Southern Pacific.)

I would urge double-disking before plowing; the cutting to be fully three inches. A tandem disk is preferable, but if you use a single disk, let it lap one-half each time around. Single disking is not desirable for two reasons: First—It does not sufficiently pulverize the top. Second—It leaves the surface uneven. It is preferred that this disking be done when the soil is slightly moist, but in no case when it is wet. The big advantage derived in preceding the plow with this disking is that you will be able to obtain a fine, as well as firm, condition in the bottom of the plowed field. It is very important in preparing for the crop, to make the lower half of the furrow absolutely fine and firm; even a slight defect there may cause a reduction of five or ten bushels per acre in the possible yield.

This lower stratum, or root bed should be fine so that it will take and hold water like a sponge, as it is nature's laboratory where her various elements, heat, air, and water, are combined, transformed and promoted into plant energy. To carry the necessary high percentage of water and low percentage of air, this soil should be fine and firm, under which condition the warm sun puts into active service millions of micro-organisms developing the desirable bacteria so necessary for that rank, healthy growth. I have seen hundreds of fields, in districts of light rainfall, where a portion was well disked before plowing and the balance plowed without disking, and have never failed to see a perceptible difference in favor of the disked part where all conditions were otherwise equal; in fact, I have seen results—two to one, in favor of having the under portion of the furrow fine and firm, the principal reason being its increased moisture retention.

Some Common Mistakes.

A somewhat common idea in farming without irrigation is to plow deep and then harrow the surface down again. Then, when it rains, harrow again. Now, following such work with the average heavy soils in California, if you cut down a square cross-section of the furrows to the bottom and remove the dirt from one side, you would find that your soil at the top would be ideal for your seed bed at the bottom, because of its fine condition; while the bottom soil would be better for the top, because of its coarse condition.

The specific condition above outlined is especially true in case the land is to be summer-tilled and planted to crop the following fall, because of the following detailed reasons.

Stored Moisture Should Develop Plant Food.

The too common idea of summer-fallow is to simply let the land rest. Please forget this, and turn your attention to the question of getting the soil into such condition that it will work all summer, improving in its physical condition, and increasing the available plant food, both of which will add bushels to your anticipated crop.

Soil Formation Important Item.

A loam soil with a little sand is the easiest soil from which to get this fine under-portion of the furrow, while the adobe is the hardest or most particular. Consequently, it is vital that

you study your soil and observe under what moisture condition it works best, to obtain the desired consistency.

Plowing.

Plowing should be done as much before the principal rains as possible, and for winter or spring seeding should be five to six inches deep, while plowing for summer-tilting may be six to seven inches. It is very desirable to have your furrows even in width and depth, mainly to guard against any possible loose places in the lower part of the furrow after it is turned over. With the top three inches loosened and somewhat fine, but by no means dust, then with good even plowing, we are working toward that vital, fine, firm seed and root bed.

Follow the Plow with the Disk.

Follow the plow closely with the disk harrow, with the disk set practically straight or one notch back and well weighted. Do not fail to weight it, equivalent to about 25 pounds to each disk blade, thus forcing the edge of the blades well into the furrow, filling the open spaces and settling the looser places.

It is desirable to follow the plow closely with the disk, or at the same time when plowing is done, if your power is sufficient.

Now, if you will carefully think over the whole process, you will note that our effort is to obtain a fine under-portion of the furrow with a coarse, loose or open top, and why we are so earnest on these points. Do not follow with the harrow. Leave this coarse, loose top for the next rain. If it is a good and somewhat prolonged rain, you will observe that it will go down quickly into the subsoil. On its way down, it will dissolve and more fully settle our seed and root bed.

The Spike-Tooth Harrow on Summer-Tilled Lands.

It is not desirable to use the spike-tooth harrow after the early winter rains, unless the rain is a very heavy one, but as spring, with its warmer weather approaches, cultivation should follow the rains before the top gets dry. For this cultivation the spike-tooth harrow should not be used too freely, as it has a tendency to make the top too fine. Should you be compelled to use the disk, do not cut too deep; a three-inch mulch should be the limit of depth during the spring months.

WHEAT FOR RICH LAND.

To the Editor: I have some rich irrigated ground on which I wish to sow wheat, but am afraid of rust and too much straw. Where can I get the Salt Lake Club referred to in your issue of Dec. 13 and how much should I sow?—R. B. W., Porterville.

"Salt Lake Club" is practically unknown in California. Little Club has done well in conditions similar to yours. Defiance wheat is considered rust-resistant if you can get the pure seed, which we doubt. Sonora is the chief variety grown in the rich irrigated Tulare lake bed. Sow about 100 pounds per acre and the wheat itself will show you whether more or less should be sown for following crops on your land.

IS CHICORY A PEST?

To the Editor: Is chicory a pest and hard to eradicate?—W. L. E., Philo. It is not troublesome where good cultivation is practiced. It is a perennial and has a fleshy root, but this does not survive after cutting off the crown deeply.

Fall River is to supply water for an irrigation district of 16,000 acres in Shasta county.

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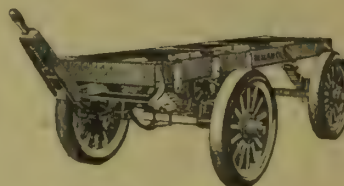
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8 new "Ground Hog" tractor disc plows specially designed for hard ground. Now at Oakland warehouse. Do not want to move them to our new plant at San Jose. (1-4 furrow, 2-5 furrow, 3-6 furrow, 2-8 furrow.)

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CALIFORNIA PLOW COMPANY

140 Polhemus Street, SAN JOSE

(Formerly Spalding-Robbins Plow Co.)

AGRICULTURAL NOTES.

Seven carloads of barley were shipped recently from Turlock to England.

The California Bean Growers' Association has begun upon a campaign for more members.

California stands second in rice production for the United States, being beaten only by Louisiana.

In Los Angeles district continued cold weather and rains last week held back cauliflower crop and the expected increase of supplies for shipment did not occur. Quality is fair.

In San Diego County the estimated acreage of peas is 600 acres, about a third of which will produce a very small inferior crop on account of lack of proper fertilization and care.

Libby, McNeil & Libby have bought 1289 acres of rich farming land in the northwestern section of San Joaquin County at \$300 an acre for agricultural uses, it is announced.

A Stanislaus farmer offered his beans at four stores in Modesto. He sold at four cents and stood around awhile. Some of those beans were sold to his neighbor at nine cents.

Cotton seed is now bringing \$63.50 per ton in the Palo Verde Valley. During the early part of the season the price of seed stood for some time at \$47. Later the price went up to \$50.

The past season 210 acres of rice were planted near Meridian, Santa Clara county, from which an average of 61 sacks to the acre were harvested. The experiment is regarded as a success.

Sheep owners in Yuba County have requested the Government to make an investigation into a poisonous composition in rice stubble which is killing sheep by the score in Yuba and Butte Counties.

American buyers are reported to be negotiating with the German Potash Syndicate for a supply of German potash. Indications are that Germany soon will deliver a large quantity of the fertilizer to the United States.

In the Los Angeles district recent cold weather has retarded development of the cabbage, reducing the available mature stock. The shortage has been augmented by growers holding for higher prices, refusing to cut. Buyers paid growers as high as \$70 per ton.

The tomato growers of Merced have organized the Merced Growers' Packing Association. The growers have made contracts to deliver to the association not only their early tomatoes, but also other kinds of vegetables grown by them, for packing and marketing.

The Merced and Stanislaus Sweet Potato Growers' Association, a non-profit, co-operative organization, has been incorporated. The concern is organized for the purpose of producing, preserving, drying and marketing sweet potatoes and other agricultural products. The principal place of business will be established at Turlock.

Luther Burbank has entered a contract with G. Imai, one of the leading silk producers of Japan, to perfect a mulberry tree superior to that in most general use at present. Burbank said a larger leaf of better quality was desired, and a tree of more rapid and compact growth, because for silk producing purposes it is cut back each year. He expects to have the new variety ready for use in four years.

We have learned more about the marketing of our honey in this last year than in all the years that have passed. When a thousand minds begin concentrating on ways and means to improve the marketing of their honey, there will be as marked changes along this end of their business as there was between the old box hive and the modern hive of today.—Honey Producers' Co-operative Exchange.

The yield of rice in the Oakdale district was from thirty-five to forty sacks per acre. Some of the local growers, as a result of their success the past season, are planning to double their acreage next year. Three years ago rice growers in this district

were forced to feed their rice to the hogs because they could not get an offer of more than \$1.70 per hundred, which was less than the cost of barley or other hog feed.

Secretary of State Frank C. Jordan, after a tour of the Northwest on behalf of a movement to memorialize Congress for importation of Chinese agricultural laborers, said he came back satisfied that sentiment in Washington and Oregon favors bringing in from the Orient the help absolutely necessary to secure the production so essential at this time.

Six officials of the United States Department of Agriculture, who are visiting the cotton fields of Fresno county, examined with especial care the crop of Pima cotton which is being grown at the Kearney vineyard. Dr. K. Kellerman and C. O. Cook of the party pronounced the cotton grown there to be of the very highest type in the United States. They said: "Recognizing the fact that the present high price of cotton will mean the planting of a large acreage in the San Joaquin valley this spring, the experts strongly emphasized the necessity of planting only one variety of cotton in any one district, if pure strains are to be maintained. Since cotton readily cross-pollinizes the planting of different varieties in close proximity would spell disaster to the industry."

A CHEAPER FLOUR OFFERED.

The United States Grain Corporation has arranged to have a cheaper flour thrown upon the domestic market. This flour is the export grade and in California is made of straight California wheat. The loaf made of this flour is not so white as the bread made of high patent, but as a food, it is considered just as palatable and nutritious.

The mills have consented to co-operate in the distribution on a basis which will allow a 49-lb. sack to sell at \$3.00, a 24½-lb. sack to sell at \$1.55 and a 10-lb. sack to sell at 65 cents.

All stores and retailers may obtain a supply by applying to the mills and agreeing to sell at the prescribed prices.

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Onions

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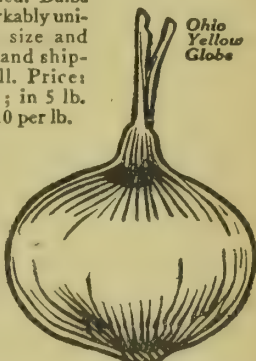
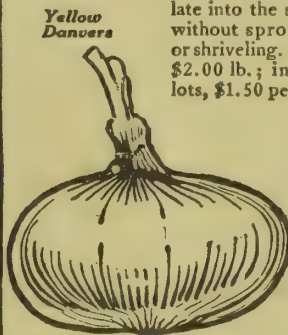
Right now is the time to get onion seed because the time of planting is at hand.

And remember: C.C. Morse & Co. are onion seed specialists. You can rely on Morse's seeds to grow and produce; true strain, soil-tested! Here are three varieties we particularly recommend:

Australian Brown, a very early, hardy variety; does well in California. Should be planted early on low, wet ground. Skin is thick; color rich brown. Keeps late into the spring without sprouting or shriveling. Price: \$2.00 lb.; in 5 lb. lots, \$1.50 per lb.

Ohio Yellow Globe is the best of the yellow varieties. Skin is bright, glossy orange-yellow; the flesh is white and fine-grained. Bulbs are remarkably uniform in size and shape; stand shipping well. Price: \$2.50 lb.; in 5 lb. lots, \$2.10 per lb.

Yellow Danvers is the best known of the yellow flat onions; extra hardy and a heavy yielder. Bright orange yellow; flesh white and firm. A standard market variety. Price: \$2.25 lb.; in 5 lb. lots, \$1.75 lb.



Order all your seeds from Morse at once and make ready for planting. Write today for quantity quotations on the seeds you need. Write today for the 1920 Garden guide, a practical manual of Pacific Coast planting. It will help you—and it's free. A post card mailed today brings it.

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THE BEAVER PORTABLE GASOLINE DRAG SAW



ALL MACHINES EQUIPPED WITH A REAL CLUTCH

CAPACITY 15 TO 30 CORDS PER DAY

INDISPENSABLE IF YOU HAVE WOOD TO CUT

ONE MAN CAN OPERATE

COSTS ABOUT 4¢ PER CORD TO OPERATE

OPERATES IN ANY KIND OF WEATHER AND AT ANY ANGLE

LIGHT STRONG FAST

ALL MACHINES SHIPPED OUT COMPLETE ALREADY TO OPERATE

Will Do Ten Men's Work at the Cost of Only One-quarter of One Man's Wages

HARRON, RICKARD & McCONE

SAN FRANCISCO
LOS ANGELES

Mechanical Power on the Farm

FEDERAL AID FOR MOTOR TRUCK HIGHWAYS.

Delayed in its program of good roads construction by the war and confronted at the end of that period by a condition of badly run-down highways, the Federal Government, co-operating with the highway departments of the several States, has resumed the vigorous prosecution of the work, and, says David F. Houston, Secretary of Agriculture, there is now no special obstacle to the construction, in the different States of the Union, of those roads which serve the greatest economic needs. In his annual report, Secretary-Houston says:

"Good roads are essential to the prosperity and well-being of urban and rural communities alike. They are prerequisite for the orderly and systematic marketing of farm products, for the establishment of satisfactory rural schools, and for the development of a richer and more attractive rural life. Recognizing these facts, the Federal Government, through the passage of the Federal aid road act in 1916, inaugurated a policy of direct financial participation in road building operation in the various States. This act appropriated \$75,000,000, to be matched by an equal amount from the States, for the construction of rural post roads over a period of five years, and \$10,000,000—\$1,000,000 a year for 10 years—for roads within or partly within the national forests. It required each State to have a responsible central highway commission with the requisite powers and funds. All the States have complied with the terms of the act, although it was necessary for them to enact additional legislation, or to amend their constitutions; to provide sufficient funds to match the Federal apportionment; and to strengthen existing central highway bodies or to create new agencies.

"When these preliminary steps had been practically completed and the department and the States were about ready to proceed vigorously with the actual construction of roads, the United States entered the war. It soon became necessary greatly to curtail highway building because of the difficulty of securing transportation, construction materials, and the requisite services. After the armistice was signed, arrangements promptly were made for the active resumption and vigorous prosecution of road work in all sections of the country, not only with a view to repair the damage wrought by the heavy traffic forced upon our highways during the war, when maintenance operations were seriously interfered with, but also to provide adequate transportation facilities to serve the increased needs of agriculture and industry. Recognizing also that road-building activities would furnish suitable employment for many unemployed men during the period of transition from war to peace, the Congress at its last session, accepting the recommendation of the Department of Agriculture, appropriated \$209,000,000, in addition to the \$85,000,000 provided by the original act, for the extension of road construction in co-operation with the States, and also made some important amendments to the act. The definition of the kind of roads that can be constructed was greatly broadened and the limitation on the Federal contribution for any one road was increased from \$10,000 to \$20,000 a mile. These amendments have greatly facilitated consideration of and action upon the road projects submitted by the State highway commissions. There is now no special obstacle to the construction, in the different States of the Union, of the roads which serve the greatest economic needs."

NEARLY 2,000 UTILITIES.

The annual report of the State Railroad Commission recently issued, tells of the filing with the commission of annual reports of 819 public utilities. These reports cover the financial activities of 62 steam railroads, 34 electric

railroads, 2 express companies, 25 water carriers, 75 electric companies, 27 gas companies, 13 gas and electric companies, 109 telephone companies, 3 telegraph companies, 7 telephone and telegraph companies, 306 water companies, 142 warehousemen and 14 wharfingers. Of the 819 utilities 96 were new public utilities. In addition there are about 1,000 auto transportation utilities under the commission's jurisdiction.

TRACTORS FOR VINEYARD SUBSOILING.

One reason some vineyardists do not buy tractors is that they have not left space to turn at the ends of the rows and so it is necessary to use a team. Sometimes it works the other way, particularly since we are learning how to do things, such as subsoiling vineyards and orchards. A tractor can pull a subsoiler and make turns with it as easily as it can operate with a plow, but it would take such a long string of horses to pull a subsoiler that they would usually have to telescope into one another when it came to turning in most vineyards. And yet, if a vineyard is better for subsoiling, what can be done about it if a tractor is not used? Modern methods demand right soil methods.

On the Pinkham-McKevitt ranch near Exeter, a 12-20 orchard tractor has been used very successfully for subsoiling on a mature vineyard planted on former hogwallow land, which is always underlaid by hardpan. As the outfit went along one could feel the subsoiler tremble as it went through the hardpan, some chunks of which were torn loose as big as a man could lift. Naturally, such hardpan in its natural condition could not be broken with such a small tractor, but it had been weakened by irrigation and the action of roots, also some dynamiting had been done. The benefits to the soil of breaking up such hardpan and the plowsole above it will be very evident.

The tractor self-evidently was not strong enough to do heavy work like this all at once, as the subsoiling was done at a depth of 24 to 26 inches, so the method used was to set it down about half-way and break up the ground that far down and later come along in the same track with the standard set full depth. In this way only 12 to 14 inches raw earth had to be broken at once. A much larger tractor could have done the work in one trip, but it would not be so convenient in turning. This machine could have made it in one trip, too, by going in low, but it was better to make two trips with it.

This tractor has also been used for leveling and has given great satisfaction. By putting a tractor to this use on a ranch, many more days' work a year can be gotten out of it. It moved far more dirt than two four-horse teams and used only approximately 12 gallons of distillate and one gallon of oil a day. Two men were used in scraping, though with some outfits one man can operate both tractor and scraper.

Although on many large fruit ranches where tractors do the heavy work horses are used for furrowing out for irrigation, this tractor is used for that purpose here. The depth of furrows might be the same in each instance, but the tractor moved along so rapidly and steadily that it gave entire satisfaction.

CALIFORNIA ELECTRIC DEVELOPMENT.

"California public utilities, both from an operating and financial point of view, present an outlook that, we believe, reflects favorably the work of the Commission," is the statement of the State Railroad Commission in reference to the figures compiled by its experts for the annual report. Pointing out that the utilities are going forward with development and construc-

tion work to meet the growing needs of the State, the Commission says:

"Hydro-electric companies have started new plants which will entail an expenditure of more than \$25,000,000. The construction work is being actively carried on and some plants will be in operation in 1920 and others in 1921. While an expenditure of \$25,000,000 may seem large, we are satisfied that it will not result in an over-production of hydro-electric energy. It will permit the suspension of the more costly generating of electric energy by steam plants, results in the saving of 2,000,000 to 2,500,000 barrels

of fuel oil and a material reduction in operating costs, all tending towards a development that ultimately will bring to the rate payer a maximum of service at a minimum of cost, the real aim of utility regulation."

A successful tractor user says it is a big mistake to wait until bearings get loose. He tests the end bearings occasionally by having a man jiggle a bar under the fly wheel at the rear and the fan pulley in front, while the operator keeps his fingers where the crankshaft emerges from the crank case.



Every Farmer's Truck and Automobile
Should Be Trailerized.

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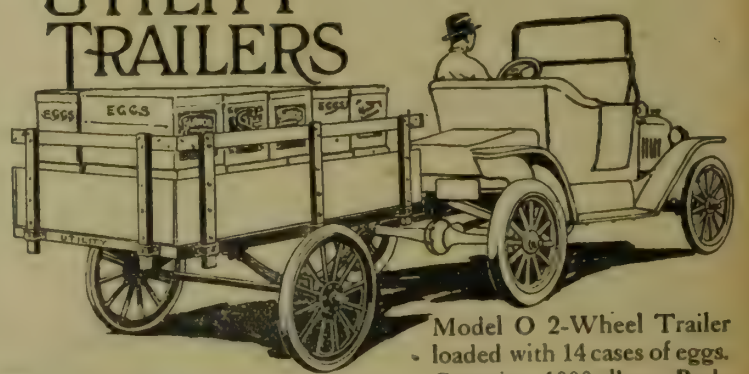
Will save you 50 per cent hauling costs.

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Capacity 1000 lbs. Body
4 x 6 feet.

"Test Special"

The Best Rubber Belt Made
USE THIS COUPON—MAIL TODAY

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Send me samples of Belting that you will
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REMOVING ORCHARD TREES EASY.

After Wells McGrady and Wm. Jones of Santa Clara county had grubbed out half a dozen cypress trees, it made them tired to look at a big one still remaining. So they bored a hole slanting to the center beneath the big tree's crown and shot a small piece of dynamite there. That made a hole which permitted them to drop a bundle of ten sticks where they would lift the tree. They were shot with fuse and they sure lifted the tree, making a hole big enough for a team of horses. 'Twas a lot easier and quicker and cheaper than grubbing.

Mr. Jones' prune trees had perhaps not received proper care all their lives. Anyhow they were set over a hardpan. Here and there throughout the orchard a tree died or was going to die two years ago when Mr. Jones undertook to improve the orchard. About 125 that needed replacement were dynamited out in the fall and new trees were planted in the same holes during the winter. It was found in replanting that the dirt had not yet settled enough and there were great air spaces underneath. Water and tamping filled these, and the new trees were not hampered by the hard layer, which had been well broken through. They are doing well now though they have had no irrigation in these dry years.

The auger is about five feet long and an inch and a half in diameter. This is sufficient to place a stick of 25 per cent dynamite under each tree and low enough down to break the hard layer. Some trees needed two sticks; but less would be used if it were placed as close as possible under the crowns so it would exert full force on the tree.

HOW BIG A PULLEY TO USE.

To the Editor: How do you figure the size of belt wheels for various machines. Say the engine runs 1200 revolutions per minute and the machine should run 3000 r.p.m. If the engine pulley is 10 inches in diameter, how big should the machine pulley be? Please give us a formula to use on any machine.—M. P., El Centro.

Let D equal the diameter of the drive pulley (on the engine) and d equal the diameter of the driven pulley (on the machine). Let S equal speed of the engine pulley and s equal speed of the machine pulley in revolutions per minute. Then D multiplied by S equals d multiplied by s. Substituting your figures for our letters, 10 multiplied by 1200 equals d multiplied by 3000. Divide both sides of the equation by 3,000 and we find that d equals 4. Therefore the diameter of your driven pulley should be four inches.

SUBSOILED FOR POTATOES.

Potatoes were yielding about 30 sacks per acre for Geo. Trapp of Los Angeles County, while neighbors around him were getting more than three times as much. To make them produce better, Mr. Trapp last fall hitched a 20-35 tractor to a three-standard subsoiler and broke up the hardpan on about 30 acres, loosening the dirt about 24 inches deep by cuts 20 inches apart, according to C. J. Webb, who drove the machine. It took three days to subsoil the 30 acres, using 20 to 25 gallons of distillate per ten hours. After this the soil took twice as much water; and doubtless the admission of air and water under the plowpan will permit bacterial action to make more plant food available for the roots which will be permitted to get to it.

BELT HORSEPOWER OF TRACTOR.

To the Editor: What relative horsepower can be expected from a tractor rated 8-16 for running machinery at high speed from belt, compared with a 12 horsepower stationary gas engine.—W. L. E., Philo.

If the tractor manufacturer has given you a correct rating and if the engine is in normal good condition, it develops 16 horsepower on the belt, which is a third more than the sta-

tionary engine, if the latter is correctly rated. For high speed machinery you will have to use belt wheels of diameter proportionate to the speeds of the engine and machine.

RAIN DROPS ON THE WINDSHIELD.

'Twas a nerve-racking drive through the showers on a black night. Every machine we met blurred the whole road with its light in a way that we had never experienced before. Never had the whole road been so obliterated from sight by the electric lamps hanging over bridges and curves and crossings. After fifty or sixty miles of this, the rain drops on the windshield were rubbed so they ran down freely. Then the driving was easy and the lights had no more blinding effect than on any night. The globular shape of the rain drops clinging to the glass had scattered the rays of light from approaching machines so that they blinded our eyes. Don't let rain drops cling to the windshield at night.



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LAYNE & BOWLER PUMPS

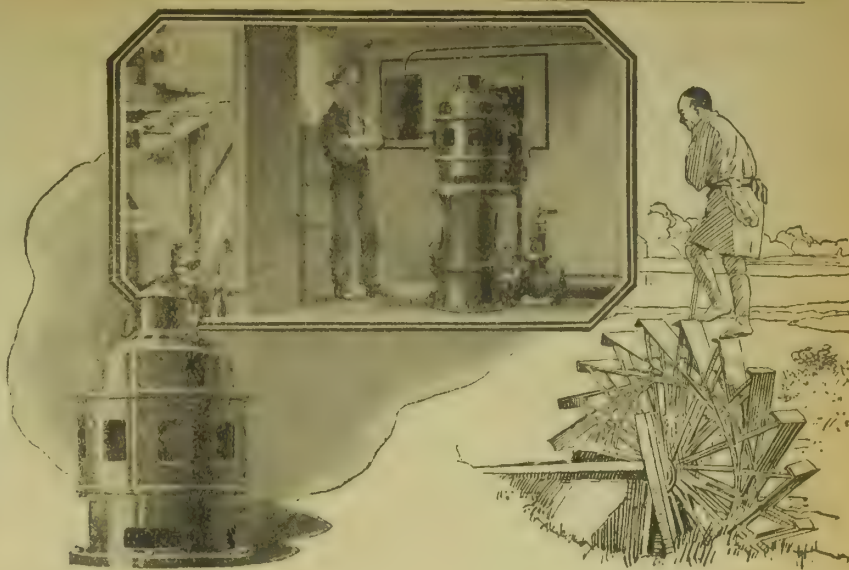
For more than a quarter of a century Layne & Bowler engineers have studied the irrigator's need. This long experience is reflected in the new models now available.

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Single Phase Motor
25 Horsepower

One Manpower — 1/6 H.P.

Pumping 1,000 Gallons per Minute

This installation of a Vertical GE Motor connected to a Deep-Well Turbine Pump is operating at 1150 R. P. M. and pumps 1000 gallons per minute from a well 50 ft. deep and 12 inches in diameter.

This one pump installed on a ranch at Santa Clara, Calif., is of ample capacity to irrigate 40 acres of prunes and in fact could easily supply 50 to 60 acres.

When selecting motors it is always well to remember cost is not price in the beginning, but cost in the long run.

The electric way is the modern way—the proven economical way.

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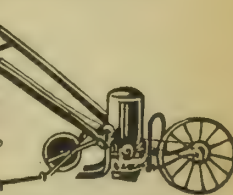
GARDEN TOOLS



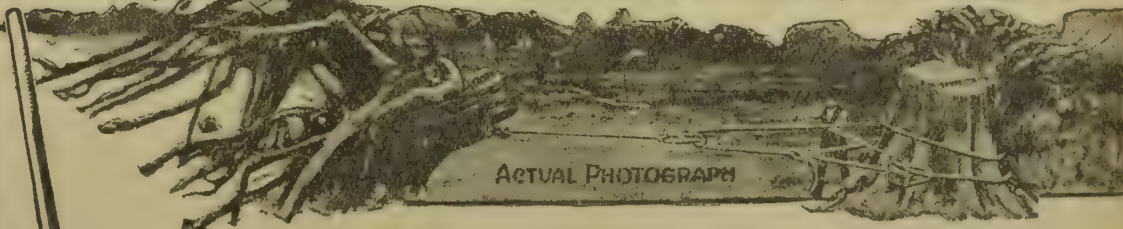
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ACTUAL PHOTOGRAPH

GRASP the OPPORTUNITY and put DOLLARS in your pocket by clearing stump land. Stump land was never so valuable as it is TODAY. The "K" Stump Puller will do the work in less time and the least expense. One man or woman with a "K" can outpull 16 large horses. One person single-handed can pull from 50 to 150 stumps per day.

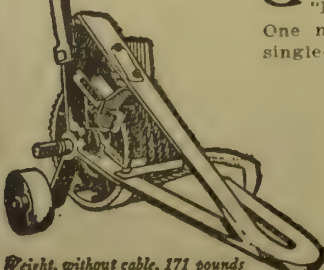
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No stump too big for the "K"

works by leverage—same principle as a jack—one man can lift or pull 48 tons alone. Works easy as rowing a boat. Works on hillside or marshes where horses cannot operate. Has 2 speeds and weighs 171 pounds. Made of the best steel. Absolutely guaranteed against breakage. Endorsed by U. S. Government officials. Highest bank references.

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Weight, without cable, 171 pounds

Is Dairying on Increase in California?

(Written for Pacific Rural Press.)

We hear before us the figures on the dairy industry in California for the fiscal years ending September 30, 1918 and 1919. On the whole we can answer the above question in the affirmative without chance of denial. The number of pounds of butter produced last year was greater by two million pounds than in the year immediately previous and cheese increased almost exactly the same amount. The percentage of increase, however, was much greater in cheese than in butter as butter only increased 3.4 per cent while the cheese total was over 18 per cent greater in 1919 than in 1918.

Why cheese should have increased more or a larger percentage must be due to a better price to be obtained for the "trap bait" than for the biscuit lubricant. We find, however, when we come to compare the prices of butter and cheese month by month throughout the two years that it is not until the last part of 1919 that the price of cheese crept up on that of butter. During the months of July, August and September cheese was somewhat more than half the price of butter, but throughout the other 21 months it ran along just about half the price of butter. When butter rose a point cheese would respond with a half, and when one went down the other followed suit, and it seems that the "trap bait" took a majority of the tricks.

This condition of affairs is rather difficult to explain from our point of view. Many of us are fond of cheese, but the retail price has been so high that we could not afford to buy it as a regular article of diet, but considered it a luxury. Butter on the other hand we look upon as a necessity and must have on our tables at all times. The question seems hard to answer when viewed in this way. Cheese, the luxury, increasing 18 per cent in volume in one year and butter, the necessity, only 3.4 per cent.

The best we can do is to advance a theory. Butter had competition while cheese had not. Some will say that the competition in the butter was not very strong because oleomargarine is not used on many tables when the whole is considered. That perhaps is true, but the place of butter has been usurped by many other things than the oleos—peanut butter and other preparations of like nature; corn oil, cottonseed oil, peanut oil and combinations of vegetable oils and animal fats that are used for shortening and other ways in cooking that the housewife in times past thought nothing so good as butter. We think she was right, too, but the substitute will answer and is cheaper therefore in these times of H. C. L. butter is saved for the table. It is saved for the table not altogether by the housewife, but by the baker and confectioner who found the substitutes for butter cheaper and for 99 per cent of their trade answer just as well.

Therefore, when butter found its place partly taken, it calmly stepped from the cream separator to the cheese vat, and instead of being used as a lubricant for 17-cent bread, became the appetizing partially digested food that is known in various forms but for all that is cheese. As long as the price of the cheese remained where it did, and it even gained, the milk continued to be enamored by the cheese vat and forsook his former dizzy companion, the cream separator.

Some will ask, "But has not cheese had competition also?" Hardly. No one has as yet, to the writer's knowledge, at least, found a substitute for cheese. To be sure, we have a substitute for the genuine Swiss cheese manufactured from goats' milk in the imitation made from cows' milk. It is a very good imitation, too—so good, in fact, that many never have tasted the genuine article. The cheddar cheese that we all know so well has seldom been imitated although years ago in the great dairy regions tributary to Chicago, Miss Butter undertook to sneak out of the cheese vat by the connivance of her then new attraction, the cream separator, and leave in her stead a lard compound,

and the cheese resulting from this combination of skim-milk and "Neutral oil" was known as "filled cheese." The practice was soon forbidden by law although the product was not distasteful to many cheese lovers.

A few words more on this subject of competition before we leave it for the drier and not so malodorous fields of statistics. Who do you think has ever been able to find a substitute for Limburger cheese? It certainly would be a brave man who would make the attempt for he might find a combination that would equal the most dangerous gas used in the late war. Brick cheese also would not be easy to imitate. Neither would Brie, Camembert, Stilton, Edam, Roquefort, or any of the numerous and delicate flavored milk coagulations of which many people are fond and are willing to pay a high price for.

There are other phases of the subject that show the inroads of the butter substitutes. From 1910 to 1916 the production of butter steadily increased from 46 million pounds to 70 million pounds, then fell to a little over 60 million pounds in 1918, and now has increased again to about 62½ million pounds yearly.

Cheese on the other hand started in 1910 and 1911 with somewhat over 4½ million pounds and has gradually climbed until the past year it made a big jump of almost 2 million pounds in one year, because people would have a certain amount of it and could pay the price. They could use a substitute for butter in some cases and the butter could be made into cheese profitably, which therefore was done. Perhaps this is not the reason for the higher percentage of increase in cheese, but it certainly looks possible.

WHY CHESTER WHITES?

The kind of hog that is always ready for market and still, if grown to maturity, becomes enormous in size—is a good grazer, and therefore makes good use of the alfalfa you are raising by harvesting, grinding and feeding at one operation. This is a great point in the good grazing qualities of hogs. They do not bloat, and with a little grain make good gains on alfalfa pasture, especially the kind that Lea Bleakmore raises on the Oak Knoll Ranch at Lakeport in Lake County. The pigs are long, straight and compact, retaining this form throughout their growth, always being right in conformation for market if fed properly, and this breed will endure as much improper

It might not be uninteresting to consider the dairy production by counties for the past two years. Humboldt, that for years was the banner dairy county of the State and is still a wonderful region in this respect—the butter production for this county was safely over the 5-million-pound mark by 1918 and almost reached the 6-million mark this last year. In cheese we find an increase of almost 800,000 pounds. Here is one locality, while increasing in butter, helped make the big jump in cheese production in the State.

Stanislaus this year is the banner county in both butter and cheese. Some of the butter stepped over into the cheese vat, for the total yield of butter was somewhat less and the cheese increased over 600,000 pounds. Truly a great change from a vast grain field of years ago to a region of alfalfa, dairying and orchards.

Santa Clara county, that is always

CALIFORNIA DAIRYING GOES OVER THE TOP.

The statistics following have been furnished the Pacific Rural Press by the Dairy Bureau of the California Department of Agriculture:

Butter Produced During Years Ending September 30, 1918-1919.

	1918	1919
	pounds	pounds
Alameda	315,472	1,079,352
Amador	84,618	13,493
Butte	1,476,721	1,042,122
Calaveras	79,433	172,073
Colusa	594,752	491,180
Contra Costa	385,559	577,332
Del Norte	829,207	1,200,187
El Dorado	182,189	201,330
Fresno	3,424,264	3,225,042
Glenn	1,255,099	875,508
Humboldt	5,717,406	5,906,635
Imperial	5,154,808	5,190,848
Inyo	275,230	264,138
Kern	922,355	849,723
Kings	4,586,918	4,729,244
Lake	6,000	52,111
Lassen	331,746	226,380
Los Angeles	39,551	68,937
Madera	376,284	54,303
Marin	2,800,521	3,658,580
Mendocino	320,626	700,566
Merced	4,094,433	3,463,603
Modoc	188,014	146,994
Mono	1,000	
Monterey	607,204	553,345
Napa	146,489	359,090
Nevada	133,132	145,043
Placer	32,389	270,677
Plumas	76,658	43,000
Riverside	59,625	
Sacramento	1,082,340	920,840
San Benito	246,994	234,906
San Bernardino	23,043	2,230
San Diego	161,259	206,938
San Francisco		968,987
San Joaquin	1,463,564	1,682,393
San Luis Obispo	1,712,394	2,020,940
San Mateo	154,031	350,416
Santa Barbara	358,183	343,274
Santa Clara	206,989	308,482
Santa Cruz	166,828	353,491
Shasta	62,773	78,546
Sierra	167,929	179,730
Siskiyou	1,511,999	711,137
Solano	487,300	731,510
Sonoma	2,780,826	3,631,596
Stanislaus	8,023,788	7,846,382
Sutter	656,041	665,284
Tehama	404,729	373,462
Tulare	5,100,155	4,727,314
Yolo	918,783	1,075,359
Yuba	160,384	220,107

60,358,595 62,449,004

BUTTER AND CHEESE PRICES FOR 10 YEARS.

The following are the average prices of butter and cheese in San Francisco for the ten years ending Sept. 30, 1919.

	Butter cents	Cheese cents
1910	31.30	15.60
1911	28.00	14.50
1912	30.77	15.46
1913	32.12	16.06
1914	27.61	15.79
1915	28.70	14.10
1916	27.39	15.54
1917	37.07	19.78
1918	45.07	23.38
1919	55.66	28.75

STATE'S BUTTER PRODUCTION FOR 10 YEARS.

The following is the butter production for the last ten years as reported by producers:

	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
	45,989,140	50,330,736	54,910,886	55,542,709	59,286,400	67,549,400	70,030,174	68,373,021	60,358,595	62,449,004

STATE'S CHEESE PRODUCTION FOR 10 YEARS.

The following is the cheese production for the last ten years:

	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
	4,648,348	4,040,491	4,785,617	5,600,972	6,016,815	6,249,755	7,745,124	9,236,663	9,795,974	11,600,138

ANNUAL VALUE OF DAIRY PRODUCTS—1919.

Butter, 62,449,004 pounds	\$34,747,983
Cheese, 11,600,138 pounds	3,335,040
Condensed, evaporated and powdered milk, 74,901,238 lbs.	10,111,667
Casein, 2,963,766 pounds	400,108
Milk sugar, 1,907,174 pounds	685,583
Market milk, cream and ice cream	22,484,000
Calves produced on dairies	1,500,000
Skim milk and buttermilk	1,250,000
Total value dairy products 1918	\$64,428,056
	\$74,615,381



Chester-White Pigs, Oak Knoll Farms. Note smoothness and symmetry.

feeding as any breed on earth. Just the kind of a hog for the farmer who wants to utilize his alfalfa and waste grain or who wants to make a busi-

ness of raising hogs, and Lea Bleakmore has 'em. Ask him, and he will tell you how good they are, but it won't be better than they are.

looked upon as a prune county, last year produced more cheese than any other county in the State this year, fell to third place, due to a decrease in production on her part and an increase in the two first counties mentioned. Her butter production is negligible, however.

Imperial county is said to have plowed up her alfalfa fields and is off flirting with King Cotton and the cultured cantaloupe, but the butter production is only a little less than that of Humboldt. It is just possible that the alfalfa from the fields that were plowed up never was fed to dairy cows, but was shipped instead. The cheese production is comparatively small, but increased one-third the past year.

Tulare county lost out on her 5 million-pound butter mark of last year and also dropped back slightly in cheese although this is a very small factor in the county's dairy produc-

tion.

Kings County, that is noted for many fine hogs, also has cows enough to produce over 4½ million pounds of butter this year and is increasing.

Fresno does not mix quite so much butter with the raisins this year, but has made a little more cheese.

Altogether, from these figures it would certainly indicate a growing industry from the production standpoint and the value of the dairy products, including the butter, cheese, condensed milk, and other material, is over 20 million dollars greater than last year, certainly some "going" business to jump from 54 millions to 74 millions in one little short year and in many parts a drouthy year at that.

Fifty million pounds of beet sugar is being shipped into territory east of Pittsburg and Buffalo and north of Virginia, it has been announced by the sugar equalization board.

GREATEST OFFERING OF Duroc-Jerseys

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PUBLIC SALE Wednesday, January 28, 1920

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40

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sows sired by the breed's most
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They will prove
valuable assets
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The greatest living son of Mammoth Sensation, the largest 2-year-old boar that ever lived.

GREAT SENSATION 2ND

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10 Two-year-old and Senior Yearlings

by Model Chief 2nd, Model Triumph and Councilor. Bred to Ace of Pathfinders, Mammoth Sensation, Jr., California's Great Wonder, Orion Reformer.

10 Yearling Sows

by Pathfinder, Great Wonder I Am, Pathfinder's Wonder, A Top Pathfinder and Creator. Bred to Ace of Pathfinders, Mammoth Sensation, Jr., Great Sensation 2nd.

10 Fall Gilts

by Bark's Premier Gano, King's Col., Golden Col. and Creator. Bred to Ace of Pathfinders, Mammoth Sensation, Jr., Great Sensation 2nd.

10 Spring Gilts

by California's Great Wonder. Bred to Ace of Pathfinders, Mammoth Sensation, Jr., Great Sensation 2nd.

These sows are either winners or their sires and dams have been winners at the leading Fairs and Expositions, both East and West

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CHOLERA-
IMMUNE**

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WALTER T. GATTON, Supt. Swine Dept.

What Has 1920 in Store for Stockmen?

(Written for Pacific Rural Press by Thos. F. McConnell.)

"It is very easy for the optimist or pessimist to say that the future is all rosy or that peculiar blue color that is supposed to represent a condition of coming disaster, but it is as hard for one to prove he is right as it is for the other. However, it cannot do anyone any good to dwell on the pessimistic side of the question if there is one. We are not going to admit there is such a side until compelled by actual circumstances to do so. We do not believe there is anything at present to cause anything but optimism for the future of the livestock business in this greatest of all livestock states-to-be.

We would hardly call him a wise man that would lament over any adverse circumstances of the past. What is the use of "crying over spilt milk" if there was any spilled, which we very much doubt. If there was not any spilled then why are we to think there will be in the future. It is true that some things are lower than they were a year ago, but there is not so very much difference in others. It is impossible for market hogs to always be worth twenty dollars a hundred-weight like they were in August, and cattle only ten dollars. If that was the case for any length of time every one would be raising hogs, and cattle would disappear.

Now we hear swine growers express themselves very freely about the price of hogs and the price of feed, saying that the hogs will have to go if there is not a change some way. It is not to be supposed that men will continue to raise hogs for fifteen dollars a hundred with barley seventy-five dollars a ton and other feeds in proportion, but the fellows who stay in the business are the ones who will reap the benefit of profitable prices for hogs or dairy products or beef cattle. The man that stays by his business reduces the losses to a minimum by good management during the periods where the price of feed is too high for the price obtained for the product. These periods are the ones that really discover the true stockman.

Horses Are Higher.

There really is an improvement in the horse situation. The horsemen who have stayed in the business report a brisk demand for breeding stock. The number of mares bred during 1918 was the lowest in the history of the business in California. While there are no available figures to prove this statement, it is a self-evident fact that needs no demonstration to those who are and have been in close touch with the situation.

According to the estimates given in the table based on figures published by the U. S. Dep't of Agriculture the number of horses in California in December, 1919, is 11,000 less than in the same month 1918, but the value is increased by over 1½ millions of dollars. The low value animals, "chicken" horses, etc., have disappeared and those that are left are good, and those interested are awakening to the fact that we need horses yet and that the local supply is not equal to the demand.

There is another reason for a stiffening in the demand for draft horses and that is the European situation. England and Scotland have already taken some draft horses, with Belgium asking for some of her own good drafters to replace those taken by the "unspeakable Hun." To just what extent this trade may be developed is an unsolved problem.

Mules Are Good Property.

Like the horses the mules are estimated to be less in number, but those that are left are worth more than those of a year ago. Two thousand less in number, but they are worth over one hundred thousand dollars more than they were a year ago. Good large mules will be needed for years to come, and this will be another factor that will help the horse business because we cannot have good big mules without good-sized mares for dams. It will be many a long year before a good span of 1200-

pound mules will not bring "good" money.

Dairy Cows "Coming Up."

The "foster mother" of the world is certainly coming "into her own" in California. She is in the spotlight to an extent that would make the most beautiful and popular "movie" actress green with envy. What with Civic Leaguers, Boards of Health, various District Attorneys, "the Centralizers," the State Dairy Council, and last but not least "the Associated Dairymen of California, Inc.," all advertising bossy cow and her product, is it any wonder that she should get vain notions as to her value and do the enhancing stunt until her aggregate value this year is over 12 millions of dollars greater than it was last, with the end not yet in sight?

In the dairy cows we find the numbers increased by about 16,000 the past year. Not only are the numbers increased but the estimated average value per head has advanced about twenty-three dollars, so that a man who owned 100 head of good dairy cows in December, 1918, had his investment increase in value \$2300 without any effort on his part other than that of the good care necessary for good production. It seems as though he must be a very lucky man, but with alfalfa hay worth \$25 a ton in the stack and milkers asking more money all the time the roses in his pathway have most of the thorns on them.

Butter started in at 67 cents during the first week of 1919, but in six weeks had fallen to 44½, or lower on the San Francisco market. From this low point it recovered to a point better than 50 cents and at present is around 65 cents, which is about equal to the price of a year ago.

Beef Cattle Are Holding Their Own.

Market beef cattle commenced the year of 1919 at a fair value in comparison with the other meat producers, the top steers being about equal to the best of the lambs in the San Francisco market but somewhat behind the top hogs. The steers held their own fairly well up to the first of April, when the annual flood began and the price commenced to drop. By the first of July the best steers were down to almost ten cents in the Coast markets, including Portland and Los Angeles. From this time the price remained stationary until about the first of November when it began to stiffen a little, although no spectacular rise has taken place.

The number of beef cattle in California at this time according to our estimates is slightly larger than a year ago, but owing to the depression of prices the total value is a little less. This includes all beef cattle from a market viewpoint.

The purebred business at this time is on as firm a footing in California and the country at large as it ever was. Top cattle are bringing, on the whole, as high prices as ever before in the history of the business as is shown by the prices obtained at the auction sales and private treaty. This is as it should be, too, for the South American trade is calling for purebred cattle in large numbers. The Brazilian government estimates their country will need 12,000 bulls annually for the next ten years and has recommended government assistance to purchase that many. It is just a matter of going after and getting the business, and right here is where a strong organization like the California Cattlemen's Association ought to and is going to be of great value.

Sheep Are Good Property.

They have been such good property that one prominent sheep man said last May that it excelled all others not of a speculative nature. He claimed that he could take a definite sum of money and by investing it in sheep would get better returns than any one else could in any other line of business. We will admit he was somewhat like the stone-mason, carpenter and tanner that were appointed as a committee to decide on the best

material with which to construct fortifications about their city in ancient times and each one declared positively in favor of the material with which he was most intimate, even to the tanner who declared "there was nothing like leather." Granted the sheep man was prejudiced in favor of his woolly favorites, the fact remains that the sheep business has been a good one in the past few years, and while it like all other lines of business has its ups and downs the future outlook is excellent.

The same sheep man mentioned above stated he had sold wool for 4 and 6 cents per pound, with lambs bringing 6 "bits" a head; this last spring his wool brought 56 cents and lambs no better than the cheap ones for \$9 apiece.

The estimated number of sheep has increased slightly during the past year but the total value is less by a very small margin.

The market price of lambs has decreased very slowly during the past 12 months, being at the present time about 1½ cents lower than a year ago.

The wool situation is rather mixed, with some grades selling strong and others not moving at all. The grade that is bringing the top price is a fine delaine and combing, with fine clothing and coarse wools very slow. People are buying the finest cassimeres and worsteds and are willing to pay almost any price as long as they can get what they want.

Taken from all viewpoints the sheep men are in as good a situation as any of the livestock men and the outlook is encouraging, especially for the good grades of mutton and wool.

Swine Are Spectacular.


Hogs have attained the highest price in the markets of the world the past year ever known in the business. If feed had not been so high most of the swine raisers of California would have been millionaires this fall. For all of this handicap, however, where they raised their own feed and had alfalfa pasture to help out they were in a position to boost the auto business right along with Henry Ford eliminated.

The first of the year saw market hogs bringing a good price, which continued without variation until about the first of March when the demand stiffened and from then on until the first two weeks in August when the zenith was reached in the San Francisco market with top hogs bringing \$20.50 per hundred-weight. From this time on the price dropped until the first week in November, when 13 cents was paid in San Francisco. This was the low mark of the year. The price advanced to 16 cents, but broke sharply the third week in December due to the unloading of a large number of hogs at this time because feed continued to advance and feeders could not stand the pressure.

The purebred side of the business has felt the influence of the drop, it is thought by some, but first-class gilts and sows continue to bring good prices.

Taken altogether, the livestock situation is far from being a discouraging one. A country as large as this has become with the methods of communication so good, our manufactures increasing by leaps and bounds, the demand for food stuffs must hold up. Milk and its products, meats, woolen clothing and shoes all in great demand, the outlook cannot help but be good. People will grumble at the prices they have to pay, but until they stop buying autos and going to theatres and the "movies" they will continue to buy food and clothing.

A. J. Elliott of Tulare has sold to R. F. Guerin, of Visalia, a high grade Poland-China gilt, and two others to the Bakersfield Boys' Pig Club, one for \$300 and one for \$150. At the county Poland-China breeders' sale at Tulare, February 6, Mr. Elliott will consign nine young sows, all bred to the famous Poland-China boar, "The Californian."



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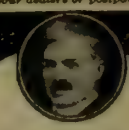
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Livestock Queries and Replies

(Written for Pacific Rural Press.)

Warts on Pigs.

To the Editor: Will you please advise me what to do for my pigs? They have what I believe to be warts; it shows mostly on the neck and ears, and some of them also have it very badly on their legs, covering their entire hams and tail. It seems to give them an itch for they are always scratching themselves. They are bothered with this scale or wart for at least two months. Their appetites are, and always have been good, but their growth has been stunted greatly, in fact, some of them are losing in weight, for their affected parts are full of wrinkles. Have dipped them twice, according to directions for scale with a coal tar dip, but without success, as the warts still seem to be thick and fast as ever.—J. P. N., Cuyucos.

(Answered by Dr. E. J. Creeley.)

Nothing will cause an animal to lose flesh like an irritation from parasitic infections of the skin. Mange was exceedingly prevalent in France among the remounts of the Allies. Everything ever known was tried without avail, until the following process was adopted:

Unslaked lime 8 lbs.
Sulphur Flowers 22½ lbs.
Water 30 gals.

Boil 2 hours until you get a chocolate colored mixture, then add 60 gals. water. A dipping vat is filled with the mixture, and every 5th day the animals were dipped. The temperature of the mixture must be between 105 to 110 deg. Fahrenheit while the animals are being dipped.

Every animal was completely cured in a few dippings and it did not return. Your pens and fences are full of the parasites, and you must exercise just as much care in disinfecting the surroundings as in disinfecting the animal's body, otherwise after curing the pigs they become reinfected.

Toggenburg Has Cough.

To the Editor: I have a Toggenburg doe that I purchased recently. She has a dry cough, and has had it ever since I have had her. She grinds her teeth between coughs. I thought a cough uncommon to goats. Can you tell me of anything to do for her? I was told to give her oil-of-tar, which did, but it did not seem to help her much. Do you think she can be affected? And would her milk be good to use? Hoping to see an answer in your paper soon, and oblige.—Mrs. F. A. L., Hollister.

(Answered by Dr. E. J. Creeley.)

Chronic Laryngitis.

Gritting the teeth would indicate a foreign body. I would advise the following treatment: Inhalation of Vapo-cresoline in a small closed room for 4 hours daily. Give 1 ounce of white mineral oil once daily. Apply a good liniment outside the throat once daily, and give the following electuary twice daily:

Pulv. Belladonna leaves ½ ounce
Pulv. Liquorice root 4 ounces
Pulv. chlorate potash 1 ounce
Pulv. camphor ½ ounce
Black molasses 8 ounces

Mix thoroughly, and spread on tongue with a flat stick, one tablespoonful twice daily. Moisten all food. Please report progress after 10 days' treatment.

Horse Has Open Joint.

To the Editor: I have a mare which I believe has an open joint, caused by a kick in the elbow. It discharges continuously a thin, serous fluid, amber colored. The inflammation and swelling have subsided considerably, and the opening is small. Have clipped the hair and shaved the edges of the opening, and have tried to form

a gelatinous plug with Monsell's Solution. Am now using Gum Arabic, Boracic Acid, and Alum, equal parts, as a dusting powder. I am keeping her as quiet as possible, but of course am not able to keep her from using the joint altogether. Would a sublimate bogie, or actual cautery help, and what are the chances of recovery?—L. V. N., Spyrock.

(Answered by Dr. E. J. Creeley.)

Apply a strong blister around the opening, and apply directly into the wound, Lugol's solution of Iodine once daily. Apply vaseline below the wound, so the hair will not be removed by the discharge. The blister should be as follows:

Simple cerate 1½ ounces
Biniodide Mercury 4 drachms
Lanoline 1½ ounce

Mix and apply with plenty of friction. Clip the hair over area to be blistered. Prognosis very grave if lameness is severe.

Horse Has Stomach Worms.

To the Editor: I have a horse that has large stomach worms. Send me your best remedy for the same.—G. W. B., Sacramento.

(Answered by Dr. E. J. Creeley.)

Turpentine 2 ounces
Pearson's Creoline 1 ounce
Extract Male Fern 1 drachm
Kamala 4 drachms
Raw Linseed Oil 20 ounces

Mix and give after 24 hours absolute starvation. Do not expect results without the 24 hours' absolute starvation.

Warty Eruptions on Udder.

To the Editor: I have a cow that has warty flat eruptions on her udder, just above the teats. They are dry, and while giving no pain, may be an injury. They are flat, dry, and rough, like a scab. Can they be cured?—S. B. B., Guerneville, Calif.

(Answered by Dr. E. J. Creeley.)

Apply Fowler's Solution Arsenic to growths once daily for 1 month. Report results at the end of that time.

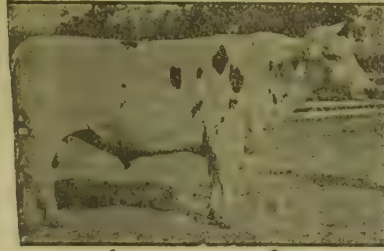
BEWARE THE FOOT-AND-MOUTH DISEASE.

A recent outbreak of foot-and-mouth disease in England, now believed to be confined to the immediate neighborhood, is cited by officials of the Bureau of Animal Industry, United States Department of Agriculture, as an illustration of the virulence of the malady and how the most aggressive steps toward its control are necessary. The experience in England is a reminder of similar outbreaks in the United States. This country is now free from the disease, but all persons are urged to be eternally on guard and ready to report any suspicious cases to Government officials.

Four days after the disease was reported on a farm adjoining a repatriation camp at Littlethorpe, England, to which the farmer was daily selling milk, the malady has spread to two adjoining farms, and in a few more days had appeared in 17 places in the neighborhood. The infection was carried by visitors, by butchers who slaughtered the diseased and exposed cattle, and in one instance by a veterinarian whose clients owned infected cattle. The disease is thought to have been brought to the neighborhood by soldiers returning to the repatriation camp from France and Germany.

As soon as the disease was confirmed on January 9 by the Board of Agriculture of Great Britain, an area of 30 miles surrounding the infected district was quarantined, and no animals or straw, fodder, hay, manure or similar products were allowed to move in or out of the quarantined territory.

Large Production and Fine Type



are combined in the get of
**PRINCE RIVERSIDE
WALKER**

Aggie Acme of Riverside 2nd and Miss Valley Mead De Kol Walker, his two sisters, made the highest official yearly butter record and the highest butter record for three-year-olds, respectively, for 1917-18. His get won first prize at Sacramento last year. We are breeding his daughters to

King Korndyke Pontiac 20th

our young \$6,500 sire, whose great individuality, fine type, and backing of an unbroken line of great producing dams are hard to beat. Come and see the result of this breeding, or write us for further particulars.

Our Entire Herd is Tuberculin Tested.

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A Practical Treatise on Hog Raising in California

By **W. S. Guilford**

Director of Agriculture, Sacramento Valley Irrigation
Company and Practical Swine Breeder

First Edition—1916

256 pages of text; 31 pages half-tone engravings besides
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The author has had large personal experience in hog breeding, besides the opportunity of observing many plants in this and other States. He has brought together a wealth of practical and scientific information concerning the hog, its anatomy, the breeding, feeding, marketing, as well as diseases and remedies.

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Livestock and Dairy Notes

SALES DATES, 1920.

Jan. 10th—Fred Gatewood, Poland-Chinas, Fresno.
Jan. 13th—Glenn County Poland-China Breeders' Ass'n Sale, Orland.
Jan. 14th—California Duroc Association, breed sows, Davis.
Jan. 15th—Harvey M. Berglund, Duroc-Jerseys, Dixon.
Jan. 17th—Bassett-Ross-Crawshaw, Poland-Chinas, Hanford.
Jan. 24th—H. D. McCune, Poland-Chinas, Hanford.
Jan. 26th—Chas. Gatewood Poland-China Dispersal sale, Fresno.
Jan. 27th—George V. Beckman & Son, Poland-Chinas, Lodi.
Jan. 28th—Les McCracken, Poland-Chinas, Ripon.
Jan. 28th—Diamond Bar Ranch, Duroc-Jerseys, Spadra.
Jan. 29th—Hale I. Marsh, Poland-Chinas Modesto.
Jan. 29th—Winsor Ranch, Bonita, Duroc-Jerseys sale at Los Angeles.
Jan. 30th—Ireland Ranch Sale, Duroc-Jerseys, Owensmouth.
Jan. 31st—L. A. Denker, Hampshire, San Jose.
Feb. 4th—Fresno County Duroc-Jersey Breeders' Ass'n, Fresno.
Feb. 6th—Tulare County Poland-China Breeders' Association, Tulare.
Feb. 10th—F. D. Burr, Duroc-Jerseys, Orland.
Feb. 11th—Fresno County Poland-China Breeders' Association, Fresno.
Feb. 12th—San Joaquin County Poland-China Breeders' Ass'n, Lodi.
Feb. 14th—J. Francis O'Connor Berkshires exclusively, Santa Rosa.
Feb. 15th—Sandencock Berkshire Sale, Sacramento.
Feb. 16th—H. C. Muddox & Son, Berkshires, Sacramento.
Feb. 18th—Western Berkshire Congress, Davis.
Feb. 18th—Tulare County Duroc-Jersey Breeders' Association, Tulare.
Feb. 21st—Merced County Poland-China Breeders' Ass'n, Merced.
Feb. 26th—Chicoana Poland-China Breeders' Association, University Farm, Davis.
Feb. 28th—Kings County Poland-China Breeders' Ass'n, Hanford.
Mar. 13th—Haag & Bernstein, Poland-Chinas, Hanford.
Apr. 6th—N. K. Horan, Poland-Chinas, Lockeford.

Dairy.

Charles Anderson of Burbank has recently brought two carloads of registered Holstein-Friesians to add to his already excellent herd. Mr. Anderson now has one of the most promising herds in Southern California.

The Holstein-Friesian cow Winifred Ora Bell, owned by E. F. Curtis & Son of Exeter, has just completed an excellent 7-day test at W. J. Higdon's Tulare Holstein Farm. She produced 26.54 lbs. butter from 526 lbs. milk from only three-quarters of her udder.

Milk from a thousand cows a day is being used in the manufacture of milk powder at Tulare, nine pounds of the powder with 91 pounds of water making 100 pounds of milk. The whole milk is being purchased from dairymen at 25 cents above the butter fat quotation.

The A. W. Morris & Sons Corp. of Woodland have received notice of the confirmation by the court of the sale of the Herbert E. Coil Ranch to the corporation for a more convenient location for their great Holstein-Friesian herd. This ranch is only about one mile from Woodland.

State records for butter production, at any age and of any breed, have been broken by Ruby Pierterje of Forest Hill 2nd, belonging to W. J. Higdon, of the Tulare Holstein Farm. The senior four-year-old, in a 30 days' official test just completed, made a showing of 162.1 pounds of butter from 3144.6 pounds of milk. The record is the second highest in the world at the age. Mona Forbes, another Higdon cow, has just shown 30.3 pounds of butter from 515 pounds of milk in a seven day test, the third 30-pound record in the herd this season.

Sometimes people in a certain line of business will become depressed for some reason difficult to understand, but it would hardly seem as though it could be the dairymen at the present time if we are to judge by the present demand for dairy cows. As an example of what is going on in this line Geo. P. Robinson, dairy cattle broker of Sacramento, received telephonic orders for 90 head of registered dairy cattle within half an hour one evening lately. One party wanted 40 head and the other 50 head. The

chief difficulty was to find that number immediately, but George thought he would be able to secure them.

The annual meeting of the Central California Milk Producers' Association in Modesto lately resulted in the re-election of Chas. H. Geer as president and all the members of the board of directors, with four additional as provided by an amendment to the by-laws.

J. P. Phillips, proprietor of Allana Farm and breeder of top notch Holstein-Friesians, has sold his ranch near Fresno and bought 80 acres of alfalfa in Solano County near Dixon and on the San Francisco State Highway. Mr. Phillips will erect an up-to-date dairy and breeding farm set of buildings.

The Toyon Farm Association has recently sold to the Sonoma State Home at Eldridge Toyon, Bertram Valdessa, a young son of their herd sire, Flanderne Soldene Valdessa, and Bertha Boskadel, a very promising young cow with a two-year-old record of 21.62 pounds of butter from 467.81 pounds of milk in 7 days. She also has a 272 day record of 456.68 lbs. of butter from 10,352 lbs. of milk. The purchase of the bull by this institution is a source of satisfaction to the management of Toyon Farms, as it is a direct appreciation of their effort to furnish animals with breeding showing high production and also an absolutely clean bill of health.

A. A. Jenkins of Tulare, breeder of purebred Jersey cattle, reports the following sales, which he made in December. To Sherman Herzhberger & Son, of Tulare, Gertie's S. V. Eminent, a young bull of exceptional breeding, carrying as he does the blood of Gertie's Lad and Eminent Raleigh. His dam has just finished a Register of Merit test of 625 lbs of butter, with her second calf. To A. J. Waite, of Earlimart, Gertie's S. V. Exile King, another son of Gertie's Son's Victor, who is proving to be one of the best bulls in the State. His full sister is on R. of M. test and has made 464 lbs. of butter from January 22, 1919, to December 1, 1919. Age 2 years, 1 month, at beginning of test. To H. D. Beckwith, of Tulare, Gertie's Olga Patis Lad. He is sired by Gertie Melia Pogis, a Register of Merit Bull. His dam is of Meridale Farm breeding. All registered Jersey bulls.

The U. S. decennial census enumeration will take place during the first part of the year that is just upon us. Among the questions that will be asked of farmers are some especially concerning dairymen, a list of which are furnished here:

1. How many gallons of milk did you sell in 1919?
2. How many gallons of cream did you sell in 1919?
3. How many pounds of butter fat did you sell in 1919?
4. How many pounds of butter did you make in 1919?
5. How many pounds of butter did you sell in 1919?
6. How many pounds of cheese did you make in 1919?

In addition to this Uncle Sam will ask how much each dairyman received from the sale of each one of the products; so be prepared when the official enumerator comes around and have the data available.

Beef Cattle.

Among the great Shorthorn sales of the year is that of W. A. Forsyth & Sons of Pleasant Hill, Mo. The 62 head sold brought \$75,206 or an average of \$1213. Truly there is money in Shorthorns.

Milking Shorthorn breeders from twenty states and Canada assembled at an informal dinner at Chicago during the International. They plan to hold two consignment sales during the year and carry on much promotion work.

Rodent control is of great importance in the range cattle business, according to H. G. Keiley of Merced Falls. The owners of the Cunningham Ranch in Merced county claim they are running 500 head of cattle (Continued on page 907.)

YOU CAN SEE THEM GROW CHESTER WHITE WEANLINGS

The kind that start right, keep right and end right. Long, wide, deep, compact and symmetrical. Easy feeders, good grazers, ready for the market at any age. The kind that grow into money the quickest of any breed and dress out the highest percentage of marketable meat.

Largest herd in the West headed by Highlander, the great \$1,000 boar. Bred gilts, sows, boars, weanling pigs.

ORDER NOW

OAK KNOLL FARM

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San Francisco Office, 601 Balboa Bldg.

Sir Pietertje Ormsby Mercedes 43rd



SENIOR HERD SIRE

His dam, Aaggie Wayne Peep's record for 5 years is unequalled by any cow of the breed.

Health of our herd under State supervision.

TOYON FARM ASSOCIATION

Farm, LOS ALTOS, CAL.

Office, Mills Bldg., San Francisco

IS A CALF WORTH 23 CENTS?

For 23 cents per animal you can insure your calves against loss from Blackleg by having them vaccinated with Purity Blackleg Aggressor (Germ-Free Vaccine made by the Kansas process). One treatment immunizes calves for life, and there is no danger of introducing blackleg into healthy herds. We also have Purity Anti-Hog Cholera Serum, Purity Mixed Vaccine for swine, and Purity Hemorrhage Septicemia Vaccines for cattle and for sheep. For service that counts and does not end with selling, write, phone, or wire PURITY SERUM CO., J. L. Thatcher, Manager (Successor to Thatcher Serum Co.) Riverside, Calif. Sacramento, Calif.

REGISTERED HOLSTEINS

Creamcup Herd offers service bulls and bull calves of 34-lb. breeding. Females offered for foundation stock. Tuberculin tested.

M. M. Holdridge, San Jose, Cal.
R. D. "A." Box 437,
Two miles out North First Street.

HOLMES STOCK FARM

WATERFORD ROAD, MODESTO
Registered Holstein Friesians
Prize winners at all the Shows. Inspection invited and satisfaction guaranteed.
Write for prices.
R. L. HOLMES, Prop.

GUERNSEY CATTLE

Herd sire strong in blood of ITCHEN MAY KING, the best in the world.

RUSSELL S. COX

SAN MARCOS, CALIFORNIA
Ranch near Escondido

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C. L. HUGHES, Sales Manager, Sacramento, Cal.

BETTER CALVES

AN-FO Calf Meal contains a higher percentage of digestible vegetable fat. Add some AN-FO Calf Meal to bring skim-milk closer to whole milk in food value. Feed Dealers or Animal Food Co., Oakland sell



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BOOK ON DOG DISEASES And How to Feed

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118 West 31st Street, New York

CALIFORNIA HOG AUCTIONS.

Report of Fat Hog Sales Conducted by the California Farm Bureau Marketing Ass'n. Hanford, Dec. 17, 1919.

No.	Av. Wt.	Price	Buyer
75	220	\$13.70	Donaghe
82	219	13.50	Ed. Miller-Cudahy
73	162	13.50	Pattison
52	121	12.25	Hammond
8	333	12.00	Pattison
Corcoran, Dec. 18, 1919.			
55	160	13.20	J. W. Beard
77	214	13.70	L. Shiffler-Cudahy
75	220	13.70	J. W. Beard-Wilson & Co.
68	199	14.00	J. D. Donaghe
3	383	14.00	J. D. Donaghe
7	170	13.00	J. D. Donaghe
Heim, Dec. 19, 1919.			
86	184	13.05	Cudahy
91	191	13.39	Wilson
104	159	12.25	Allen Mills
37	186	12.30	Allen Mills
33	319	10.30	Allen Mills
88	192	13.45	Joe D. Biddle
Fresno, Dec. 19, 1919.			
213	213	13.85	Wilson
202	202	13.75	Cudahy
160	160	12.35	J. D. Biddle
301	301	13.25	Cudahy
229	4	12.25	Cudahy
375	2	13.00	Cudahy
365	6	11.35	Biddle
123	30	10.00	F. Hammond
Bakersfield, Dec. 20, 1919.			
212	212	13.90	Woodward-Bennett
311	9	13.40	Woodward-Bennett
226	24	13.50	Cudahy
155	49	13.00	Cudahy
192	12	12.00	Cudahy
376	5	12.50	Cudahy
247	16	12.00	Cudahy

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SWINE.**Berkshires.****"ACHIEVER"****The BOAR****BARON DUKE 201ST PIGS**

are in demand. They have consistently won during 1919 the highest honors in the show ring. Baron Duke 201st is a Grand National Champion. He is the sire of champions. His 15-month-old son was Grand Champion at Sacramento and San Francisco. The San Francisco Judge said he was the best boar of his age that he had ever seen. I have 3 of his spring boar pigs for sale. Sandercock Land Co., 401 Market St., San Francisco, in charge of Natomas Land Sales Co.

ANCHORAGE FARM BERKSHIRES**Orland, Calif.**

HERD BOARS—STAR LEADER, Junior and Reserve Grand Champion of the World. The Grand Champion carload of barrows, over all breeds, at the San Francisco Live Stock Show, was sired by a son of Star Leader, NATOMAS BARON DUKE, grand champion of California. For sale, bred gilts, open gilts, young boars and weanling pigs. Write for booklet, prices and list of sows.

EDGEHILL FARM BERKSHIRES—Breeding, individuality, profit. A few very fine weanling boar pigs sired by Baron Duke 201st. Half brothers to that \$1000 State Fair and California International Grand Champion. The pigs are beauties and the price is right, too. J. M. Booth, Edgehill Farm, St. Helena, Calif.

SOLANO BERKSHIRES—Choice weaned pigs, bred gilts, service boars. Reasonable prices. Write for information. R. C. Gruhlke, Dixon, Solano county, Calif.

GRAPEWILD FARM BERKSHIRE-GUERNSEYS—Spring pigs sired by Big Leader and Grapewild Farm Leader. A. B. Humphrey, Prop., Escalon, Calif.

BERKSHIRES—Closing out entire herd, sows, gilts and boars. Best stock obtainable, priced very low. Wm. C. Laux, Morgan Hill, Cal.

LARK MEADOW RANCH BERKSHIRES will make you money. Best foragers. Write me. Geo. A. Stingle, El Monte, Cal.

QUALITY BERKSHIRES—Young stock of both sexes. Calac Orchards, Geo. P. Upham, Mgr., Martinez, Cal.

BERKSHIRES—Sired by Star Leader, the \$1500 boar. Kounias Registered Stock Farm, Modesto, Calif.

THE BEST IN BERKSHIRES—At the right price. Send for photos and description of stock wanted. Address R. J. Merrill & Son, Morgan Hill, Cal.

REAL GOOD BERKSHIRES—Cholera immune. Frank B. Anderson, Sacramento, Cal.

CARRUTHERS FARMS BERKSHIRES—Cholera immune. Live Oak, California.

Poland-Chinas.

ELDERLY FARM BIG-TYPE POLANDS—We have a choice lot of big, smooth, stretchy pigs, sired by our ½-ton Black Big Bone Wonder and Jumps Jumbo Model. They have individuality with the best blood lines of the breed. We ship only our tops and from mature stock on mail order. Your money cheerfully refunded, if not satisfied. J. H. Ware, Live Oak, Cal.

NOW BOOKING ORDERS for spring pigs, either sex, from my prize-winning, large-type Poland-China hogs. Also will book a few orders for bred gilts, February and March farrow, and a few good, serviceable, aged boars. Hale I. Marsh, Modesto, California.

BOARS—BOARS—BOARS—Big type, from the best sow herd in the State. Stretchy, smooth, good backs and feet. Two fall boars ready for hard service. Choice spring boars sired by King Jones Over. McCarty & Starkweather, Route C, Box 384, Modesto, Cal.

POLAND-CHINA sows, gilts and boars for sale. King's Big Bone Leader, Model Major, King Joe, Caldwell's Big Bob and Gerstade Jones lines. Taking orders for King's Big Bone Leader weanlings. Write today. Frank C. Dollard, Ripon, Cal.

READY FOR SERVICE BOARS—Half-dozen outstanding young fellows of Superba breeding. Gilt edge stuff at moderate prices. Will not have them long the way they are priced. Rough's Greenfields, Arlington Station, Riverside, Cal.

LONE WILLOW FARM offers a few bred and open gilts; also two five-months boar pigs, at prices that will sell them quick. Don't miss this opportunity. P. E. Mitchell, Prop., Atwater, Cal. R. F. D., Box 180.

POLAND-CHINAS—Young boars ready for service; also a few gilts, sired by California Big Bone Bob and Ursus Jr., real 1,000-lb. boars. Prices and descriptions on application. Eugene Miner, Rt. 2, Box 105, Lodi, Calif.

TOHOQUA POLAND-CHINAS—Strictly big type. Junior and Grand Champion sow at Glenn County Fair. Young breeding stock to sell; bred right, grown right and priced right. Ferguson & McKaig, Orland, Cal.

TWO SPECIALLY GOOD Poland-China boars, May 25th farrow. \$45.00 each. A few choice gilts, June 29th farrow—\$20.00 each. Edward A. Hall, Rt. 1 Box 39 Watsonville, Cal.

J. F. McSWAIN, Breeder of Poland-China hogs. Herd headed by Big Model Fellow, Reserve grand champion 1919 State Fair. Boar for sale. R. 3, Merced, Calif.

OXBONE HERD offers March boars for sale from King's Big Bone Leader, grand champion at State Fair, 1918. Write F. E. Fay, Tipton, California.

WAUKEN HERD POLAND-CHINAS—Home of Kings Big Bone Leader. A few service boars for sale. Les McCracken, Ripon, Cal.

A FEW BOARS of May farrow. Grandsons of Big Bone Bob. R. B. & L. J. Montgomery, R. F. D. No. 1, Walnut Creek, Calif.

BIG TYPE POLAND-CHINAS—Stock from the best herds of the Middle West. N. Hauck, Alton, Humboldt County, California.

10 SPRING BOARS—Tops from herd, will be sold at very low prices to close up partnership. Young and Clark, Lodi, Cal.

REGISTERED POLAND-CHINA SWINE—Prize-winners. Finest stock in the State. M. Bassett, Hanford, California.

LAKE SIDE STOCK FARM—Large, smooth and big-boned Poland-Chinas. Geo. V. Beckman & Sons, Lodi, California.

POLANDS—Largest type, all ages; tops only. Money back if not satisfied. J. E. Thomas, Gilroy, Cal.

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BIG-BONED POLAND-CHINAS—Stock for sale. E. S. Myers, Riverdale, California.

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POLAND-CHINAS—Strictly large type. J. F. Lehman, Lodi, Cal.

Duroc-Jerseys.

"MAY ROSE" DUROCS are the classiest pigs in the West. Take a look at them—seeing is believing. Our junior boars have been first and champion at both the California State Fairs and the Los Angeles Show—nothing better. We have a few dandy boar pigs by them out of our great "May Rose" sows ready for sale. Grab one, if you want the real thing. Corkers, not plugs. Also booking limited number of outside services for champion boar May Rose King. The cheapest way to get his blood, but only a few more sows will be accepted. Elliott-Brant Rancho, Owensmouth, Cal.

DUROC-JERSEYS AT IEELAND—Sows sired by Cherry Volunteer 2nd and Reformer, bred to Ireland Joe Orion at public sale, January 30, 1920. Write for catalogue. 1219 Brockman Bldg., Los Angeles, California.

SWEETWATER DUROCS—The most popular herd in the West. Our Durocs make money for us—they will do the same for you. Address R. K. Walker, Winsor Ranch, Bonita, San Diego Co.

BIG-TYPE DUROCS—Herd headed by California Orion King. Am offering excellent young boars at right prices. Inquiries invited. Harvey M. Berglund, Dixon, Calif.

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DUROC-JERSEYS—Fine big type gilts, tried sows and boars Eastern and California bred. H. P. Slocum & Son, Willows, Calif.

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BIG-TYPE DUROCS—Gilts and boars of Orion Giant breeding. Falfadale Farms, Peris, Calif.

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REGISTERED DUROCS—Stock for sale. W. J. Fulgham & Sons, Visalia, California.

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BILLIKEN CHESTER WHITES—Entire herd for sale. Every animal is listed and priced for immediate movement. Herd boars; young service boars. Bred sows. Seven litters of fall pigs, by four different sires. Write for special price list. O. B. Cunningham, Mills, Cal.

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REGISTERED HAMPSHIRE—"Belted Beauties." Weaned pigs a specialty. Uneeda Hampshire Swine Farms, Gardena, Cal.

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SERVICE JERSEY BULL, bull calves, Financial King blood. Chester white boars, prize winners. Best blood, type, production. N. H. Locke Co., Lockeford, Cal.

SUNSHINE FARM JERSEYS—Tuberculin tested. Production counts. E. E. Greenough, Merced, California.

FOR SALE—Purebred Jersey bull, Noble of Oakland blood. S. B. Campbell, Ripon, Cal.

Holsteins.**THE LEWIS COMPANY BAYWOOD HERD OF REGISTERED HOLSTEINS**

Herd sire Ormsby Segis Marie Lad, whose dam has produced in two years, beginning as a three-year-old, 57481 lbs. of milk and 2243 lbs. of butter.

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FOR SALE—2 bulls ready for service from A. R. O. dams up to 29.61 lbs. butter in seven days. Sired by best bulls in California. Also 2 bull calves. Every one splendid individuals—mostly white. Write for photos and prices. J. H. Posty, Box 15, R. F. D., Atwater, Cal.

WANTED—Ten or twelve good milch cows—Holstein, Durham, or Guernseys. Must be healthy and not over five years old. Will pay cash. Address Box 177, Napa.

YOUNG HOLSTEIN BULLS—Excellent breeding and individuals. Satisfaction guaranteed. Pecho Ranch and Stock Co., San Luis Obispo, Calif.

THE VICTORY HERD—Registered Holstein cattle and Duroc Jersey swine. H. E. Spire, Hilcrest Farms, Caruthers, California.

A FEW YEARLING registered bulls by King Morco Alcarita 2nd, from good producing cows. H. M. Cross, Merced, Cal.

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CREAMCUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Rt. A. Box 437, San Jose, California.

TWO EXTRA GOOD Holstein Bull Calves—Well bred, well grown and priced to sell. E. M. Morrow, Modesto, Cal.

F. H. STENZEL, SAN LORENZO, CALIF.—Breeder of Registered Holsteins. High test producers.

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REGISTERED HOLSTEIN BULLS with world's record backing. Kounias' Registered Stock Farm, Modesto, California.

REGISTERED HOLSTEINS—A. W. Morris & Sons Corp. Importers and Breeders, Woodland, California.

REGISTERED HOLSTEINS—Best blood production. Leeman and Kilgore, Ripon, Cal.

GOTSHALL & MAGRUDER—Breeders of registered Holstein-Friesians. Ripon, Calif.

CHOICE HOLSTEIN bulls for sale. No females. Milbrae Dairy, Milbrae, California.

REGISTERED HOLSTEINS and Duroc-Jerseys. Sturgeon Stock Ranch, Tulare, Calif.

EL DORADO HERD OF HOLSTEINS—Alex. Whaley, Tulare, California.

REGISTERED HOLSTEIN CATTLE—E. B. Freeman, R. B., Modesto, Cal.

Ayrshires.

ELKHORN FARM AYRESHIRE—Choice young bulls at reasonable prices. J. H. Meyer, 440 Montgomery St., San Francisco, Calif.

STEYBRAE AYRESHIRE—Registered; all ages. E. B. McFarland, 414 Claus Spreckels Building, San Francisco, Calif.

NORABEL FARM AYRESHIRE—Le Baron Estate Co., Valley Ford, Cal.

Guernseys.

EDGEMOOR FARM GUERNSEYS—First in the show ring and in official records. A few choicely bred bull calves for sale. Edgemoor Farm, Santee, San Diego county, Calif.

BELLA VISTA GUERNSEYS—May Rose Governor of Chene breeding. Bull calves from high record dams. J. W. Gemmer, Ripon, Cal. R. 2.

Milking Shorthorns.

ORMONDALE RANCH—Portola Valley, San Mateo Co., Cal., the home of Golden Goods Jr., sire of Little Sweetheart, three times Grand Champion on the Pacific Coast, and Grand Champion at the International Livestock Show, Chicago, 1919. Yearling bulls and heifers for sale. James McDonnell, Supt. R. D. No. 1, Redwood City, Calif.

BREEDERS OF REGISTERED SHORT-HORNS—Milk strain; choice young stock for sale. John Lynch Ranch, Box 321, Petaluma.

INNISFAIR DAIRY SHORTHORNS—Registered young bulls for sale. Alexander & Kellogg, Suisun, California.

DUAL-PURPOSE SHORTHORNS—registered and unregistered bulls. Chas. L. Weaver, Tulare, Calif.

BEEF CATTLE.

BEEF CATTLE—BULLS! BULLS!—Just returned with some splendid stock for California Beef Cattle men. Leave again for the Middle West about New Year's. Get in your orders at once for anything you need in Beef Cattle. R. M. Dunlap, Hotel Land, Sacramento, or Savoy Hotel, Kansas City, Missouri.

RANCHO SAN JULIAN SHORTHORNS—Purebred range bulls, unregistered, for sale. Estate Thos. B. Dibblee, Santa Barbara, or Lompoc, Calif. John Troup, Supt.

ALAMO HERD REGISTERED HEREFORDS (founded by Governor Sparks). Herd and range bulls. Reasonable prices. W. D. Duke, Gazelle, Siskiyou county, California.

REGISTERED MILK AND BEEF SHORT-HORNS, bulls and heifers for sale; catalogue free. Thomas Harrison, Santa Rosa Stock Farm, Santa Rosa, California.

HEREFORDS—Sierra Vista Herd, Minturn, California. Over one hundred registered animals. Fairfax and Repeater bulls head the herd. On highway.

THE NEVADA HEREFORD RANCH, Jno. H. Cazier & Son Co., Prop., Wells, Nevada. Registered Hereford cattle. Breeding stock for sale.

REGISTERED HEREFORDS—H. H. Gable. Diamond G Ranch, Esposito, California.

SIMON NEWMAN CO., breeders of Registered Hereford, Newman, California.

HEREFORDS—Mission Hereford farm, J. A. Bunting, Prop., Mission San Jose, Cal.

GEORGE CALLAHAN, breeder of registered Herefords, Milton, California.

REGISTERED SHORTHORNS—Fair Oaks Ranch, Willits, Calif.

GEORGE WATTERSON—Breeder Registered Herefords. Bishop, California.

SHORTHORNS—Caruthers Farms. Live Oak, California.

SHEEP AND GOATS.

F. A. MECHAM ESTATE, Petaluma, Cal.—Breeders and importers of Shropshire, Rambouillet and American Merinos, both sexes. Also Red Polled cattle. Take electric car at Petaluma or Santa Rosa for Live Oak Ranch.

DORSETS AND ROMNEYS—Dorset ram lambs for sale. John E. Marble, South Pasadena, California.

FOR SALE—Forty Registered Dorset ewes, to lamb February 15. W. H. Cleveland, Gresham, Oregon.

BULLARD BROS., Woodland, Calif. Breeders and importers of Rambouillet sheep.

KAUFKE BROS., WOODLAND, CALIF.—Breeders and importers of Hampshire sheep.

CHAS. KIMBLE—Breeder and importer of Rambouillets. Hanford, California.

CALLA GROVE FARM, MANTECA, CALIF.—Breeders and importers of Hampshire sheep.

HARVEY S. VAN VLEAR, Lodi, Cal., Breeder of registered Hampshire sheep.

MISCELLANEOUS.

BUTTE CITY RANCH SHORTHORN CATTLE, SHROPSHIRE SHEEP, Berkshire Hogs, Shetland Ponies, Bronze Turkeys, White Plymouth Rocks. Stock for sale at all times. Third sale at the Ranch—all breeds—April 17, 1920. W. P. Dwyer and W. S. Guilford, Box P, Butte City, Glenn County, California.

HORSES FOR SALE—40 head of 3 and 4-year-old Percheron horses. Price from \$250 to \$300 for span, beautifully matched team of very kind disposition. S. L. Skaggs, four miles south of Madera, Cal.

RANCHO DEL SUR DUROCS

ORION'S KING GANO, a wonderful grandson of Orion Cherry King and Col. Gano, and the greatest Duroc boar in the State, heads this select herd of sows.

Have some spring Boars at attractive prices.

P. O. Box 177,

DONALD H. GRAHAM

Lancaster, Cal.

The Giant Bob Sale

My entire herd of Big Type Poland-Chinas, including **GIANT BOB**, the grand champion boar of 1919, will be sold at Public Sale

Monday, January 26th, 1920, Fresno, Cal.

Practically the entire offering bred to or sired by Giant Bob. There will be a few bred to Prospector and Gatewood's Prospect. These are two of the best young boars I could find in the corn belt. Every Poland-China I own will sell in this sale. Plan now to attend.

CHAS. GATEWOOD,

Fresno, Cal.

Farm Bureau Hog Auction Sales

(Written for Pacific Rural Press by R. N. Davis, Fresno.)

The advance in prices in general and the increased cost of living which became very apparent during 1917-18 made it essential that the livestock farmers receive more for their product. The high prices of grain brought this fact so plainly before the hog growers of the San Joaquin Valley that they realized they were not receiving as much for their hogs as it cost to grow them. It was apparent that something must be done to relieve this condition or the hog growers would be compelled to divert their efforts to other lines of farming.

Origin of the Auction Sale.

This was at a time when our Allies were looking to us for large amounts of pork and pork products, saying nothing of our own enormous requirements. It was at this time that the American Government was making every effort to increase the production of animal products which was so essential for the winning of the war. At this critical moment, the Kern County Farm Bureau conceived the possibility of using the auction sale which has been used so successfully in Australia. Before these sales could be conducted successfully, the co-operation of the packing houses of the State must be secured. At this time only one of the big packing houses had a representative in the valley. Co-operation of the packers was sought and arrangements made for a sale.

Although the first sales were conducted with only a limited number of buyers present, they were considered very successful and the auction sale spirit soon spread to the adjoining counties of Kings and Tulare. As soon as other counties began to hold auction sales it was realized that there must be some kind of co-operation between the different counties in order to prevent conflict in sale dates so the different buyers could attend all sales. This, of course, could best be accomplished by an organization, the manager of which to be directly in charge of all the sales in the different counties.

Farm Bureau Marketing Association Takes Shape.

The natural result was the organization of the California Farm Bureau Marketing Association which was perfected and the association became operative on November 1, 1918. At the time of its organization, the Association consisted of the Farm Bureaus of Tulare, Kings and Kern counties. The Board of Directors was composed of one director from each of the three County Farm Bureaus. Mr. D. H. Bitner, a progressive farmer of Kern county and a strong believer in co-operation among the farmers, was selected as manager. The results of the sales continued very sat-

isfactory and resulted in the addition of other counties to the Association. The present membership of the Association includes seven San Joaquin Valley counties, viz.: Kern, Tulare, Kings, Fresno, Madera, Merced and Stanislaus.

Although there were only three counties in the Association for three months after its organization and some of the counties have only been members for a short time, the Association during the first year of its existence conducted 155 sales, at which was sold 526 carloads of hogs, or a total of 42,000 head, which compose a gross weight of 8,500,000 lbs. of pork, which brought \$1,500,000.00. There were 4,300 different consignments during the year. The manager considers \$100,000.00 a very conservative estimate of the amount received by these consignors above what they would have received had they marketed their hogs otherwise than through the Association.

Scope of the Auction Extended.

In addition to hogs, there were over \$19,000.00 worth of cattle and \$3,000.00 worth of miscellaneous products marketed through the Association, the result of which was very satisfactory.

The reader will note by the number of consignments given above that a large number of small consignments were made. A large percent of the total number of hogs was made up of entries consisting of from one to twenty head. However, a number of large growers sell through the Association and are convinced that they receive better prices for their hogs than they would have if they had shipped direct to the packing houses, this because of competition between the different buyers.

Packers Co-operate.

The packers state that the hogs cost them more when purchased through the auction sales, but they are getting a better quality of hogs and they prefer to pay a better price and get a better product.

A great deal of credit is due the packers of the State for the success of these sales. Without the co-operation of these packers, the sales would be impossible. It is very gratifying to know that all the principal packers of the State have representatives at these sales.

Although only a limited number of cattle have been marketed through the Association, the results are such as to demonstrate that the Farm Bureau auction sales would be as valuable to the cattle growers as it has been to the hog growers, both in price and improvement in quality of product. Therefore, why not cattlemen and other stockmen get together and profit by this wonderful demonstration of co-operative marketing?

Duroc-Jersey Sale Supreme

Those who admire and breed Duroc-Jerseys, and those who intend to start breeding swine but have not as yet decided what breed to raise, should attend the auction sale to be staged by the Diamond Bar Ranch at Spadra on January 28, 1920. Southern California has a number of great Duroc-Jersey swine-breeding establishments and with one or two others the Diamond Bar stands out as the highest exponents of the breed in that part of the country.

The offering to be made by this great ranch will be excelled by none anywhere regardless of location. This is rather of a broad statement, but when we take into consideration what they have to select the offering from and the facilities they have for caring for their stock then it will be understood.

To begin with selections will be made from a herd of 800 head, the foundation of which was selected from the most noted herds in the Middle West by Superintendent Walter T. Gattón, than whom there is no better judge of his favorite breed. An excel-

lent demonstration of this was the shipment of sows and gilts brought out this past summer. The animals were chosen at widely separated farms and when finally brought together were found to be of the same excellent type of the breed. It is easy enough to select animals of the same type from a herd, but when chosen from widely separated herds and when brought together, if found to be of one type it is an excellent demonstration of the buyer's good judgment. No better type or one nearer what the majority of breeders are looking for can be found anywhere.

Forty bred sows and gilts will be offered due to farrow in March next. They will be bred largely to Ace of Pathfinders, the Grand Champion at Los Angeles, and winner at the National Swine Show at Des Moines, Iowa. Others will be bred to Mammoth Sensation Jr., Great Sensation 2d, California Great Wonder and Orion Reformer.

To those interested we would like to impress on their minds the facts that all the animals offered will be

bred right and will be of the very best type as well. Fitted but not overfitted. Just in the right condition to show well and then farrow the nicest and biggest litters you ever saw. You all know that a sow or female of any kind must be well fed to produce the maximum in progeny, both in number and proper development of body.

The combination of the blood lines of the Pathfinders, Great Wonders, Ganos and Colonels will produce to a certainty the great size so much desired at present with superb quality, which means quick growth and easy-

feeding qualities.

It will be an opportunity of a lifetime for those who wish to buy Durocs, where they can buy just what they want and need.

Col. Ord L. Leachman, the popular auctioneer of Sacramento, will cry the sale.

The Carnation Milk Co., one of the largest milk condensing institutions in the world, with condenseries in Washington and Wisconsin, has started to build a \$250,000 plant at Gustine in Merced County.

Xmas and New Year's Greetings:

From FRANK P. GARDINER and SON to our friends and customers. We also wish to announce the safe arrival from Ed Kerns of Stanton, Neb., of the latest and Greatest Sensation to come to the Pacific Coast.

GREATER SENSATION

Sired by

GREAT SENSATION

Who sired World's Champion Boar at National Swine Show, 1919. Also the World's Grand Champion Boar, 1919. His get has won more prizes at the fairs and swine shows this year than any living boar.

NOTICE—To Farmers and Breeders: We will produce over a thousand High Class Durocs next year, sired and dammed by the best blood lines of the breed. Write us your wants. Satisfaction in every transaction. Prices reasonable.

GARDINER RANCH

ROUTE NO. 4, BOX 735,

SACRAMENTO, CAL.

WILL YOU WANT THEM? SOWS, GILTS AND BOARS

Sired by or bred to

MATCHLESS BIG BOB

LAKESIDE DEFENDER

LIBERTY BOND and

MAJOR HADLEY WONDER

The offering at our next sale will represent some of the most noted blood lines of the Poland-China breed East or West.

Watch for further particulars.

LAKESIDE STOCK FARM

GEO. V. BECKMAN & SONS,

LODI, CAL.

CAN YOU BUY BETTER POLANDS?

Will offer at my sale on January 24, 1920

60 Head, either sired by or bred to the following boars:

Surprise Prospect

Yankee

Col. Jack Surprise

The Californian

Massive Orange

Lendorris Liberty Bond

McCune's Buster

Kings Co. Buster

Wonder Gerst

Young Jumbo

President

Buster Defender

King's Big Bone Leader

Frazier's Timm

H. D. McCUNE,

Lemoore, Calif.

COL. GEO. W. BELL, Auctioneer.

PROMOTE PORK PROFITS

With Better Poland-China Breeding

And do it by attending my bred sow and gilt sale at

RIPON, FEBRUARY 3rd.

There are 85 head of the very best Poland-China sows and gilts to be found anywhere in my herd at present. This is true, both from conformation and breeding standpoint. From this 85 head I shall select 60 head for the sale. If you want Poland-Chinas, and you need them in your business, of the modern type, they certainly will be in this sale. STOCK FOR SALE AT ALL TIMES.

WAUKEEN FARM

LES McCracken, Prop.

Ripon, Calif.

THE MORRIS HOLSTEIN SALE.

A combination of excellent cattle and a great reputation for having a herd of large producers, especially "long distance" ones, makes a good sale certain. It is "a house built upon a rock," it is so sure. The evidence of this is the fact that 62 Holstein Friesian cattle brought \$29,270, or an average of \$472 at the A. W. Morris & Sons' Corp., sale at Sacramento, December 18th.

The cattle were widely distributed throughout California and several new herds were started. It does not look as though dairying was on the decline.

The top of the sale was reached when H. E. Vogel, the well-known Holstein-Friesian breeder of Fresno, paid \$1,050 for Princess Valley Mead Walker, sired by Prince Gelsche Walker and out of De Kol Valley Mead 3rd, with a 2-year-old record of 16 pounds of butter in 7 days. Another that was close to the top was Riverside Seely Girl 2d, sired by Segis Pontiac DeKol Burke and out of the high-producing dam Riverside Seely Girl for which Chas. A. Harrington of Compton paid \$1035. Several others sold close up to the \$1,000 mark. The top bull was King Clarinda Sadie Vale sired by King Korndyke Sadie Vale 27th and out of King Segis Pontiac Clarinda for which the Hayes Stock Farm of Sacramento paid \$650.

The heaviest buyers were Hayes Stock Farm of Sacramento, getting eight for \$4010; J. McKinley of Acampo getting seven for \$3080; Gleason & Walker of Hollister getting three for \$1475; E. M. Holje of Calistoga four for \$1430, and P. Brunold of Modesto four for \$2570.

E. C. Schroeder of Moorhead, Minn., H. M. Corwin and son of Rock Valley, Iowa, and B. L. Cramton, manager of the Pabst Stock Farm, Oconomowoc, Wis., were Eastern breeders in attendance.

The condition of the animals was just about right and Jack Shillcox, who had charge of them previous to the sale, should come in for his share of the credit.

THE BIG SALE AT THE TAGUS RANCH.

A two-day sale with receipts of \$50,000 was satisfactory enough so that the Merritt-Bowers Co., owners of the Tagus Ranch at Tulare, set the date for their spring sale. The attendance was large on both days with the bidding lively. Col. Leachman of Sacramento, who cried the sale, says it was a good one and that the farm horses sold better than they have for some time. One draft team brought \$675 and some mules about as much.

Cattlemen prominent in the business from all over the State were present. Fred H. Bixby of Long

Beach, recently elected president of the California Cattlemen's Association, was there and made a strong talk for the cattle business from both the purebred and market standpoints, and also a boost for the Association in which he is a great believer.

Thos. Harrison and Dr. J. J. Summerfield of Santa Rosa were there and bought freely. Mr. Harrison, of course, selecting some of the Milking Shorthorns that met the approval of his keen judgment.

J. A. Knight of Tipton was the heaviest buyer as he had bought thirteen when the sale was over, although T. R. Carlyle of Sanger was close to him with eleven to his credit. Turney Bros. of Strathmore and Col. T. E. Cochran of Hanford bought freely also.

The top of the sale was Heard's Queen, sired by Coronado and out of Craggs D 3rd, for which T. R. Carlyle of Sanger paid \$500. This cow had a bull calf at foot sired by Knight Avon 2nd.

The stock was in good condition and just right for a sale, but the demand for bulls not being brisk it was considered best to hold them for the spring sale after six of the Herefords and five of the Shorthorns had been sold.

ORLAND, THE POLAND-CHINA MECCA.

The Glenn County Poland-China Breeders have announced their first annual guaranty sale to be held at the Glenn County Fair Grounds at Orland on Tuesday, January 13th, when they will offer 65 head of big-type Polands from the leading herds of Glenn county. This county is becoming famous for its good stock of various breeds and its Polands are right up with the best in the country. For this sale the following breeders have made consignments: R. J. Yates, R. M. Rankin, Penfield Bros., Y. H. Warnock, J. A. Miller, J. K. Burnett, M. H. Summers, Adam Lachenmeyer, Ferguson & McKaig, Charles Templeton, W. A. Ort, Mrs. C. J. Lothrop and J. E. Faltings. Among the service boars are Yates' Big Orphan by Hather's Big Orphan out of Miss Hadley, A. Buster by Long Jumbo out of Miss Stella, and Young Hadley by King Hadley Jr. and out of Sampson's Kind. Ord L. Leachman, the livestock auctioneer of Sacramento, will handle the sale.

W. J. HIGDON'S COW GOING IN HIGH.

The Holstein cow—Ruby Pieterje of Forest Hill 2d, whose 39.74 pound 7-day record was recently reported in these columns, has increased her production gait and now, at the end of 30 days, has 162.11 lbs. butter and 3,134.9 lbs. of milk to her credit. This is exceptionally good and breaks all California records. It also exceeds all other records in the world for a like period except one in the Cabana herd. If the records of this last-named herd are expunged from the Holstein books, this will leave Mr. Higdon's cow champion of the world for this period.

H. L. Redd, manager of Mr. Higdon's herd, has personal charge of this cow, and nothing will be left undone to keep her at championship production speed. Thirteen cows have made 7-day records in excess of 30 pounds at the Tulare Holstein Farm, and eleven of these cows were owned by Mr. Higdon.

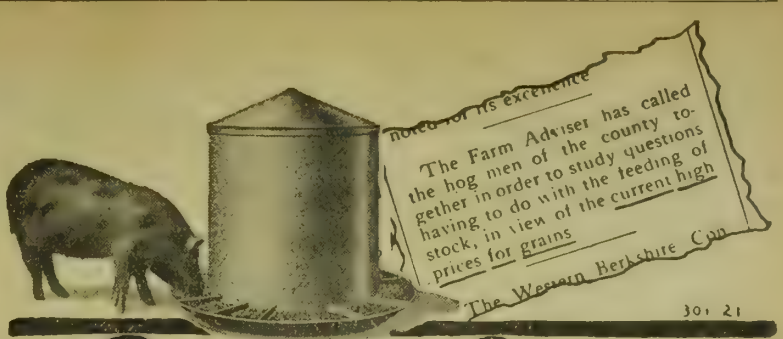
BUY TYPE AND PRODUCTION.

Will Sell my 2-year-old herd sire
MODEL DOMINO GLISTA
First prize at State Fair and International Livestock Show this year and backed by individual record which includes 3 world's records. Also Holstein grade heifers for sale. For full information address
W. W. SCUDDER, Holt, Calif.

TAMWORTHS
(The Bacon Hog.)
Largest Herd in the State
DUROC-JERSEYS
Mature Stock and Weanlings of both sexes. Sure to please.
SWINELAND FARM
W. O. Pearson, Prop., Woodland, Cal.

IT'S UP TO US
to satisfy you when you order a Duroc from us. A sow or gilt sired by or bred to
JOHNSON'S DEFENDER JR.
will make money for you. We also have now some excellent service boars and weanling pigs. Everything priced reasonably.
GREENWOOD FARM
H. C. WITHEROW, Mgr. LIVE OAK, Sutter Co., Cal., Route A.

GLEN OAKS RANCH
AT WARFIELD, NEAR GLEN ELLEN, CAL.
Breeders of thoroughbred Duroc-Jerseys.
Our boar Crimson Monarch 4th, with a long line of champion ancestors. Our next boar Glen Oaks Ace, a son of Orion's King Gano. One of our sows, granddaughter of Orion Cherry King Jr. with a fine litter of 5 boars and 3 sows sired by a grandson of same champion. A fine lot of Grade Sows to sell to clean out everything but registered stock.
E. B. SWAYNE, 805 Royal Insurance Bldg., San Francisco



CALCO feeders save costly grain

Grain at any price is too valuable to waste.

The Calco Self-Feeder was developed—to save your costly grain.

The Calco Self-Feeder is so constructed that it is impossible for the hogs to root the grain onto the ground—and grain saved is money saved.

Calco Self-Feeders add materially to your profits by saving expensive time and labor.

These Feeders are made of rust-resisting "Armco" Iron and Cast Iron. They are sanitary—easily cleaned—strong—durable and economical.

Your name and address written on the margin of this advertisement and mailed to us will bring folder and prices.

California Corrugated Culvert Company

LOS ANGELES
417 Leroy Street

BERKELEY
406 Parker Street

calco products

PURE HAWAIIAN CANE MOLASSES

PORK PRODUCTION

By actual test will increase pork production five-tenths pounds daily over a barley and tankage feed, yet it sells for less than half the price.

MILK PRODUCTION

One of our customers writes: "We are out of molasses and our cows are falling off in their milk badly, hence we would appreciate immediate shipment. Kindly ship us two tons more in addition."

We supply it in barrels or tank cars for shipment anywhere.

W. H. YOUNG COMPANY

Holbrook Bldg.,

San Francisco

HAUSER'S DIGESTER TANKAGE

Gives Great VALUE for LEAST MONEY. IT MAKES THEM FAT.
HAUSER PACKING CO. LOS ANGELES

DIGESTER TANKAGE

Send for Sensible Folder on Feeding Hogs
WESTERN MEAT COMPANY

Animal Food Dept.

704 Townsend St.,

San Francisco

Poultry and Rabbits for Profit

BADLY INFESTED CHICKEN HOUSE.

To the Editor: I have just moved in on a ranch here, and find a chicken house that I would like to use, but am told by the last tenants that it was uninhabitable for chickens as it was full of lice, that they had tried everything, but without avail to move them. I hate to have to burn it up at the present price of lumber and write to ask what suggestion you can give me to make it safe to use for thoroughbred chickens.—E. Drennan, Fresno.

If the poultry house mentioned is worth more than \$10 it is possible to economically destroy the lice and render it safe for poultry in so far as lice and mites are concerned. We believe our correspondent refers to the mite, the small insect which is often called the night-louse, that sucks the blood of the fowls at night and goes into hiding during the day. However, the treatment of the premises that we recommend below will not only exterminate them, but in a great measure destroy any other sort of insects that can annoy fowls. First clear out the worst of the dirt and rubbish and then spray lightly with water; get it into every crack and opening. When the water has nearly evaporated sweep and brush the dust from every part of the house, nests, and roosts. The object is to gather up the dust and prevent it from floating about and thus preserving some of the mites or eggs. When dry, spray the entire house and fixtures with a mixture of stove distillate in which is mixed some strong insecticide. One part of insecticide to ten parts of distillate is usually strong enough. The distillate is the common sort that is extensively sold for burning in kitchen and heating stoves. It is also known as blue or medium distillate and is low in cost. Commercial cresol, crude carbolic acid, or one of the commercial liquid lice paints will answer for the insecticide. If the house has a wooden floor it should be first scrubbed perfectly clean in order that the mixture can soak into the wood and run down into the cracks. If convenient to do so it would be well to take up the floor to discover any special hiding place for the mites. Before relaying the floor disinfect the ground and foundation. Spray entire premises about three times.

WHAT CONSTITUTES A GOOD LAYER?

To the Editor: We have three hundred Leghorn pullets eight months old. They are laying on an average of 135 eggs a day. Is this considered good for this time of the year? A few of the pullets want to set after laying two months. Would they be considered good pullets to keep? Or is it customary for them to set at this time of the year? Please tell us the name of a good poultry book.—Mrs. J. M. R., San Jose.

It is difficult to accurately analyze the intrinsic value of a flock of pullets without a more or less extended statement regarding the feed and care they receive and the conditions under which they are kept. However, three hundred pullets now fully eight months of age should be laying more than an average of 135 eggs per day—45 per cent—if they are to make an average yearly record of more than 110 eggs each. The fact that some of these pullets wanted to set after laying for two months leads us to believe that they are capable of laying many more than the present average of 135 eggs would indicate provided they are fed with a ration properly balanced for egg production. It is hardly possible that these Leghorn pullets would develop a desire to set unless they were over fat or feverish, due to eating a ration containing too much starch or other fat-forming elements; quite likely also they were not provided with much if any green feed. We would not condemn these pullets until they are first afforded an opportunity to show what they can do when supplied with a correctly balanced ra-

tion and abundance of greens. A book entitled "California Poultry Practice" is considered a very good poultry book. We sell it; price, \$100 postpaid.

EGG STANDARDIZATION.

Recently a conference on the International standardization of eggs was held in London. Chief interest centered around the methods of grading followed by Denmark and Canada. Denmark has adopted the system of grading by weight with only casual attention to the actual interior quality of the eggs.

The Danes have been following this system for a number of years, and have acquired a considerable reputation on the British market.

The Canadian standards are based primarily upon quality and relative edibility, with subsidiary weight clauses leading to uniformity in size. These standards have been in force two seasons only, but the reports received as to the quality of the eggs upon arrival are increasingly favorable as the Canadian methods of grading and inspection become better known.

The representatives in conference from Denmark, Holland, France, Italy, China, United States, Canada, Ireland, Scotland and England, together with representatives from the London produce trade, approved of the advisability of international standards for eggs and the matter of the form of standards was referred back to the respective governments they represented.

It is probable that Holland will follow the lead of Canada and South Africa. The United States also is favorably considering the Canadian standards.

HOGAN SYSTEM FOR OLD HENS.

(Written for Pacific Rural Press by D. J. Whitney.)

There are two ways of finding what hens are past the best laying age in Tulare flocks. Some ranchers who have Leghorns keep three breeds: White Leghorns, Anconas, and Brown or Buff Leghorns, raising chicks of a different color each year and using color as a measure of age when it is time to cull out the old hens in summer and fall. This system of keeping three breeds of similar nature is seldom practiced by keepers of the heavy fowls, who mostly favor Rhode Island Reds.

The only way to proceed when there is no measure of color is to judge the individual bird, which can be done when the whole flock is of one color. In a number of cases the spread of the pelvic bones as described in the Hogan system, is successfully used in combination with natural indications of youth or age as shown in general appearance. This method of culling has been layers is very satisfactory as it permits exceptionally good hens to remain in the flock another season which could not be done very well if color were the standard of culling, and it permits the rapid discovery of young slackers who should go to market.

In flocks of one color every hen has to be examined to see if she will qualify for culling. By the three-color system only the hens are handled that are to be marketed.

BLUE JAYS KILL CHICKS.

(Written for Pacific Rural Press.)

Something was killing the baby chickens on the ranch of F. P. Storm near Tulare. They would be found in the yard during the day with a hole in the back of their heads, and it seemed impossible to think who the criminal could be or to discover him at his tricks. Just by accident a blue-jay was seen swooping down to the ground and right up again and a dead chick was found where he had been.

Jays are criminals among birds. In this case they were either killing the chickens for the joy of the thing, or just to eat the brains, and they were

clever enough to stay out of mischief when a person was in sight.

After the discovery was made, war was declared on the jays and when they were driven off the chicken-killing stopped. People who suffer in like manner will know whom to blame.

Poultry Breeders' Directory

Rate 3½ cents per word each issue.

FOR SALE—Baby chicks from good Hoganized S. C. White Leghorn stock, from D. W. Young and Tom Barron strains; \$15 per 100. 25% with order, balance C. O. D. Heavy breeds, 20c each. Custom hatching; capacity 15,000 eggs; set eggs every Wednesday; deliver chicks every Thursday. H. K. Biddle, Poultry Ranch and Hatchery, Aransas, Cal.

PRUSSIAN HILL POULTRY RANCH—Blue Andalusian Cockerels, extra fine, February hatch, \$5.00; Barred Rock and B. Minorca Cockerels, late March hatch, \$4.00. Hatching eggs, after December 20th—Andalusians, Rocks and Minorcas—at \$2.00 for 15 eggs. Order early. Geo. I. Wright, Mokelumne Hill, Cal.

BABY CHICKS—From my Single-comb White Leghorns, bred for heavy layers, which have been in the race for 12 years, and today is among the leaders. You don't go wrong by placing your order with me. Write for prices and terms. H. A. Schlotthauer, Exeter, California.

BROWN LEGHORNS—Light or dark—the farmer's fowl. Best foragers. Females, \$3.00; males, \$5.00 each and upwards. MAHAJO FARM, P. O. Box 597, Sacramento, Calif. At 1919 Oakland Show won 1st, 2nd cocks; 1st, 3rd, 4th cockerels; 1st, 2nd hen; 1st, 3rd, 4th pullet.

LAYING LEGHORN PULLETS—The greatest opportunity of the season to buy laying Leghorn pullets! My entire flock of culled and selected White Leghorn layers is offered for sale in lots of one dozen and up at farmer's prices. Geo. L. Horine, Winton, Cal.

ANDERSON'S PEERLESS ANCONAS lay more and eat less than other breeds. 50 big husky cockerels \$5 and up; 200 pullets, trios and pens for sale. Hatching eggs. Catalogue free. J. W. Atkinson, Box B, 130 Willard Street, San Jose, Cal.

TURKEY BREEDERS TAKE NOTICE!—My new Eastern Mammoth Bronze Toms have proved to be grand breeders. I raise quality, not quantity. Every bird guaranteed; return C. O. D. if not as I represent, so you run no risk. R. M. Dodge, R. D. 2, Bakersfield, Calif.

THOROUGHBREDS—S. C. White Leghorn chicks in 100 and 1000 lots from Hoganized and trapped stock. Order early for spring delivery. Inventors and Distributors of "Forbro" Separator and trapnest combined. Forster Brothers, 2018 Otis St., Berkeley, Cal.

AN EVER-INCREASING DEMAND finds us better prepared than ever before to take care of our day-old chick business. Hatching White, Brown and Buff Leghorns, Anconas, Minorcas, Rocks, Reds and White Wyandottes. Interesting folder now ready. B. W. Archibald, Soquel, Santa Cruz Co., Calif.

BABY CHIX—We specialize in R. I. Reds, Barred Plymouth Rocks, Black Minorcas. Bred and mated for eggs, size, color. Dates made by us are kept, so order early. Popular price, any number. Denton Poultry Yards, Campbell, Cal.

CHICKS—EGGS—Hoganized White Leghorns, Brown and Buff Leghorns, Black Minorcas, Rhode Island Reds, Barred Rocks, Anconas, Blue Andalusians. Free circular. Order early. McDonald Poultry Ranch, King Road, San Jose, Cal.

FINEST HATCHERY IN THE WORLD—Chicks—White Leghorns, Rhode Island Reds; Settings—100's, 1000's; hatched right in \$60,000.00 Brick and Concrete Hatchery from our Quality Heavy Layers. Reasonable prices. Pebbleside Poultry Farm, Sunnyvale, Calif.

BABY CHICKS—Order now for 1920 and get what you want when you want them. White and Brown Leghorns, R. I. Reds, Barred Rocks. Safe arrival guaranteed. Write for free circular. Stubbs Poultry Ranch and Hatchery, Box 67, Palo Alto.

WHITE LEGHORN BABY CHIX—Heavy laying, Hoganized stock. March \$15.00 per 100; April and May, \$13.50 per 100. Safe arrival of strong live chix guaranteed. Pioneer Hatchery, 408 Sixth St., Petaluma, Calif.

"WATCH US GROW"—Baby chicks. Booking orders now for January and February delivery. White and Brown Leghorns, R. I. Reds and Barred Rocks. Safe delivery guaranteed. Order early. E. W. Ohlen, Campbell, Cal.

HOLLISTER HATCHERY—Day-old chicks of quality from selected stock. White Leghorn, Black Minorcas and Plymouth Rocks. We guarantee safe delivery. Free circular and price list. Box 693, Hollister, Cal.

FOR SALE—White Holland Turkeys, S. C. Rhode Island Red cockerels. Guinea roosters. One Golden Seabright cockerel. Send stamp. E. A. McKinley, R. D. Ukiah, Cal.

BARRED PLYMOUTH ROCKS—Nothing better in poultry. Prize-winners and wonderful layers. Choice stock for sale. Chas. H. Vadden, Box 3, Los Gatos, Calif.

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PUREBRED BUFF ORPINGTON Cockerels, \$5.00, \$7.50, \$10.00. Purebred Bronze turkeys—Toms, \$12.00; hens, \$7.00. Mrs. M. L. Trewhitt, Rt. B, Box 47, Hanford, Cal.

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BRONZE TURKEYS AND EGGS—Limited number of breeders. Eggs by settings, hundred or thousands. M. M. Reiman, Planada, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, Pea Fowl, Pigeons. Wm. A. French, 545 W. Park St., Stockton, California. Stamps.

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BUFF ORPINGTONS, BUFF DUCKS, BOURBON RED TURKEYS—The Ferris Ranch, Rt. 2, Box 144D, Pomona, California.

WHITE HOLLAND TURKEYS—A few choice purebred hens and toms. Earl V. Smith, Loma Vista Ranch, Willows, Calif.

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BLACK MINORCAS—The large egg layers. Eggs, \$2.00 per 15. Cockerels, \$4.00 each. E. A. Hall, R. 1, Box 39, Watsonville, Cal.

WHITE GUINEAS—Cockerels from Eastern eggs, large and hardy. \$5.00. The Ferris Ranch, Rt. 2, 144 D, Pomona, Calif.

ANCONAS—Dark breeding cockerels at \$4.00 and \$5.00. A. S. Wilkinson, Winton, Calif.

BOURBON RED TURKEYS—M. Geo. P. Smith, Hardwick, Cal.

FOR WHITE HOLLAND TURKEYS write J. L. Fulton, Glenn, Calif.

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"My hens have never done so well this year and haven't lost a single chick."—Mrs. Flora Kapple, Walker, Ia. "Simply grand for rabbits."—L. W. Browning, Boone, Ia. "Cannot praise Germozone enough. I use it for chickens, stock and household."—Mrs. Wm. Heupel, Hugo, Okla. "My bird puppies don't know what distemper is and I never had such good success before with chicks."—Curley Smith, Kennett, Mo.

Germozone is sold by most drug, seed and poultry supply dealers, or mailed postpaid in 25c, 75c, and \$1.50 packages from Omaha. Book on treatment of diseases free with each package.

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CARE IN EGG TRANSPORTATION.

An egg broken accidentally before it leaves the farm usually goes on the farm table, and nothing is lost. Eggs broken at the grocery may be disposed of at reduced prices as cracked eggs and little actual food loss results. But the egg broken after it is packed for shipment is likely to be a thoroughly bad egg before it arrives at its destination and become a total loss. With eggs selling at record prices, it is a matter of importance that a smaller proportion of eggs than ever before are broken in transit. This result was brought about by the co-operative efforts of the United States Department of Agriculture and the United States Railroad Administration. Employees of the Railroad Administration were

detailed to the Bureau of Chemistry, Department of Agriculture, where they received instruction in proper methods of loading and stowing eggs in freight cars. Wherever cars were received at terminals in a badly damaged condition, these employees of the Railroad Administration paid personal visits to the shippers for the purpose of instructing them how properly to load cars to avoid damage in future shipments. The result, according to the report of the chief of the Bureau of Chemistry, is a material diminution in the breakage of eggs during transportation.

SHIPPING AND SKINNING RABBITS.

To the Editor: Would like to learn through the question page of your paper how to dress rabbits for market, and packing and shipping and best place to market them. Also about skinning and preparing furs for market.—J. H. W. Sebastopol.

Can any of our practical rabbit raisers who read these columns answer the questions of this subscriber? The information would doubtless interest a large number of our readers.

RABBIT SHOW JANUARY 29-FEBRUARY 1, 1920.

The San Francisco National Championship Rabbit and Cavy Show will be held at the Civic Auditorium, San Francisco, January 29, 30, 31, and February 1, 1920, by the C. R. B. A., A. C. G. B., V. C. Howe, R. F. D. 207, N. San Leandro, is the Show Secretary and Superintendent.

LIVESTOCK NOTES.

(Concluded from page 902.)

more on 17,000 acres since they killed off the squirrels and gophers. Mr. Kelsey says that he has been poisoning squirrels for some time, and that it only took two sacks of poisoned grain to cover 3,000 acres of his own ranch, where it took 23 sacks to cover the same amount of land adjoining that had never been "baited."

Swine and Swinemens.

Good hogs, selling in Denver, Colorado for 11 cents, were shipped to Los Angeles, where they brought \$14.50. Some shift.

The Farm Bureau Hog Marketing Association is now getting out 2,000 sales date catalogues. They will be distributed shortly and will show sales dates for the entire San Joaquin Valley.

What was considered to be the first case of swine plague ever in existence in Sutter county was reported recently by Dr. A. S. Williams, County Veterinarian. The outbreak, if such it can be termed, will be controlled by vaccination.

Greenwood Farms, Live Oak, H. C. Witherow manager, reports business as good and that they have just shipped a bred gilt to Edward R. Aspen of Wasco and a boar pig to Geo. M. Sparks & Co., Ingomar, Merced County.

The fourth consignment sale under the auspices of the California Short-horn Breeders' Association will be held at the University Farm, Davis, Thursday, February 26th. Sixty head will be sold, including quite a large percentage of the highest class bulls.

The last Farm Bureau Hog Auction Sale at Modesto showed somewhat lower prices. The top was \$13.75 for a carlot of 220-pound hogs. The next was a lot of 56 that went for \$13.25 and from that down to \$12.50. With grain high and hog market edging toward the toboggan slide is a condition helped along by farmers rushing in half-finished hogs.

Through the assistance of the Kern County Union High School Board of Trustees the Boys' Agricultural Club of Kern County have been able to buy "Kern County Pilot," a full brother to "The Pilot," grand champion Poland-China boar at the National Swine Show at Des Moines, Iowa, this year. The Board of Trustees loaned the Ag. Club the money.

Les McCracken at Ripon has a sale slated for January 20th at which he will offer as good a lot of Poland-Chinas as fanciers will be able to find

WEEKLY BUTTER AVERAGES.

		Cents per pound for		Extras.	
		San Francisco		Los Angeles	
Week	Ending	1918	1919	1918	1919
Jan.	2	51.40	60.10	50.16	63.16
"	9	51.08	61.00	50.00	64.00
"	16	52.33	61.70	50.50	64.16
"	23	52.50	55.83	52.00	64.16
"	30	53.00	44.91	51.83	49.00
Feb.	6	50.80	43.58	49.66	47.33
"	13	52.00	46.80	48.00	47.60
"	20	51.41	51.58	48.00	53.16
"	27	51.30	53.90	49.33	55.00
March	6	50.66	56.16	50.00	59.00
"	13	51.16	55.58	49.50	58.00
"	20	47.83	54.41	47.00	56.00
"	27	46.30	56.41	43.30	58.00
April	3	43.16	54.23	42.16	55.50
"	10	39.25	57.16	39.50	56.00
"	17	40.50	52.41	37.16	54.00
"	24	40.50	52.41	38.16	54.00
May	1	40.83	52.41	39.00	54.00
"	8	40.66	52.91	39.00	54.00
"	15	40.46	55.16	41.00	58.00
"	22	40.33	57.91	41.00	59.00
"	29	42.30	57.91	39.00	59.00
June	5	43.90	54.12	41.58	57.00
"	12	44.92	53.58	40.58	57.00
"	19	46.50	53.16	41.75	57.00
"	26	47.42	52.83	53.00	55.00
July	3	48.08	52.37	46.00	55.00
"	10	48.90	52.12	47.50	54.00
"	17	50.83	52.71	48.66	56.00
"	24	52.66	54.24	45.16	57.00
"	31	52.16	55.08	51.00	57.00
August	7	52.16	55.50	50.83	59.00
"	14	51.66	52.33	49.00	57.00
"	21	52.25	52.66	49.58	56.00
"	28	53.00	52.66	50.00	58.00
Sept.	4	53.00	56.20	50.00	59.00
"	11	54.90	58.70	50.33	61.00
"	18	57.80	59.70	51.67	62.00
"	25	61.33	60.58	56.17	66.00
Oct.	2	64.75	62.70	58.00	67.00
"	9	64.50	63.41	59.33	67.00
"	16	62.50	62.90	60.00	65.00
"	23	61.75	62.00	60.00	65.00
"	30	60.50	62.25	60.50	64.00
Nov.	6	59.60	62.66	58.83	64.00
"	13	60.00	64.50	57.00	66.00
"	20	61.00	63.83	57.25	66.00
"	27	61.60	64.30	58.75	67.00
Dec.	4	62.60	76.30	60.00	67.00
"	11	63.00	63.91	60.10	67.00
"	18	63.50	64.60	61.01	67.00
"	25	64.50	65.66	62.16	68.00

WEEKLY EGG AVERAGES.

		San Francisco		Los Angeles	
Week	Ending	1918	1919	1918	1919
Jan.	2	52.80	75.60	48.16	69.50
"	9	60.91	69.91	50.66	66.66
"	16	65.66	58.70	55.00	62.41
"	23	65.66	52.58	58.00	64.66
"	30	61.25	48.75	54.00	52.33
Feb.	6	58.60	42.00	51.66	43.00
"	13	44.40	40.90	44.83	37.80
"	20	44.75	36.41	40.83	39.33
"	27	42.40	37.40	39.58	33.60
March	6	36.83	37.58	35.00	37.00
"	13	37.91	37.16	38.00	37.00
"	20	40.66	38.16	39.63	42.00
"	27	39.50	40.41	40.00	42.00
April	3	38.19	42.41	38.33	45.00
"	10	37.58	42.91	36.33	45.00
"	17	39.16	45.10	36.83	46.00
"	24	40.80	45.00	39.66	46.00
May	1	41.66	45.00	39.33	44.00
"	8	40.08	46.50	37.00	42.00
"	15	39.16	47.91	39.00	50.00
"	22	40.50	49.16	39.00	51.00
"	29	38.66	47.58	37.41	49.00
June	5	40.80	45.50	38.83	46.00
"	12	48.30	47.60	45.00	47.00
"	19	41.00	45.91	37.75	47.00
"	26	44.32	49.66	39.08	50.00
July	3	44.91	43.97	41.75	51.00
"	10	48.30	47.60	45.00	51.00
"	17	47.66	47.66	45.50	51.00
"	24	47.91	49.33	45.16	51.00
"	31	48.83	53.16	46.54	52.00
August	7	49.50	55.50	46.58	50.00
"	14	52.08	55.00	48.00	56.00
"	21	56.33	51.80	50.17	52.50
"	28	59.20	53.91	53.00	52.00
Sept.	4	62.40	56.70	56.33	53.00
"	11	63.70	61.50	58.67	61.00
"	18	61.30	61.83	59.00	58.00
"	25	60.17	62.75	59.75	63.00
Oct.	2	65.42	69.70	59.75	68.00
"	9	65.08	69.91	60.00	69.00
"	16	71.30	67.70	62.66	71.00
"	23	78.88	72.25	70.33	73.00
"	30	86.41	76.08	79.33	73.00
Nov.	6	87.90	83.25	78.00	75.00
"	13	86.00	80.20	78.00	76.00
"	20	77.25	76.66	72.00	75.00
"	27	77.25	76.66	72.00	75.00
Dec.	4	82.00	80.90	73.00	77.00
"	11	82.08	79.16	74.33	77.00
"	18	79.65	71.16	72.33	68.00
"	25	64.00	68.91	62.16	65.00

anywhere. There will be 50 head of bred sows and gilts in the offering, many of them bred to King's Big Bone Leader, one of the best Poland-China boars west of the Rocky Mountains.

The end less pig club seems to be growing in favor in the East. One of the conditions under which a boy or girl receives a pig is that he or she shall return two pigs from the original gilt. These pigs are then distributed to new members under the same con-

ditions and thus the organization grows.

Breeders of Poland-Chinas and others who wish to start a herd of this popular breed should not forget the Glenn County Poland-China Breeders' Association sales set for January 13th. Many of the prominent breeders of the locality have consigned some of their best animals and the outlook for a record-breaking sale is of the best.

THE LINN TRACTOR

The strongest, most practical and most powerful hauling machine made.

Will pull the heaviest loads over plowed fields and irrigated ground. Hauls for half the cost of any other hauling proposition in the market.



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THE HOME CIRCLE

MOTHER O' MINE.

If I were hanged on the highest hill,
Mother o' mine, O mother o' mine!
I know whose love would follow me
still.

Mother o' mine, O mother o' mine!

If I were drowned in the deepest sea,
Mother o' mine, O mother o' mine!
I know whose tears would come down
to me.

Mother o' mine, O mother o' mine!

If I were damned of body and soul,
Mother o' mine, O mother o' mine!
I know whose prayers would make me
whole.

Mother o' mine, O mother o' mine!

—Rudyard Kipling.

SEEING EYES.

Rose Brooks.

Jack and Ted and Dorothy Burnam were spending the summer with their Aunt Madge in the New Hampshire hills, while their mother and father took a trip together to the Pacific Coast. As the farmhouse where they were boarding was seven miles from a post-office, no blue-uniformed postman came to their house two or three times a day with a fat brown leather mail-bag slung over one shoulder; but instead, a mail-box, perched on top a post, stood by the roadside, and every afternoon about three o'clock an old black horse hitched to a "top buggy" toiled up the sandy hill, and Fred Clarke, the genial country postman, deposited letters and papers in the creaky-lidded box, hoisted the little red tin flag, and drove whistling on to the next mail-box. His coming was incontestably the event of the day. Dinner was at one; every one was through and the dishes done by half-past two; and then the interminable half-hour to wait for the mail! No one could settle to anything until the old black-topped buggy had come and gone.

"Come down to the road, Aunt Madge, and wait for the mail," begged the children one hottest August day.

"All right," agreed Aunt Madge, pleasantly. "Suppose, after this, instead of waiting on the porch, we do wait under the big maple-tree by the gate,—and," she added with a sudden thought, "let's call this our 'game half-hour.' Run in, Jack, and get the steamer rug on the foot of the couch, and bring it out for us to sit on."

"Now what is the game, Aunt Madge?" asked Dorothy, eagerly, when all were seated comfortably under the cool, big tree.

"Well," began Aunt Madge, slowly, "let me see. I think," after a minute of thought, "I think,—yes, I know what I'll call our game! It shall be the Seeing Eye game, and we can play chapters and chapters of it," she went on with sudden eagerness, "at least one new chapter of it every day, and as much more as we like!"

"What a funny name!" said Ted. "Sounds queer. Don't all eyes see, 'cept, of course, blind people's?"

"No, my dear," was Aunt Madge's calm reply. "Very few people have seeing eyes. Most people have take-things-for-granted eyes, but it's only once in the greatest while that any one has seeing eyes, unless his eyes have been trained by somebody. I wish we could all have seeing eyes by the time we go home this fall. I'm sure mother would notice the change immediately. We've been here a week, haven't we? And each day, during our half-hour wait for Postie, we have played an Oh, Dear, game. Haven't I heard, 'Oh, dear, why doesn't he come!' and on days when poor Postie has been a little late such a chorus of Oh, dears! So let's give up the Oh, Dear, game and begin the Seeing Eye game. I'll stay here and time you, and in five minutes each one of you see how many different kinds of tree leaves or tree needles you can collect. Don't run, because the sun is hot." Off scurried the three children, eyes bright, feet nimble.

"Five minutes!" called Aunt Madge.

"Don't pick another one. You must stop the second I call time."

"Now, Jack, spread yours in a row at this end of the rug; and Ted, this end is yours; and Dorothy, bring yours here by me," said Aunt Madge, when the children were once more gathered around her. "When your exhibits are neatly arranged, you may each tell me how many you have, and how many of the leaves you know."

"I have six, Aunt Madge," said Dorothy.

"Seven," came from Jack.

And Ted proudly added, "Nine."

"Well, it seems as if Ted had the most seeing eyes this time for gathering, doesn't it? But we'll see who has the most seeing eyes for recognizing the leaves. How many of yours can you name, Dorothy?"

"This is an oak," began Dorothy; "and this one a pine needle, and this one a fir twig, and is this a birch? I don't know the other two."

"All right, except the one you called a fir twig. I wonder if the boys know what it is? And perhaps they will know the two leaves that you don't know."

"One of the leaves is an elm," said Ted, "but I don't know the other, and I thought that was a fir twig, too."

"So did I," admitted Jack.

"Now look, and learn, all you seeing eyes," laughed Aunt Madge, gayly. "Fir needles lie flat from the twig, but spruce needles grow all the way around, and you see these do grow all the way around, so they are not fir, but spruce. And the leaf that none of you know is an ash. Ash-trees are lovely in the fall, with their bunches of scarlet berries. Dorothy knew the birch leaf, but I wonder if any of you noticed how its stem is flattened a little bit one way where it joins the leaf, and flattened the other way where it is hung to the stem? That's why birch leaves are always ready to dance so prettily with the last breath of air that scarcely stirs the leaves on the other trees."

"Why, I didn't know that," said Ted. "I never noticed that leaves are fastened on in different ways."

"Yes," answered Aunt Madge, "and it's wonderful. And the more you use your seeing eyes, the more surprised you'll be all the time, and the more wonderful you'll find everything, every least thing you see around you. There is something—a great many things—to find out about everything. A perfect fairyland of adventure lies spread around us every minute, and it welcomes any one with seeing eyes, but no one with take-things-for-granted eyes ever gets in! When two persons want to talk over the telephone, you all know how Central has to make the connection. The wires are all up, and the whole mechanism is in working order, but those two people can't talk unless Central makes the connection. It's the same with us. Here are all the beautiful, wonderful things in the world,—and here are we, waiting to be connected; but we don't have to have any Central, we can make our own connections. One way to make connections is to train our seeing eyes. Why, if we have seeing eyes, we'll always be interested. We can't help it. Think how little we do know, and how much we can know. Just this morning you have all learned a very few very little things, and it has been fun, hasn't it? Just think of all the fun we can have always! Think of all the trees and flowers and grasses and birds and little crawly bugs and lovely flying butterflies and dragon-flies, and—and everything! I know the most interesting things about dragon-flies!" Aunt Madge's cheeks were pink and her eyes shining.

"Tell us about them!" chorused the children.

"Not today," Aunt Madge shook her brown head. "But I'll send for some books that will help us all to have more seeing eyes."

In a minute she went on, with sudden seriousness: "Grumbly, unhappy people never have seeing eyes. They

never make connections with a joyous fairyland. They shut their eyes tight,—their seeing eyes,—and all the sweet, wonderful things right under their noses are lost on them. But people with seeing eyes are always nice, happy people. They never grumble that time goes at a snail's pace—no, their days aren't half long enough."

"Let's see how many different leaves we can find before tomorrow's postman-wait," said Jack, eagerly.

"All right!" agreed the other two, enthusiastically.

"When you are gathering leaves," suggested Aunt Madge, "notice with your new seeing eyes the different kinds of bark that the different trees have, and see how much you can remember to tell me tomorrow. You'll be surprised. Your seeing eyes will be giving you nice little surprise parties all the time. Listen! I hear a creak, creak, and there's the horse!"

"How de do!" Mr. Clarke's greeting was always so close an imitation of a rooster's crow that it was the children's joy to hear him. "Lots of mail today. That's why I'm so late!"

"Are you late?" said Aunt Madge, in surprise. "We didn't know it."

"Half an hour late! Thought you'd all be pretty impatient."

"We've been playing a new game," said Jack, and they all looked so happy and smiling that Mr. Clarke volunteered: "Must have been a pretty good game!"

On the way up the little dusty, winding path, Aunt Madge reminded: "Don't forget that you've all only begun; and don't forget, too, that your seeing eyes are useful for everything, people as well as things. If you'll just use your seeing eyes, you'll discover the nicest things about people, and often where you don't expect nice things at all. We'll play the game hard all summer, and I hope much longer. There is no end to it, and each chapter we play, even if it's only a tiny one, makes the next chapter more interesting. Isn't it fun to have found a game that any one can play, and that can't end, no matter how many people play? Isn't this a nice cool porch?" she added. "And if here isn't a fat letter from mother for each of you!"—Exchange.

THE DIFFERENCES.

How to apply real economy to their household problems is the puzzler with which all housewives are faced during the present period of high prices. The desire to secure the best in quality for the most reasonable price is being considered in every family.

To aid the housewife in solving this problem, the Globe Grain & Milling Company of Los Angeles has published an elaborate little volume called "The Difference," and is distributing this book free to all who request copies. The chapter on "Buying Flour for Economy" relates an interesting incident of "the foolish housewife," and what happened in her household as the result of practicing false economy.

Another of the seven chapters, "The Difference," tells in an entertaining way how actual baking tests of bread, cakes and pastry are daily conducted at the Globe Mills to ensure the maintenance of a uniformly high standard of quality in the flour manufactured.

The book is well printed on good paper, is nicely bound in a white kid finish Bay Path cover, and is being widely distributed. It is worthy of a place on the library shelves of any home, and the inside information on the manufacture of good flour will be prized by all intelligent housewives and flour users.

THE CONSOLIDATED SCHOOL.

The little one-room schoolhouses should be viewed with alarm. There should be a consolidated school in each rural community, well equipped with an agricultural and domestic science laboratory. Every school should pay the agricultural, domestic science and other teachers good salaries. There should be a teachers' cottage and several acres of ground in connection with each consolidated school.



Enjoy this convenient lavatory

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CONTROL OF INFLUENZA.

The State Board of Health has issued a pamphlet discussing influenza and giving general advice in case of a recurrence of the disease.

The situation in influenza resolves itself into the carrying out of those measures that we know are applicable to all contagious diseases, plus such other measures as are made necessary by reason of the wide-spread character of the epidemic.

The health officer is justified in putting into practice any measures that would be regarded by the majority of his community as reasonable and that he himself thought advisable. This should include the prompt reporting and immediate isolation of cases, the closing of schools unless there is adequate public health nursing, the closing of all public gatherings and the enforcing of laws against expectoration in public places and the sterilization of common drinking receptacles.

Health officers should give publicity to the fact that, after all, the burden of responsibility in the control of influenza rests upon the people themselves.

Surgeon General Blue says: "There should be no repetition of the extensive suffering and distress which accompanied last year's pandemic. Communities should make plans for dealing with any recurrence of the epidemic. The most promising way to deal with a possible recurrence of the influenza epidemic, is, to sum it up in a single word, 'preparedness.' And now is the time to prepare."

FALL HOUSE-CLEANING HINTS.

Notwithstanding the aversion of paterfamilias to house cleaning, the lady of the house recognizes it as a periodical necessity.

However, the house cleaning is too frequently limited to scrubbing the wood work, beating the carpets and brushing the furniture. Need of renewals are generally overlooked—sometimes because of the expense involved, sometimes because the housewife does not realize how easily she could do the work herself and sometimes because she just doesn't think of it.

In every house, are to be found many things made of metal which become tarnished and shabby. Such things as andirons, water faucets, etc., can be gone over with a little metal lacquer and made to look like new.

Picture frames, chandeliers and other articles which were originally gilded or gold enameled, can be easily and quickly renewed with a little gold enamel. It is better to get that sold in combination cans ready for mixing with a little brush with which to apply it. Gold enamel will also vastly improve the appearance of tarnished radiators.

Even the shabbiness of the leather chairs may be removed with leather renewer with which the worn spots may be touched up. Leather renewers made of pyroxylin are preferable as they do not crack or rub off.

All of these re-vampers and renewers are to be found in drug, paint and general stores. They are obtainable in small packages, cost very little and are easily applied. One cannot realize how greatly their use improves and brightens the appearance of the home at house-cleaning time.

THE CARE OF TEETH.

Neglect of the teeth is one of the chief causes of decreased vitality and lowered body resistance. In fact, good health is impossible without sound teeth.

Toothache is painful and disagreeable, but is not the worst punishment following neglect of the teeth. Decay produces pus and poisonous matter, which cause rheumatism, heart trouble and other disorders, which cause disease in almost every part of the body.

The principal diseases of the teeth are decay, tartar and pyorrhea. They are all caused by neglect. Particles of food allowed to remain between the teeth, ferment and produce an acid, which attacks the outside enamel and produces decay. Tartar is a deposit which forms around the neck of the teeth at the edge of the gums. It is



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Twelve million miles of wire, connecting cities, villages, farms; running under busy streets and across trackless prairies; these are the Bell Telephone's avenues of speech.

These twelve million miles of wire, throughout every foot of their length, must be kept electrically capable.

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means merely the lessening of service; but with the telephone, mechanical and electrical conditions must be practically perfect to insure operation.

The most delicate electrical currents in use are those of the telephone, and inspection must be ceaseless that the lines may be kept in constant readiness.

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DRY GAS OR WET VAPOR?

In all the claims of the past twenty years, regarding the perfecting of devices for the use of oil as fuel, an unconscious truth has always prompted the use of the expression—"Oil Burner"—and Oil Burners they have been, for wet vapor is nothing more or less than the burning of oil—even worse, for wet gas is the fastest of carbon makers—and there you have the whole trouble.

Almost anyone can make an "Oil Burner," but to make dry gas, clean, hot and economical, remained for the honest effort and painstaking thought, which resulted in "The World's Most Scientific Oil-Gas Burner"—the Dreadnaught. Better yet, it can be applied to any stove and installed by anyone—no changes to make. Real progress must now be made in the use of oil as a fuel—we have perfected the art for you, made it easy, cheap and full of comfort.

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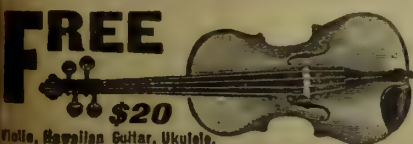
Agents—For convenience, write the San Francisco Office, 10 Seventh Street.

a limelike substance which causes the gums to become sore and later to recede, thus exposing the more delicate portions of the teeth.

Pyorrhea is a loathsome and persistent disease of the sockets of the teeth and often leads to their loss. Successful treatment of these disorders can only be given by a dentist.

All members of a family should have their teeth looked over by a good dentist at least once a year, that small cavities and faults may be corrected in time.

The Egyptian cotton crop of 1919-20 is estimated at 1,243,000 bales of 478 pounds each.



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Wonderful new system of teaching note music by mail. To first pupils in each locality, we give a \$20 superb Violin, Mandolin, Ukulele, Guitar, Hawaiian Guitar, Cornet, Tenor Banjo or Banjo absolutely free. Very small charge for lessons only. We guarantee success or no charge. Complete outfit free. Write now. No obligation.

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SAN FRANCISCO.

San Francisco, Dec. 24, 1919.
BARLEY.

Barley continues to show strength for both cash and futures, although cash prices for the feed description continue unchanged. May barley is quoted at \$3.71, indicating the dealers are not looking for lower prices. There is very little of the shipping grade on the market and what there is said to be not really first class. None of this is offered at less than \$3.75, and strictly first class shipping would doubtless bring a higher price. Feed \$3.65 @ \$3.75 Shipping \$3.75

OATS.

Red feed is unchanged this week, although some inferior stuff was offered at a lower price than last week's low. Notwithstanding this the market for oats is showing strength in consequence of the strength of the barley market. Red feed, per ctn. \$3.10 @ \$3.40 Red for seed. Nominal Black for seed. Nominal Recleaned Red or Black for seed. Nominal

CORN.

There was a demand for Egyptian corn this week for shipping, purposes and the really choice Egyptian found purchasers at 25 cents above the high of a week ago. California Yellow was unchanged by the demand for Egyptian. California \$3.40 @ \$3.50 Egyptian, choice \$3.40 @ \$3.75

HAY.

Receipts of hay for the past week were 638 tons compared with 1327 the previous week. The decrease was probably due to the heavy demand throughout the interior for hay to feed stock. The hay situation continues in bad shape, although a slight improvement over the previous week is noted. It is intimated by the Railway officials that this car situation will probably improve slowly from now on. With the dropping off in the receipts to such an extent the local market has been strong and active and higher prices have been demanded for such hay as has arrived. There has been considerable inquiry for hay from the south. It is also noted that considerable alfalfa has been purchased in Nevada and is being shipped to various points in this State. No. 1 Wheat, or Wheat & Oat. \$22.00 @ \$26.00 No. 2 Wheat, or Wheat & Oat. \$21.00 @ \$23.00 Choice Tame Oat Hay. \$24.00 @ \$27.00 Wild Oat Hay. \$20.00 @ \$23.00 Barley Hay. \$20.00 @ \$23.00 No. 1 Alfalfa Hay. \$22.00 @ \$27.00 Stock Hay. \$17.00 @ \$20.00 No. 1 Barley Straw, per bale. 50 @ .80

FEEDSTUFFS.

Rolled oats were higher this week, but otherwise the market prices were unchanged. The demand continues fair for all feedstuffs. Rolled Barley \$72.00 @ 74.00 Rolled Oats \$70.00 @ 72.00 Alfalfa Products \$42.00 @ 46.00 Cracked Corn \$79.00 @ 81.00

POTATOES, ONIONS, ETC.

Potatoes continue to advance in price, and all descriptions sold at higher levels this week. Onions continued strong at last week's figures. Hubbard squashes were weaker and sold a half cent off from last week's prices. The general vegetable market has been active during the week and the holiday demand has been fully up to expectations. String Beans, lb. 12 @ 25c Peas, lb. 15 @ 25c Carrots, per sack \$1.00 @ 1.25 Celery, crate \$5.00 @ 6.00 Cucumbers, box Nominal Do. Hothouse \$2.00 @ 3.00 Lettuce, per crate \$1.75 @ 2.00 Tomatoes, Stone \$1.00 @ 1.50 Hubbard Squash, lb. 2 @ 2 1/2c Pumpkins, sack 75c @ 1.00 Potatoes, River fancy, cwt. \$4.25 @ 4.50 Do. Choice, cwt. \$4.00 @ 4.25 Do. Salinas, cwt. \$4.50 @ 5.00 Do. Oregon Burbank, cwt. \$4.25 @ 4.50 Do. Oregon Gem, cwt. \$4.25 @ 4.50 Do. Idaho Gem, cwt. \$4.25 @ 4.50 Do. Sweetens, new, lb. 4 1/2 @ 4 3/4c Onions, Brown, sack \$5.00 @ 5.50 Do. Yellow, sack \$4.50 @ 5.00 Garlic, lb. 20 @ 22c

BEANS.

Beans continue quiet and firm. The expectations are that a much livelier market will develop after the holiday season, but at present there is not much movement. The firmness of the market is demonstrated in advances made in pinks, Mexican reds and large whites of the new crop. The San Francisco price of baby limas also advanced to within 25 cents of the association price. Variety Old crop New crop Bayos \$8.00 @ 8.50 \$9.50 @ 9.75 Blackeyes \$5.75 @ 6.00 \$6.25 @ 6.40 Cranberry \$6.00 @ 6.25 \$7.25 @ 7.75 Pinks \$5.50 @ 5.75 \$6.25 @ 6.60 Red Mexican \$5.00 @ 5.75 \$7.75 @ 8.00 Tepary \$2.50 @ 2.75 Garbanzos \$9.50 @ 10.00 Large Whites \$5.25 @ 5.50 \$6.25 @ 6.40 Small Whites \$6.00 @ 6.25 \$6.40 @ 6.50 Limas, Ass'n prices \$14.75 do. Baby, Ass'n prices \$13.00 Limas, S. F. prices \$13.25 @ 13.50 do. Baby, S. F. prices \$12.50 @ 12.75

POULTRY.

It is difficult to give a line on the poultry market. Quotations of the previous week cover the range of prices for the present week, but the main interest in the market has been centered on turkeys. They have sold as high as 75 cents in cases during the week and the prediction was made that they would go higher on account of the wet weather. However the arrivals seem ample to take care of the demand, and today's prices find very few birds selling at 53 cents, with 52 as the most reasonable quotable price for the top. On the other hand practically no stock in prime condition is being offered at less than 50 cents, and such an offer would excite suspicion. The

THE MARKET REPORTS

market for the day before the holiday. Wednesday, will depend entirely on the receipts over night and in the early morning. Broilers, 1 1/2 lbs. under. 35 @ 37c do. 2 to 3 lbs. 31 @ 35c Friers, 2 to 3 lbs. 33 @ 34c Hens, extra per lb. 34 @ 35c do. Leghorns 30 @ 33c Smooth young roosters, per lb. (3 lbs. and over) 32 @ 33c Old roosters, colored, per lb. 22c Turkeys, dressed, young spring, lb. 50 @ 52c do. live 45c Geese, young, per lb. 30 @ 32c do. old, per lb. 28 @ 30c Squabs, per lb. 60 @ 65c Ducks, young 30 @ 32c do. old, per lb. 28c Belgian hares, live lb. 16 @ 20c do. dressed 22 @ 25c Jack Rabbits, doz. \$2.50 @ \$3.50

BUTTER.

The butter market continues slowly to advance. The exchange price of Tuesday and Wednesday of this week was 70 cents, this being the first time that the wholesale price on butter in this city has reached this price in the history of the exchange. The reason for the advance and extreme firmness of butter is largely due to the special holiday demand for good fresh butter. The advance in price is expected to bring an unusual amount of butter out of storage for immediate use. As there is something over twice the amount in storage as a year ago at this time there seems no likelihood of a real shortage. Thu. Fri. Sat. Mon. Tu. Wed. Extra .65 .65 .65 .66 .66 1/2 .66 1/2

EGGS.

Extra eggs dropped ten cents during the week. Pullets showed a decline of 7 1/2 cents and undersized of 8 1/2 cents. A number of reasons are given for this slump in prices, but perhaps the best reason is the drop in the Eastern market. Yesterday eggs on the New York market fell from 5 to 7 cents and today the New York price is again lower by 5 cents. A drop was looked for after Christmas day, but apparently the market became topheavy and fell before expected. Whether there will be further drastic declines after Christmas is a question, although, of course, it is conceded that there will be a gradual decline in price from now on until the peak of production is again reached. The drop in extras to 67 1/2 cents to the retail trade has

worried the storage men who have been holding this description firm at 60 cents. However, the official reports show but about 18,000 cases of eggs in storage in the San Francisco market, and the dealers in this description should have no difficulty in working these off without serious loss. Thu. Fri. Sat. Mon. Tu. Wed. Extras No. 1 .72 .71 .70 .68 1/2 .70 .62 Ex pullets 68 67 1/2 61 1/2 60 66 60 1/2 Undersized 63 1/2 61 1/2 61 1/2 59 60 55

CHEESE.

The cheese market has shown weakness throughout the week. Offerings have been liberal, but the demand seems to be anything but urgent. When California flats reached 28 1/2 for the fancy the firsts temporarily became normal. Oregon was firmly held at last week's prices, but there was very little demand. California Flats, fancy 28 1/2c do. Firsts 28c Nominal Y. A. Fancy 33 1/2c Oregon Triple 30 1/2c do. Y. A. 34c

FRESH FRUITS.

There was a good demand throughout the week for nearly all varieties of fresh fruits on the market. The holiday demand is reported to have been fully up to expectations. No changes in quotations are noted. Apples, Jonathan, Oregon \$2.50 @ 3.00 do. Spitzenberg, Oregon \$2.00 @ 3.00 do. Bellflower \$1.75 @ 2.25 do. Pippins, Calif. \$2.00 @ 2.25 do. Lady, Calif. \$3.00 @ 3.25 Quinces Nominal Pears \$2.00 @ 4.00 Grapes \$2.00 @ 2.25 Persimmons, box \$1.25 @ 1.75 Pomegranates, 1/2 orange box \$1.50 @ 2.00

CITRUS FRUITS.

Like the fresh fruits there was a good demand for citrus fruits throughout the week. The market is well supplied with all descriptions and prices are maintained at last week's level. Oranges, Valencia \$3.00 @ 4.50 do. Navel \$3.50 @ 5.00 Lemons, fancy \$4.75 @ 5.25 do. choice \$3.75 @ 4.25 do. Arizona \$3.50 @ 4.00 Grapefruit \$2.50 @ 3.00 do. standard \$2.75 @ 3.25

Special Livestock Market Report

San Francisco, Dec. 24, 1919.

CATTLE—This week the cattle market is very quiet, the holiday trade going largely to poultry, notwithstanding the unprecedented prices prevailing for same. Some prime beef has been in demand. In the East some depression is felt, and the lowest price levels of the season have been reached. Quotations are: Steers, No. 1 1000-1200 lbs. 10 3/4 @ 11 1/2c do. No. 1 1200-1400 lbs. 10 1/4 @ 10 3/4c do. 2nd quality 9 7/8 @ 9 1/2c do. thin 7 @ 8c Cows and Heifers, No. 1 8 1/2 @ 9 1/4c do. 2nd quality 7 1/2 @ 8c do. thin 4 1/2 @ 6c Calves, lightweight 12 1/2 @ 13c do. medium 11 @ 12c do. heavy 8 @ 10c

SHEEP—The sheep situation is firm. The run is not heavy, and the receipts are readily absorbed. Choice lambs and fat ewes are in especial demand. Quotations unchanged. Lambs, yearling 10 @ 11c do. milk 12 @ 13c Sheep, wethers 9 @ 10c do. ewes 6 @ 6 1/2c HOGS—The drop of about a cent on medium and heavyweights again evidences the erratic trend of the live hog market. The tone of the market will probably improve after the holidays.

Hogs, hard, grain-fed, 100 to 150 lbs. 14 1/2c do. 150 to 225 lbs. 14c do. 225 to 300 lbs. 14c do. 300 to 400 lbs. 13c

Los Angeles, December 24, 1919.

CATTLE—Steers firm and in fair demand but cows reported to be dull. Quotations are unchanged, being the same as last week. Per cwt. f. o. b. Los Angeles: Beef steers, 1000 @ 1100 lbs. \$9.50 @ 11.00 Prime cows and heifers \$8.00 @ 8.50 Good cows and heifers \$7.00 @ 7.50 Cannors \$4.50 @ 5.00 HOGS—This market reported steady and the demand is fair. Prices unchanged. Per cwt. f. o. b. Los Angeles: Light \$14.00 @ 16.00 Heavy average 225 @ 275 lbs. \$13.00 @ 14.00 Heavy average 275 @ 350 lbs. \$11.00 @ 12.50 Rough docked 20 lbs. piggy sows 40 lbs. and stags, 40 per cent.

Special Citrus Market Report

Los Angeles, Cal., Dec. 22, 1919.

The balance of the old crop of Valencia's will probably be cleaned up within a few days. They are selling on a basis of \$4.75 to \$5.00 delivered for Orange county fruit, and around \$3.50 delivered from other counties. Valencia's are beginning to show some decay and are being rapidly replaced by the new crop of navel from Tulare county, which are at this time exceptionally good. With the exception of about 300 cars the entire crop has been moved and will have gone into consumption by the first of the year. F. O. B. California quotations on Tulare county navels are

on a basis of \$3.75 to \$4 per box for cars running 30 per cent 12 1/2's and larger; and about \$4 on 150's and smaller. Most of the Southern California packing houses have remained closed, but are preparing for a big rush after the holiday season.

The lemon market is practically dead at this time, with the exception that some of the Middle Western markets are taking limited supplies at \$4 per box f. o. b. There still remains on the market 49,200 boxes of foreign lemons available of sale.

The total shipment of oranges from Southern California for the season was 2,649 carloads, and 514 carloads of lemons.

Mandarins, box \$2.00
Tangerines \$1.50 @ 3.00

DRIED FRUITS.

The holiday slackness of business continues in the dried fruits, but no tendency to weakness is noted. It is likely that after the first of the year the expected demand may force some prices to a slightly higher level, although it is most likely that present prices will show but little change.

Prunes, 1919 crop: Basis In 50 lb. boxes
Size—price
30-40s 21 1/2c
40-50s 18 1/2c
50-60s 16 1/2c
60-70s 16c
70-80s 15 1/2c
80-90s 14 1/2c
90-100s 14c
100-120s 13c

Raisins, 1919 crop: Seedling—
Fancy, 16s, pkg. 11 1/4 @ 11 1/2c
Fancy, 12s, pkg. 9 @ 9 1/2c
Choice, 18s, pkg. 11 @ 11 1/2c
Choice, 12s, pkg. 9 @ 9 1/2c
Loose Muscats—
4-crown in 25s 12 1/2c
3-crown in 25s 11 1/2c
2-crown in 25s 10 1/2c
4-crown re-cleaned in 25s 11c

HONEY.

There was but little interest in honey during the past week. On demand it might be said to show weakness, but prices showed no downward tendency, as both buyer and seller knew that lowering of price at this season would have little stimulating effect on the demand. Water White .18 @ 20c Light Amber (Mountain) .16 1/2 @ 17c Amber (Alfalfa) .14 1/2 @ 15 1/2c

RICE.

The rice growers firmly believe that failure of Oriental crops means higher prices for rice during the next few months, but a majority of the local dealers are suspicious of these reports of shortage in the Oriental crop and decline to base their price or expectations on it. As a consequence it is impossible to quote prices of California rice which dealers and growers would agree to be the market. Paddy rice has sold as high as \$7.75 and some growers are looking for \$8.00. Some re-cleaned California Japan has sold at \$12.50. But neither of these prices may be regarded as other than a momentary price and could not be stated as the market quotation even of one individual day.

LOS ANGELES.

Los Angeles, Dec. 22nd, 1919.

BUTTER.

Butter advances 1c since last week's report. Demand continues good and receipts holding up well, but are under last week's. We are able to give receipts for five days only—185,500 lbs. Fresh, California extra creamery .68c do. prime first .66c do. first .65c

EGGS.

This market shows another slump in prices. Fresh ranch declined 3c and pullets are 1c lower. A good demand is reported. Receipts for five days was 475 cases. Fresh ranch, extras .65c do. case count .61c Do. pullets .59c

POULTRY.

Turkeys are heavy, hens are in good demand. Young stuff is slow in selling. Prices steady and receipts fair. Broilers 1c lower. Broilers, 1 to 1 1/2 lbs. 37c Broilers, 1 1/2 to 1 3/4 lbs. 39c Friers, 2 to 3 lbs. 35c Hens 31 @ 33c Roosters (soft bone), 3 lbs and up. 33c Stags and old roosters, per lb. 19c Turkeys 35 1/2 @ 45 Ducks 25 @ 33 Geese 25 @ 35c

FRUITS.

Apples continue to sell well and prices are steady. There is little else on the market outside of cold storage stock. No changes in prices. Japanese Persimmons, lb. 8 @ 14c Apples—Bellflowers 4 tier \$1.75 @ 1.80 Do. Jonathan, packed box \$2.75 @ 3.00 Do. Red Permain, packed box \$1.75 @ 1.85 Do. White Permain, packed box \$2.00 @ 2.25 Do. Yellow Newtown Pippins, packed box \$2.00 @ 2.25 Do. Spitzenburg, packed box \$3.00 @ 3.50

VEGETABLES.

There is little coming in now from outside districts, except staples. The demand is good for all fresh stuff. Poor stuff hard to move at any price. Potatoes, Northern Burbanks \$4.25 @ 4.50 Do. Idaho Russets, cwt. \$4.50 @ 5.00 Sweet potatoes \$2.50 @ 2.75 Onions, Stockton yellows, cwt. \$3.85 @ 4.00 Do. White Globe, cwt. \$4.75 @ 5.00 Do. Australian Brown \$4.75 @ 5.00 Cabbage, per 100 lbs. \$2.00 @ 2.25 Lettuce, crate 75c @ 1.00 Rhubarb, per 30-lb. box 70c @ 1.00 Peas, per lb. 7 @ 14c Peppers, Bell, lb 10 @ 12c Celery, crate \$5.00 @ 5.50 Cauliflower, crate \$2.00 @ 2.25

HAY.

Receipts are a little better and demand good. Prices are steady and unchanged since last week. F. O. B. Los Angeles. Barley hay, ton \$25.00 @ 29.00 Oat hay, ton \$28.00 @ 31.00 Alfalfa Northern, ton \$30.00 @ 32.00 Alfalfa, local, ton \$33.00 @ 35.00 Straw \$14.00 @ 16.00

BEANS.

This market is still dull, but prices are holding up. Lambs, per cwt. \$12.00 Large white, per cwt. \$6.25 Small white, per cwt. \$6.50 Blackeyes, per cwt. \$6.00 @ 6.25 Tepary, per cwt. \$3.00 @ 3.25 Pink, per cwt. \$3.25

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SURPRISE OF HER LIFE

Kinsella Co.—Since I've been giving my hens "TWO for ONE" they have given me the surprise of my life. I have kept hens for about 30 years, but never before have I had them nearly all laying at this time of the year. "TWO for ONE" is the miracle that has transformed my hens. You are to be congratulated on having such a wonderful egg producer.

MRS. ANNA McEMBER,
St. Mary's Lake, Pentwater, Mich.

**100 PULLETS—2,700 EGGS**

Kinsella Co.,
Gentlemen:—Your "TWO for ONE" is certainly great to start pullets laying. I began feeding it August 20th to my 100 early pullets and nearly all of them began laying at once. One month they laid 2,700 eggs. I can't say enough for "TWO for ONE."

MRS. E. E. NALL,
Lewistown, Mo.

BREAKS ALL RECORDS IN EGG PRODUCTION

World's Record in Egg Production Broken by 6 Different Flocks
of Hens by the use of "TWO for ONE."

READ WHAT THEY SAY:

56 HENS. 1734 EGGS

"Since I began the use of 'TWO for ONE' my chickens are now the picture of health, and are now regular layers. It hurried their moult and made them lay while moulting. I have never found its equal for egg production. I have received wonderful results, having gotten 1,734 eggs from 56 hens, and at this writing they continue to shell them out, laying to their full capacity."

JUDGE A. R. BERRYHILL, Vada, Mo."

28 HENS. 810 EGGS

"I truly believe your tonic is grand. I think it has helped my hens wonderfully. If anybody wishes to get lots of eggs they must give their hens 'TWO for ONE'. In one month I got 810 eggs from my 28 hens. Wishing you good luck, I am, yours truly,"

VIOLA SMITH, Udell, Iowa."

10 HENS. 299 EGGS

"I commenced feeding your tonic about 10 days before the 1st of September, and also fed it during September. I find since feeding the tonic I got 299 eggs from my 10 hens. The tonic is the best I ever tried and I shall always keep a supply on hand. It alone is what produced these results. Yours truly,"

P. S. SIEGRIST, Logan, Kas."

50 HENS. 1542 EGGS

"I am using your 'TWO for ONE' tonic and my 50 hens laid 1,542 eggs. The best tonic I have ever used."

MRS. E. M. HALSTEAD,
Strawberry Point, Ia."

10 HENS. 310 EGGS

Stanley Dillman, Glenbeulah, Wis., writes: "My flock of hens never skipped a day after 'TWO for ONE' had taken effect. In October my 10 hens laid 310 eggs, or an egg every day in the month, for each hen."

50 HENS. 1533 EGGS

Mrs. J. M. Duke, Wisdom, Ky., writes: "When I began using 'TWO for ONE' I was only getting one or two eggs a day. I am now getting 49 and 50. My 50 hens laid 1,533 eggs in October."

Each of the above statements was sworn to and witnessed before a notary public. They are only samples of the thousands of letters that are coming in to us from poultry raisers throughout every section of the United States, who are amazed and astounded at the truly marvelous results obtained by using "TWO for ONE." Nothing like it was ever heard of before. Records are falling North, South, East and West. All of the best efforts of poultry raisers heretofore pale into significance when compared with results obtained from the use of the great poultry tonic, "TWO for ONE."

World's Greatest Egg Producer

"TWO for ONE" tones up the flock. "TWO for ONE" makes laggards lay. "TWO for ONE" has been tried and tested in every state in the Union—was not put on the market until we were assured of results. "TWO for ONE" is sold under a positive guarantee—your money back if you are not satisfied. "TWO for ONE" keeps flocks healthy and prevents disease. "TWO for ONE" makes hens lay, during the coldest winter weather. "TWO for ONE" will beat the best your poultry yard has ever done. "TWO for ONE" will double, triple, may even quadruple your egg profits.

All Poultry Raisers Endorse "TWO for ONE"

Delighted with the Results

Kinsella Co.—I am simply delighted with the results obtained by the use of your poultry tonic, "TWO for ONE." I thought my hens were laying as well as they could before I started using "TWO for ONE," but since using it I find that every hen could be made to do her best all the time.—Mrs. C. W. Fitzhugh, Whitehall, Mont.

3 Dozen Eggs a Day Since Using "TWO for ONE"

Kinsella Co.—I will let you know how many eggs I have received since using "TWO for ONE" egg tonic, on the average of 3 doz. per day from 37 hens. Yours truly, Mrs. E. Munro, Stapleton, Neb.

12 Leghorns—191 Eggs.

Kinsella Co.—Have used your tonic before and like it very much. My 12 Leghorns laid 191 eggs in one month.—Mrs. Mary Rogers, Wolf Bayou, Ark.

66 Hens—1,155 EGGS

Kinsella Co.—Since using your "TWO for ONE" egg tonic my 66 hens laid 1,155 eggs in one month.—Mrs. F. W. Hottel, Montrose, Mont.

6 Hens—100 EGGS

Kinsella Co.—I think your "TWO for ONE" is 2-for-1 sure enough, and it sure made my hens lay. I have six hens and the last 3 weeks they laid 100 eggs, an average of 16 2-3% apiece.—Clifford Helton, Woodbine, Ky., R. F. D. No. 1, Box 35.

Doubled Egg Production

Kinsella Co.—My 10 hens have doubled their egg production since using your tonic. In September they laid 253 eggs.—Leonard Whitney, Henniker, N. H.

From 8 EGGS a Day to 24

Kinsella Co.—I commenced feeding your tonic on the 28th day of August, at which time I was getting 8 and 9 eggs a day. In 10 days I was getting 24. I have told all my friends about your wonderful remedy and what it did for my hens. I wish everybody would try it and get the results that I did from a \$1 box. I am thankful to you for the results, as eggs are selling at 82c per doz.—Mrs. Mollie Blankley, Unadilla, N. Y.

NOTICE

Owing to the steadily increasing cost of the ingredients used in the preparation of our "TWO for ONE" tonic, we will be forced to increase the price when our present supply is sold. Our advice to poultry raisers is to lay in a large supply at the present market price and avoid the increase which is sure to come in the near future.

Mail This Coupon Now!

Kinsella Co., 2344 Le Moyne Bldg., Chicago, Ill.

Gentlemen: I want to increase the egg-laying ability of my hens, make more money out of my chickens and take advantage of the high prices that will be paid during the coming winter. So please find enclosed \$..... for a box of "TWO for ONE" as checked below.

(Check in squares opposite size wanted.)

1 box\$1.00 []

SPECIAL OFFER

Box (containing as much as 3 \$1.00 boxes) \$2.00 []
(The above prices include war tax.)

This order entitles me to an entry in your prize egg-laying contest, for which you are to send me full particulars, and my money is to be returned if I am not entirely satisfied with the tonic.

Name

Address

EGGS ALL WINTER Now is the time to insure yourself an ample egg supply for the winter. Eggs are now selling at 75c to \$1 a dozen. Give your hens "TWO for ONE," the tonic that makes them stronger, healthier, and better laying hens. Increase your egg supply and double your profits. The cost is small, the profits are large. Don't wait. Begin now. So your hens will be laying all winter when your neighbor's have quit. The tonic will be a greater profit-maker for you than you ever dreamed of. Order today and make every chicken you hatch a greater money-maker. The coupon is also your entry blank for our big egg-laying contest, the price is only \$1.00 a box, or better yet, our Special Offer of \$2.00 for large box containing three times as much as the \$1.00 box. This costs you one-fifteenth of a cent a day, per hen, or less than 1c a dozen for the additional eggs you will receive from your flock.

MONEY-BACK GUARANTEE Don't take our word for it. Every box of "TWO for ONE" is sold under the distinct guarantee that if you are not entirely satisfied you get your money back. Take advantage of this offer and send in your order today: this will entitle you to an entry in the big contest, which is absolutely FREE to all users of this wonderful tonic. Clip the coupon and mail now. It will mean greater profit to you—more eggs than ever before, a healthier and better flock, and a chance to win one of the 35 big cash prizes we are giving every month to users of our tonic. Do it TODAY—NOW. The coupon is your first step toward a larger income.

KINSELLA CO. 2344 LeMoyne Building, Chicago, Ill.

The House That Returns Your Money If Not Satisfied

